Global Operations, Environment, Health & Safety

1 Plastics Avenue
Pittsfield, MA 01201

Via Electronc Mail

August 7, 2023

Mr. Richard Fisher
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency, Region I
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850) – Upland Disposal Facility
Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area

Dear Mr. Fisher:

In accordance with Section 4.2.2.2 of the *Final Revised Rest of River Statement of Work* and EPA's April 18, 2023 conditional approval letter for GE's *Interim Pre-Design Investigation Data Summary Report for Upland Disposal Facility Area,* enclosed is GE's *Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area*. Due to the size of this report, the text, tables, and figures are being provided directly by email and a link to a SharePoint site is also provided for the entire document, including the appendices. Those appendices include revised versions of GE's Baseline Habitat Assessment Report and Intensive Archaeological Survey Report for the Upland Disposal Facility Area.

Please let me know if you have any questions about this report.

Very truly yours,

Matthew Calacone/amm

Matthew Calacone
Senior Project Manager – Environmental Remediation

Enclosures

Cc: (via electronic mail)
Dean Tagliaferro, EPA
Anni Loughlin, EPA
Tim Conway, EPA
John Kilborn, EPA
Joshua Fontaine, EPA
Christopher Smith, EPA

SEMS Doc ID 675579

Alexander Carli-Dorsey
Christopher Ferry, ASRC Federal
Thomas Czelusniak, HDR Inc.
Scott Campbell, Taconic Ridge Environmental
Izabella Zapisek, Taconic Ridge Environmental
Michael Gorski, MassDEP
John Ziegler, MassDEP
Ben Guidi, MassDEP
Michelle Craddock, MassDEP
Jeffrey Mickelson, MassDEP
Mark Tisa, MassDFW
Jonathan Regosin, MassDFW
Betsy Harper, MA AG
Traci Iott, CT DEEP
Susan Peterson, CT DEEP
Graham Stevens, CT DEEP
Carol Papp, CT DEEP
Lori DiBella, CT AG
Molly Sperduto, USFWS
Mark Barash, US DOI
Ken Finkelstein, NOAA
James McGrath, City of Pittsfield
Andrew Cambi, City of Pittsfield
Michael Coakley, PEDA
Melissa Provencher, BRPC
Christopher Ketchen, Town of Lenox
Town Administrator, Lee
Town Manager, Great Barrington
Town Administrator, Stockbridge
Town Administrator, Sheffield
Jim Wilusz, Tri Town Health Dept.
Andrew Silfer, GE
Kevin Mooney, GE
Andrew Thomas, GE
James Bieke, Sidley Austin
Mark Gravelding and Philip Batten, Arcadis
Dennis Lowry, AECOM
Daniel Cassedy, AECOM
Michael Werth, Anchor QEA
Public Information Repository at David M. Hunt Library in Falls Village, CT
GE Internal Repository

ARCADIS

General Electric Company

Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

August 2023

Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

August 2023

Prepared By:
Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse, New York 13202
Phone: 315 446 9120
Fax: 315 449 0017

In conjunction with:
AECOM
500 Enterprise Drive
Rocky Hill, Connecticut 06067
Phone: 860 263 5810

Prepared For:
General Electric Company
1 Plastics Avenue
Pittsfield, Massachusetts 01201

Our Ref:
301050026

Contents

Abbreviations v

1 Introduction 1

1.1 Background 1

1.2 Purpose and Objectives 2

1.3 PDI Work Plan Organization 2

2 Site Background and Historical Site Data Summary 4

2.1 Site Description 4

2.2 Pre-Existing Site Information 4

2.2.1 Habitat 4

2.2.2 Topography 5

2.2.3 Utilities 5

2.2.4 Soils 6

2.2.5 Groundwater Elevations 6

2.2.6 Groundwater Quality 7

2.2.7 Cultural Resources Assessment 7

3 Pre-Design Investigation and Data Summary and Evaluation 8

3.1 Baseline Habitat Assessment 8

3.2 Topographic and Bathymetric Field Survey 12

3.3 Soil Geotechnical Investigation 12

3.3.1 Soil Boring Program 12

3.3.2 Soil Testing for Engineering Properties 13

3.3.3 Soil Testing Results 14

3.3.4 Soil Infiltration Testing Results 15

3.4 Soil Testing for Environmental Quality 16

3.5 Piezometer and Monitoring Well Installation 17

3.5.1 Piezometer Installation 17

3.5.2 Monitoring Well Installation 18

3.6 Groundwater Elevation Monitoring 20

3.6.1 Description of Monitoring 20

3.6.2 Estimate of Seasonally High Groundwater Elevation 22

3.7 Groundwater Testing for Environmental Quality 24

3.8 Hydraulic Conductivity Evaluation 26

3.9 Weather Monitoring 27

3.10 Cultural Resources Assessment 27
3.11 Non-Community and Private Water Supply Wells 28
4 Schedule and Addendum 30
5 References 31

Tables

Table 1 Summary of 2019 Groundwater Elevation Investigation Results
Table 2 Mapped Plant Communities within the GE Parcel (in text)
Table 3A Summary of Soil Borings
Table 3B Summary of Geotechnical Lab Results
Table 3C Summary of Soil Infiltration Borings
Table 3D Summary of Soil Infiltration Testing
Table 4A Summary of Soil Environmental Quality Testing Results
Table 4B Summary of EPA Soil Environmental Quality Testing Split Results
Table 5 Summary of Piezometer and Monitoring Well Installations
Table 6A Summary of Groundwater Elevation Monitoring
Table 6B Summary of Calculations of Seasonal High Groundwater Elevations
Table 6C Frimpter Method Calculations of Seasonal High Groundwater Elevations
Table 6D Summary of Lee Municipal Landfill Groundwater Elevations
Table 7A Summary of Groundwater Environmental Quality Testing Results
Table 7B Summary of EPA Groundwater Environmental Quality Testing Split Results
Table 8 Summary of Slug Testing Results
Table 9 Summary of Weather Station Data

Figures

Figure 1 Site Plan
Figure 2 Habitat Cover Types
Figure 3 Field Survey Activities
Figure 4 Soil Geotechnical Investigation
Figure 5 Soil Quality Investigation
Figure 6 Groundwater Depth Investigation
Figure 7 Geologic Cross Section A-A'

Figure 8 **Geologic Cross Section B-B'**
Figure 9 **Groundwater Elevation Map June 6, 2022**
Figure 10 **Groundwater Elevation Map July 11, 2022**
Figure 11 **Groundwater Elevation Map August 10, 2022**
Figure 12 **Groundwater Elevation Map September 8, 2022**
Figure 13 **Groundwater Elevation Map October 7, 2022**
Figure 14 **Groundwater Elevation Map November 8, 2022**
Figure 15 **Groundwater Elevation Map December 7, 2022**
Figure 16 **Groundwater Elevation Map January 11, 2023**
Figure 17 **Groundwater Elevation Map February 7, 2023**
Figure 18 **Groundwater Elevation Map March 24, 2023**
Figure 19 **Groundwater Elevation Map April 12, 2023**
Figure 20 **Groundwater Elevation Map May 9, 2023**
Figure 21 **Groundwater Elevation Map June 8, 2023**
Figure 22 **Groundwater Quality Investigation**
Figure 23 **Weather Station Plan**
Figure 24 **Wind Rose Diagram**
Figure 25 **500-Foot Limit from UDF Consolidation Area**

Appendices

Appendix A	**2010 Topographic Survey**
Appendix B	**Soil Map – Berkshire County, Massachusetts**
Appendix C	**Revised Baseline Ecological Characterization and Habitat Assessment Report for Upland Disposal Facility Area**
Appendix D	**2022 Topographic Survey**
Appendix E	**Geotechnical Data**
Appendix F	**Arcadis Field Guide for USCS Soil Classification**
Appendix G	**Soil Infiltration Test Logs**
Appendix H	**Soil Environmental Quality Data Validation Reports**
Appendix I	**Piezometer and Monitoring Well Data**
Appendix J	**Groundwater Environmental Quality Data Validation Reports**
Appendix K	**Slug Tests Reports**
Appendix L	**Phase IA Cultural Resources Assessment Report for Upland Disposal Facility Area**
Appendix M	**Revised Phase IB Intensive Archaeological Survey Report for Upland Disposal Facility Area**

Abbreviations

APE	Area of Potential Effects
Arcadis	Arcadis U.S., Inc.
ASTM	ASTM International
bgs	below ground surface
CD	Consent Decree for GE-Pittsfield/Housatonic River Site
CRA	cultural resource assessment
EPA	U.S. Environmental Protection Agency
Eversource	Eversource Energy
FEMA	Federal Emergency Management Agency
Final Revised OSS	Final Revised Overall Strategy and Schedule for Implementation of the Corrective Measures
Final Revised SOW	Final Revised Rest of River Statement of Work
Final UDF PDI Summary Report	Final Pre-Design Investigation Summary Report for Upland Disposal Facility Area
FSP/QAPP	Field Sampling Plan/Quality Assurance Project Plan
GE	General Electric Company
HSG	Hydrologic Soil Group
Interim PDI Data Summary	Interim Pre-Design Investigation Data Summary Report
IPaC	Information for Planning and Consultation
Lane	The Lane Construction Corporation
MACRIS	Massachusetts Cultural Resource Information System
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
MHC	Massachusetts Historical Commission
MNHESP	Massachusetts Natural Heritage and Endangered Species Program
MWPA	Massachusetts Wetlands Protection Act
NGVD 29	National Geodetic Vertical Datum of 1929
NRCS	Natural Resources Conservation Service
PCB	polychlorinated biphenyl
PDI	pre-design investigation
PDI Work Plan	Pre-Design Investigation Work Plan
PFAS	per- and polyfluoroalkyl substances

Phase 1A CRA Report	Phase 1A Cultural Resources Assessment Report for Upland Disposal Facility Area
RCRA	Resource Conservation and Recovery Act
Revised Permit	Revised Final Permit Modification to GE's Resource Conservation and Recovery Act Corrective Action Permit (December 2020)
ROR	Rest of River
SOW	Statement of Work
SPT	standard penetration test
STP	shovel test pit
SVOC	semi-volatile organic compound
TEQ	Toxicity Equivalency Quotient
UDF	Upland Disposal Facility
USCS	Unified Soil Classification System
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

1 Introduction

This Final Pre-Design Investigation Summary Report (Final PDI Summary) for the Upland Disposal Facility Area has been prepared on behalf of the General Electric Company (GE). This Final PDI Summary presents the data obtained through June 2023 during the pre-design investigation (PDI) of the area that will contain the Upland Disposal Facility (UDF) and UDF support areas associated with the Rest of River (ROR) Remedial Action. This investigation was conducted in accordance with GE's Pre-Design Investigation Work Plan for the UDF (PDI Work Plan; Arcadis U.S., Inc. [Arcadis] and AECOM 2021) and the conditional approval letter issued for it by the U.S. Environmental Protection Agency (EPA) on February 25, 2022. The PDI field activities commenced in March 2022 and continued through June 2023. On December 6, 2022, GE submitted an Interim PDI Data Summary Report (interim PDI Data Summary) covering PDI activities through November 2022 (Arcadis and AECOM 2022); and EPA issued a conditional approval letter for that report on April 18, 2023, requiring that the conditions therein be addressed in the Final PDI Data Summary. Additional field activities are ongoing and are planned to be completed in late 2023, after which data collected during this additional period will be presented in an addendum to this Final PDI Summary.

The UDF will be constructed on a 75-acre property that was formerly part of an active sand and gravel quarry and that GE acquired from The Lane Construction Corporation (Lane) in April 2021. Figure 1 shows the extent of the property acquired by GE (referred to herein as the GE Parcel). That figure also shows the anticipated limits of consolidated material for the UDF (the consolidation area) and the associated operational area surrounding and encompassing the limits of the consolidated material (jointly referred to herein as the UDF area). In addition, the GE Parcel will contain a UDF support area, which is currently undefined and not shown on the figure and which may include support facilities such as sediment dewatering, water treatment, and/or loading areas. The UDF support area will be defined in the Final Design Plan for the UDF.

1.1 Background

On December 16, 2020, pursuant to the 2000 Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site, EPA issued a Revised Final Permit Modification to GE's Resource Conservation and Recovery Act (RCRA) Corrective Action Permit (Revised Permit) specifying a Remedial Action for the ROR (EPA 2020). The ROR consists of the portion of the Housatonic River and its backwaters and floodplain (excluding portions of certain residential properties) downstream of the confluence of the East and West Branches of the Housatonic River (the Confluence), which is located approximately two miles downstream from GE's former manufacturing facility in Pittsfield, Massachusetts. The selected ROR Remedial Action includes a provision for GE to construct and utilize a UDF at the former Lane site for the disposal of certain of the sediments and soils to be removed as part of the Remedial Action.

In accordance with the requirements of the Revised Permit, GE submitted to EPA a Rest of River Statement of Work (SOW) specifying the deliverables and activities that GE will conduct to design and implement the ROR Remedial Action. After receipt of EPA comments, GE submitted a Final Revised Rest of River SOW on September 14, 2021 (Final Revised SOW; Anchor QEA et al. 2021). That SOW included pre-design and design requirements for the UDF and UDF support area. On September 16, 2021, EPA issued an approval letter for the Final Revised SOW.

The PDI Work Plan for the UDF was submitted on November 24, 2021, in accordance with the Final Revised SOW. It included descriptions for conducting desktop, field, and laboratory-based activities necessary to acquire information for design of the UDF component of the ROR Remedial Action. Additional requirements for the PDI

were stated in EPA's February 25, 2022, conditional approval letter for the PDI Work Plan, and additional requirements for the Final PDI Summary were specified in EPA's April 18, 2023 conditional approval letter for the Interim PDI Data Summary. This Final PDI Summary builds on the Interim PDI Data Summary and presents the data and information obtained during implementation of the PDI activities through June 2023. As previously noted, additional PDI activities are ongoing and are planned to be completed in late 2023, and the results of those activities will be presented in an addendum to this Final PDI Summary.

A Conceptual Design Plan for the UDF was submitted on December 6, 2022, concurrently with the Interim PDI Data Summary. It was conditionally approved by EPA in a separate letter dated April 18, 2023, which stated that the conditions therein should be addressed in the UDF Final Design Plan. The UDF Final Design Plan is due 60 days after EPA approval of this Final PDI Summary.

1.2 Purpose and Objectives

This Final PDI Summary describes the investigations conducted through June 2023, both prior to and during the PDI, and the acquired data that are necessary to support engineering evaluations and detailed planning and design of the UDF. The results of activities and investigations conducted previously and those performed as part of the PDI are being used to develop the design for the construction, operation, monitoring, and maintenance of the UDF and associated facilities and for the final cover and closure of the UDF.

1.3 PDI Work Plan Organization

The remainder of this Final PDI Summary is organized into the following sections:

- Section 2 presents a description of the GE Parcel, including the UDF area, and pertinent site background and historical site data, including a summary of information available prior to implementation of the PDI to support the design.
- Section 3 describes the desktop, field, and laboratory-based activities and investigations performed during the PDI to address current data needs for design of the UDF and associated areas, and summarizes the data and information obtained during implementation of the PDI and the evaluations performed based on the acquired PDI data and information. In general, the PDI activities and investigations included the following:
  - Baseline assessment of the habitat at the GE Parcel;
  - Survey of existing site features and topography;
  - Subsurface drilling for geotechnical data and sample acquisition;
  - Installation and monitoring of temporary piezometers for baseline groundwater elevation monitoring;
  - Installation and monitoring of temporary and permanent monitoring wells for baseline groundwater elevation monitoring and soil and groundwater environmental quality evaluation;
  - Estimation of the seasonal high groundwater elevation at the GE Parcel;
  - Slug testing to determine hydraulic conductivity of the soils within the GE Parcel;
  - Infiltration testing to determine hydraulic conductivity of the soils within the GE Parcel;
  - Weather monitoring for use in evaluating and developing baseline air monitoring requirements and UDF design parameters, as well as for operational considerations; and

  - Initial Phase IA cultural resource assessment (CRA) of the GE Parcel and a supplemental, Phase 1B intensive archaeological survey of selected areas within the GE Parcel.

- Section 4 presents the anticipated schedule for completing the few remaining PDI field activities, to be reported in an addendum to this Final PDI Summary.
- Section 5 presents the references for the documents cited in this Final PDI Summary.

2 Site Background and Historical Site Data Summary

This section presents background information on the UDF site, including a summary of site information that was available prior to the PDI. Much of this information was already presented in the PDI Work Plan for the UDF and the Interim PDI Data Summary but is repeated in this section for completeness.

2.1 Site Description

As previously noted, Figure 1 shows the extent of the GE Parcel, the anticipated limits of consolidated material for the UDF and the UDF operational area. (As noted above, the UDF support area will be defined in the Final Design Plan.) The GE Parcel generally consists of previously disturbed and barren ground areas void of vegetation, open grassed and wooded areas, and ponds that were created as part of the prior quarry operations. The east-central portion of the parcel was determined to have wetland conditions consisting primarily of a forested red maple swamp, with smaller areas of shrub swamp and a potential vernal pool at the northern edge of the wetland. Additionally, there is an existing Eversource Energy (Eversource) utility easement containing overhead electric utility lines on the western side of the GE Parcel. The bordering site features are Valley Street to the north, Woodland Road to the east, the Lee Municipal Landfill to the south, and the remaining former Lane property (now Northeast Paving, a Division of Eurovia Atlantic Coast, LLC) to the west, which is located off Willow Hill Road.

2.2 Pre-Existing Site Information

The following subsections present a summary of site information that was available prior to the PDI pertaining to the GE Parcel, including the UDF area and UDF support area. This information was used in identifying the need for additional data collection in the PDI. That prior information, together with the information collected during implementation of the PDI, is also being used in developing the UDF design.

2.2.1 Habitat

During the preparation of the PDI Work Plan, background information was reviewed to develop a preliminary understanding of potential habitat conditions on and in proximity to the GE Parcel. Much of the background/existing site information was generated from MassGIS Data Layers (MassGIS 2021, including MassMapper). Other information reviewed included existing sources such as the *Ecological Characterization of the Housatonic Riv*er (Woodlot Alternatives 2002) and the designation of the Upper Housatonic River as an Area of Critical Environmental Concern (Mass EOEEA 2009).

Preliminary information on habitat characteristics of the GE Parcel, including natural community types, the potential presence of federally listed threatened or endangered species and state-listed rare species, potential wetlands and vernal pools, and invasive species was derived from several existing sources. These included on-line sources, such as the MassGIS Data Layers (MassGIS 2021, including MassMapper), the U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory Mapping, and the Information for Planning and Consultation (IPaC), as well as aerial photograph reviews. Other available source data from MassGIS included information on potential habitat cover types (e.g., from 2021 aerial photography), state wetland and surface waters (e.g., Massachusetts Department of Environmental Protection [MassDEP] wetlands and potential vernal pool mapping and floodplain status), state-listed rare species habitat mapping, and soils and geology. These pre-PDI information sources indicated the following regarding habitat conditions on the GE Parcel.

The general habitat of the GE Parcel includes non-vegetated and previously excavated areas lacking mature/undisturbed habitat (comprising much of the UDF area), open areas dominated by grass and forbs, and forested areas in differing stages of succession (in the northern and eastern parts of the GE Parcel). A potential isolated wetland was indicated in the east-central portion of the site along Woodland Road.

The MassMapper interactive map, available data layers, and active data layers specific to potential and documented habitats indicated that the GE Parcel does not contain any Massachusetts Natural Heritage and Endangered Species Program (MNHESP) Estimated Habitats of rare wildlife or Priority Habitats of rare species, nor did it indicate any MNHESP-certified or other identified potential vernal pools. While several habitats were identified in the surrounding geography within five miles of the GE Parcel, the nearest Priority Habitat of rare species was located 0.15 mile to the north, and the nearest MNHESP-certified vernal pool was located more than one mile to the southeast.

A review of the USFWS IPaC on-line mapping tool (USFWS 2021) for the GE Parcel revealed potential habitat for northern long-eared bat (*Myotis septentrionalis*) (which was then a federally listed threatened species but has recently been listed as endangered and is also a state-listed endangered species) and monarch butterfly (*Danaus plexippus*) (a candidate for federal listing) in the general area. Several migratory birds were also identified within the general site area, including the bald eagle (*Haliaeetus leucocephalus*), bobolink *(Dolichonyx oryzivorus*), Canada warbler (*Cardellina canadensis*), prairie warbler (*Setophaga discolor*), and wood thrush (*Hylocichla mustelina*).

As noted above, a potential wetland area was indicated in this existing information in the east-central portion of the GE Parcel, potentially consisting of an isolated palustrine, scrub/shrub, broad-leaved deciduous, seasonally flooded area off Woodland Road.[1] In addition, the source information indicated that the parcel contains several man-made or modified permanently flooded areas, which are associated with the prior quarry operations.

Overall, the data gathered from reviews of readily available on-line databases, aerial photographs, and mapping provided a suitable baseline from which to design further field surveys to more fully investigate ecological habitat conditions as part of the PDI. Those field surveys of the habitat within the GE Parcel and their findings are described in Section 3.1.

2.2.2 Topography

A topographic survey that included the GE Parcel was completed in 2010 using aerial methods and is provided in Appendix A. The 2010 survey was limited by its age and in detail due to the aerial survey methods. Additionally, the survey did not provide bathymetric information on the ponds. To support the design, updated topographic and bathymetric data were collected as part of the PDI as described in Section 3.2.

2.2.3 Utilities

No known underground utilities were identified within the GE Parcel. There is an existing overhead electric utility line and associated easement that are owned and operated by Eversource on the western edge of the site. Dig Safe was called in the fall 2019 for a groundwater probe investigation conducted near the anticipated UDF location, and no utilities were identified. Further utility location surveys were conducted prior to PDI field activities, as discussed in Section 3.3.

[1] As discussed in Section 3.1, this area was evaluated during PDI activities and was determined to constitute a wetland under federal and state criteria.

2.2.4 Soils

Based on publicly available soil surveys reviewed prior to the PDI (Natural Resources Conservation Service [NRCS] 2021), the surficial soils originally present at the UDF site were reported to be composed of the following (using soil map unit names): Copake fine sandy loam, Hero loam, Groton and Hinckley soils, and gravel. These soil types are generally described as comprising loamy fine sand to very course gavel (NRCS 2021). A large portion of the UDF site was identified by the NRCS as containing pits and gravel. (Historical imagery and site observations during PDI activities confirmed that a large portion of the UDF site was subject to gravel pit operations.) The Hydrologic Soil Group (HSG) for the soil types noted above are indicated as largely HSG A, with a lesser amount (Hero loam unit) as HSG B. A web soil survey map of the UDF site showing the map unit names and extents is included in Appendix B.

The pre-PDI information indicated the following regarding the geology of the GE Parcel: The overburden deposits at the GE Parcel consist of unconsolidated sediments of glacial origin that have been deposited in a broad bedrock valley occupied by the Housatonic River. The overburden consists of unconsolidated glacial outwash sediments deposited by running water from the melting ice of a retreating glacier. The glacial outwash consists primarily of fine to medium sand and contains varying amounts of silt and fine gravel. The glacial outwash deposits vary laterally across the GE Parcel, and with depth, in terms of density, stratification, and heterogeneity. The overburden unit is underlaid by competent bedrock consisting of gray dolomite marble. The bedrock beneath the GE Parcel is part of the Stockbridge Group, carbonate rocks of Cambrian and Ordovician Age, which consist of limestone, dolomite, and marble.

Additional information for design regarding soil types and geotechnical characteristics, as well as baseline environmental quality, was obtained as part of the PDI, as discussed in Sections 3.3 and 3.4.

2.2.5 Groundwater Elevations

In September 2019, a preliminary investigation was conducted at the GE Parcel to evaluate groundwater elevations. This investigation included geoprobes at five locations. At the time of the 2019 investigation, groundwater was encountered within the GE Parcel at between elevation 947 feet and 949 feet relative to National Geodetic Vertical Datum of 1929 (NGVD 29). The elevation of the water edge in the adjacent ponds was approximately 947 feet NGVD 29 (on the October 1, 2019, survey date). The results of this 2019 groundwater elevation investigation are documented in Table 1.

Because of the granular nature of the site soils, the pond water surface elevations are likely coincident with groundwater elevations in the vicinity of the ponds. The nearest U.S. Geological Survey (USGS) groundwater monitoring well location is approximately 1.2 miles to the northwest of the GE Parcel at latitude 42°21'04.76" and longitude 73°15'28.75". Although historical data are available for this location, they are not considered representative of site conditions for the GE Parcel, considering the distance from the site and significant topographic variability of the area.

As stated in the PDI Work Plan, 12 other USGS historical groundwater wells were reportedly located on the southern edge of Woods Pond. Based on information available through the USGS well inventory database, construction details associated with these groundwater wells are limited to what is shown on the website summary, which include coordinate location, well depth, and a general description of the aquifer type that the well was completed in. However, the database identifies the same coordinates for all 12 wells, which makes the information questionable. The USGS was contacted to attempt to see if it could provide additional information, but it was determined that there was none available. A limited field reconnaissance was then performed along the

southern boundary of Woods Pond, and no wells were observed. As such, it was concluded that these reported USGS wells are no longer present and, therefore, not available for water level measurements.

A 2021 review of MassDEP files uncovered an Evaluation Opinion Transmittal Report (Anonymous undated), which contains a summary of groundwater elevation data collected from monitoring wells located around the nearby Schweitzer-Mauduit and Lee Municipal Landfills. As shown on Figure 1, the Lee Municipal Landfill is located due south of the GE Parcel on the adjacent parcel. The report indicates that groundwater elevations in an upgradient well (MW-84-1) located along the eastern side of the Lee Municipal Landfill ranged from 955.40 feet to 959.91 feet NGVD 29 between October 1984 and December 1988. The report also indicates that groundwater elevation in a downgradient well (MW 84-2) along the western side of the Lee Municipal Landfill ranged from 948.85 feet to 952.59 feet NGVD 29 over the same timeframe. These data indicate an east-to-west downward slope in the groundwater table. This east-to-west groundwater slope direction is also seen in other groundwater well data included in the report, as well as in the Lee Sanitary Landfill Final Comprehensive Site Assessment report (Final CSA; CDM 1995).

As part of the PDI, additional data on groundwater elevations at the GE Parcel, as well as at the Lee Municipal Landfill, and surface water levels in the Housatonic River have been collected to better understand the range of groundwater elevations at the site, as discussed in Section 3.6.

2.2.6 Groundwater Quality

Prior to the PDI, there were no known data on groundwater quality within the GE Parcel. There was historical information available on a bordering property, the Lee Municipal Landfill, but that information is relatively outdated. Specifically, the aforementioned Evaluation Opinion Transmittal Report included information on groundwater quality at the Lee Municipal Landfill relative to Massachusetts groundwater standards. The report stated that there is no record of oil or hazardous material being landfilled and, at the time the report was generated, the only consistent reportable concentration exceedance shown was for manganese. More recent groundwater quality data for the Lee Municipal Landfill have been collected as part of annual post-closure monitoring activities performed by the Town of Lee (Tighe & Bond 2021). These data indicate that certain constituent concentrations, including those for manganese, are elevated in certain, but not all, of the landfill monitoring wells.

For reference purposes, the monitoring wells closest to the GE Parcel that are included in the Lee Municipal Landfill annual post-closure monitoring are shown on Figure 1. Of the four wells indicated on that figure at the Lee Municipal Landfill, only three are sampled for groundwater quality (MW-84-1, MW-94-1 and MW-94-2), According to the 2021 annual monitoring report, well MW-84-2 is not sampled due to a vertical alignment restriction in the well pipe. Monitoring wells MW-84-1 and MW-94-1 are approximately seven feet apart and located roughly 570 feet south of the GE Parcel boundary. Monitoring wells MW-84-2 and MW-94-2 are approximately four feet apart and located roughly 320 feet south of the GE Parcel boundary. Results given in the 2021 annual report indicated that wells MW-94-1 and MW-94-2 had elevated levels of manganese.

2.2.7 Cultural Resources Assessment

As stated in the PDI Work Plan, existing databases were reviewed prior to the PDI to determine whether any cultural resources were previously identified within the GE Parcel. Based on this review, which included the National Register of Historic Places, the Massachusetts State Register of Historic Places, and the Massachusetts Cultural Resource Information System (MACRIS), no cultural resources listed in those sources were identified within the GE Parcel. Given the results of this review, it was determined that a Phase IA CRA should be performed. That assessment was performed for the entire GE Parcel, as discussed in Section 3.10.

3 Pre-Design Investigation and Data Summary and Evaluation

Based on site information available prior to the PDI (summarized in Section 2), data gaps remained in the body of knowledge needed to design, construct, and operate the UDF in accordance with the Revised Permit and current state of practice. As a result of these data gaps, the PDI Work Plan proposed the acquisition of additional information needed to support the design of the UDF and support areas. This section describes the PDI field activities that were performed to supplement existing site information, as well as PDI activities that are continuing to support the UDF design. It also presents the data and information obtained from those PDI activities through June 2023 and an evaluation of the data to the extent practicable. The PDI sampling and analysis activities were performed in accordance with GE's then-current and approved Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP; Arcadis 2013), as applicable.

3.1 Baseline Habitat Assessment

A baseline habitat assessment of the GE Parcel was conducted by AECOM on GE's behalf to form a detailed baseline ecological characterization and assessment of existing conditions and to serve as the foundation for developing the Final Cover/Closure Plan for the UDF area and UDF support area.

The baseline habitat assessment of the 75-acre GE Parcel consisted of both desktop evaluations, including database reviews and aerial photograph interpretation, and field investigations under EPA oversight. Detailed field investigations were conducted on four days between April 11 and July 6, 2022, by a team of ecologists (with oversight by EPA representatives) to inventory, assess, and document ecological habitat conditions on the GE Parcel. Additional field surveys were subsequently conducted in the spring of 2023 on a potential vernal pool identified on the GE Parcel during the 2022 investigations. A detailed description of the baseline habitat assessment is provided in a separate report prepared by AECOM, entitled *Revised Baseline Ecological Characterization and Habitat Assessment Report for Upland Disposal Facility Area*, which has been revised from an earlier version of that report in response to conditions in EPA's April 18, 2023 conditional approval letter and which is provided as Appendix C. A summary of the findings generated during that assessment is provided below.

A total of 11 habitat cover types were mapped on the GE Parcel following the DeGraaf and Yamasaki (2001) habitat classification system.[2] This system separates habitat cover types into two broad categories: forested matrix and non-forested matrix, which represent both terrestrial and wetland habitats. Based on relationships between habitat cover types and the wildlife species that are typically associated with them, a list of potential wildlife species can be generated for the GE Parcel.

Terrestrial cover types observed on the GE Parcel include aspen/birch late successional habitats, Eastern white pine forests, northern hardwoods, and upland fields. Subcategories in the upland field cover type include areas dominated by forbs, grasses, and early successional shrub/old field habitats. Palustrine wetland cover types include swamp hardwoods-red maple, shrub swamp, shallow marsh, and pond. In addition, several areas associated with the former gravel mining operations and gravel access roads to the overhead electric utility line right-of-way were classified as non-vegetated. The mapped plant communities within the GE Parcel are listed in Table 2 below and shown on Figure 2.

[2] This system is similar to the community type classification mapping used in the *Ecological Characterization of the Housatonic River* (Woodlot Alternatives 2002) but provides for a greater differentiation of some habitat cover types, particularly in upland areas.

Table 2. Mapped Plant Communities within the GE Parcel

Cover Type	Acres	Percent
Forest Matrix		
Aspen/birch	1.4	1.8
Eastern white pine	10.3	13.6
Northern hardwoods	15.4	20.4
Palustrine – swamp hardwoods-red maple	3.9	5.1
Non-Forested Matrix		
Palustrine – pond	3.5	4.6
Palustrine – shallow marsh	0.6	0.8
Palustrine – shrub swamp	0.8	1.1
Upland field – forbs	9.1	12.1
Upland field – grass	1.7	2.2
Upland field – grass/forbs	9.5	12.5
Upland field – shrub/old field	8.9	11.8
Non-vegetated	10.6	14.0

The total GE Parcel evaluated for this assessment is approximately 75.7 acres. Approximately 10.6 acres (14% of the total GE Parcel) consist of areas of diminished habitat value because they are non-vegetated areas associated with former gravel mining operations, stockpiled construction debris consisting primarily of broken fragments of concrete slabs, and gravel access roads associated with the dumping/stockpiling activities and the existing overhead electric utility line right-of-way. Another approximately 29.2 acres (39%) situated within the former gravel mining operation areas have since been revegetated and are classified as upland field habitats dominated by a mixture of forbs, upland grasses, shrubs, and small sapling trees. Approximately 27.1 acres (36%) of the GE Parcel are forested, and 8.8 acres (11%) consist of palustrine wetlands. Lastly, contained within the broader swamp hardwoods-red maple cover type is an approximately 0.2-acre seasonally flooded area that appears to function as vernal pool breeding habitat, as discussed below.

In response to a condition in EPA's February 25, 2022, conditional approval letter, the habitat assessment has also broken out specifically the habitat cover types in the waste consolidation area, as distinguished from the rest of the GE Parcel. That information is presented in a separate table in Appendix C. As shown there, the consolidation area consists of approximately 15.5 acres in total area, roughly 92% of which were previously subject to past earth work and are currently either in a non-vegetated condition (2.66 acres or 17%) or composed of recently established grassland with some scattered woody shrubs and forbs (11.58 acres or 75%). Only 1.22 acres of the consolidation area (7.9%) consist of forested cover.

During the field surveys, each discrete cover type unit was subject to a detailed inventory using a habitat inventory form included in the PDI Work Plan. This form was used to record a broad range of habitat parameters to characterize structural, physical, hydrologic, and biological conditions within each habitat cover unit.

A total of 28 vegetation plots were evaluated in detail to quantitatively describe the plant communities and mapped habitat cover types within the GE Parcel. Percent cover of trees, woody shrubs, and vines was estimated

within five- by five-meter plots, and a nested one-square meter was used for estimating herbaceous plant cover. Six of the survey plots were located within the consolidation area to provide data specific to that area separately from the overall GE Parcel. A total of 94 plant species were observed within the site-wide vegetation plots, and a total of 131 plant species were observed across the entire GE Parcel. The plant species observed across the entire parcel consisted of 25 trees, 16 woody shrubs, four woody vines, and 86 herbaceous plant species. The number of species observed per plot ranged from two to 17 species, with an average of 9.1 ± 0.6 standard error species per plot.

The most frequently occurring native species observed in the forested habitats included sugar maple (*Acer saccharum*), white ash (*Fraxinus americana*), white pine (*Pinus strobus*), and black cherry (*Prunus serotina*). Plants typical of upland field habitat included yarrow (*Achillea millefolium*), switchgrass (*Panicum virgatum*), little bluestem (*Schizachyrium scoparium*), bladder campion (*Silene latifolia*), and black-eyed Susan (*Rudbeckia hirta*). Palustrine wetlands were dominated by red maple (*Acer rubrum*), silky dogwood (*Cornus amomum*), speckled alder (*Alnus incana*), marsh fern (*Thelypteris palustris*), and sensitive fern (*Onoclea sensibilis*). No federally listed or state-listed plants were identified on the GE Parcel.

Of the 94 plant species observed within the vegetation plots, five plant species are listed as invasive and two are listed as likely invasive by the Massachusetts Invasive Plants Advisory Group (MIPAG).[3] These include two herbaceous plants, one woody vine, and four shrub species that were observed in 22 out of the 28 vegetation plots. The most frequently occurring invasive species was Morrow's honeysuckle (*Lonicera morrowii*), followed by Asiatic bittersweet (*Celastrus orbiculatus*). Relative percent cover of invasive species per plot ranged from minimal to very high.

A detailed assessment, inventory, and delineation of wetland conditions on the GE Parcel were conducted. The east-central part of the parcel was determined to have wetland conditions consisting primarily of a forested red maple swamp, with smaller areas of shrub swamp and a potential vernal pool at the northern edge of the wetland. An intermittent stream discharges into this wetland under Woodland Road,[4] traverses the wetland from east to west, and conveys flow into another shrub wetland area under the overhead electric utility line; all stream flow was observed to infiltrate into the ground at this western edge. The limits of the wetland were delineated in the field based upon state and federal criteria, and the limits were located using an Arrow 100® global positioning system instrument capable of sub-meter accuracy. This wetland appears to meet the federal criteria for a wetland (as part of waters of the U.S.) and the classification of two resource areas as defined in the Massachusetts Wetland Protection Act (MWPA) regulations: a Bordering Vegetated Wetland with the Bank of an intermittent stream.

In addition to the above-described wetland, the man-made gravel-pit ponded areas on the GE Parcel provide aquatic conditions. These areas were also delineated and inventoried. These three ponds are not believed to constitute federally regulated waters of the U.S. since they were created in upland settings for the purpose of treating water as part of the gravel pit wash-water system. Further, since the two westerly ponds remain in active use as part of the gravel pit operation ongoing in the land abutting the west side of the GE Parcel, they are also

[3] Information obtained from https://www.massnrc.org/mipag/invasive.htm and https://www.massnrc.org/mipag/linvasive.htm for the invasive and likely invasive species, respectively. The U.S. Army Corps of Engineers New England District's list of invasive plan species was also checked, but that list does not include any species that are not listed as invasive or likely invasive by MIPAG.

[4] There are five culverts that cross Woodland Road onto the GE Parcel, which are shown on the topographic survey plan in Appendix D.

not regulated wetlands under the MWPA regulations.[5] As currently understood, the southeastern pond has been inactive as part of the gravel pit operations for at least five or more consecutive years and, therefore, would be considered a regulated pond under the MWPA regulations, containing both Land Under a Waterbody and Bank resource areas.[6]

During the field investigation in mid- to late April and early May, three seasonally flooded areas identified during the desktop analysis were inspected for the presence of obligate vernal pool breeding amphibians (e.g., wood frogs [*Lithobates sylvatica*] and spotted salamanders [*Ambystoma maculatum*]) to determine whether they may function as vernal pool amphibian breeding habitat. Only the small seasonally flooded depression located within the larger palustrine forested wetland along the northeastern portion of the GE Parcel adjacent to Woodland Road contained evidence of breeding by obligate vernal pool species. On April 11, 2022, two wood frog egg masses were found within this pool. During both the April 27 and May 19, 2022, inspections, wood frog tadpoles were observed swimming in shallow water areas along the eastern pool edge and in deeper pockets located in the southern portion of the pool. Water levels were very low during the last two inspections, and the pool was completely dry by early July. Based upon these findings, this pool was determined to meet the MNHESP criteria for vernal pool certification. In late April and May 2023, this pool was surveyed again. Those surveys identified wood frog larvae in early May, but by mid-May water levels had dropped and no tadpoles or additional wood frog larvae were found. Based on the observations of this pool in 2022 and 2023, it appears that the pool fills reliably early in the spring to provide suitable conditions for egg deposition and larvae development, but that the pool is subject to inadequate hydroperiods for sustained larvae metamorphosis to adult wood frog stage. It thus appears likely that, in this pool, only wetter years with sustained precipitation in the April to early July period would support full development of wood frog larvae to adult emigration.

During the field visits, wildlife biologists identified a total of 43 species from four taxonomic groups on the GE Parcel, including nine invertebrates, six amphibians and reptiles, 22 birds, and six mammals. Most identifications were obtained through direct observations; however, some were obtained through documentation of auditory songs and calls of birds, tracks and scat of mammals, and egg fragments of a predated/exhumed turtle nest (snapping turtle [*Chelydra serpentina*]). In addition, a total of 107 wildlife species have been identified as potentially occurring on the GE Parcel based upon habitat conditions (according to the associations described by DeGraaf and Yamasaki 2001).

No federally listed or state-listed rare wildlife species have been identified or recorded on the GE Parcel, and the MNHESP has confirmed by email that it has no records of state-listed species occurrences on the GE Parcel. Habitat conditions may potentially be suitable for some use by the northern long-eared bat (also discussed in Section 2.2.1). In addition, a monarch butterfly was observed feeding within a patch of milkweed on the GE Parcel during the field surveys. It is possible that some incidental use of this area by monarch butterflies could occur late in the summer as migration commences; however, no significant use of the GE Parcel by this species is anticipated based upon the habitat conditions.

---

[5] Those regulations exclude from the definition of a regulated pond under the MWPA any “individual gravel pits . . . excavated from upland areas unless inactive for five or more consecutive years” (310 CMR 10.04: definition of Pond). The evidence for active use of these two ponds consists of direct (site-based) observations over the past couple of years. Those observations include direct observations of activities in and around the ponds that are associated with the sand and gravel operation, as well as observations of the greenish color of the pond water, which reflects the suspended silts and clays consistent with the use of the pond for settling as part of that operation.

[6] As indicated in the habitat assessment report in Appendix C, the impacts on the identified resource areas from the construction and operation of the UDF and UDF support facilities will be evaluated further and, to the extent that mitigation for the loss of resource areas is required, mitigation option will be addressed in the UDF Final Design Plan, along with any additional data collection necessary for such mitigation.

3.2 Topographic and Bathymetric Field Survey

A topographic survey of the GE Parcel was conducted by Hill Engineers, Architects, and Planners, Inc. in May and June 2022 as part of the PDI field activities. This survey included surveying features for the PDI such as soil borings, monitoring wells, and piezometers. Other site features, including overhead electric utility lines, concrete debris piles and gravel piles, access roads, tree lines, and water edges, were also surveyed. The topographic field survey was combined with bathymetric surveys of the water-filled depressions to yield a continuous top-of-existing-ground-surface model. The areas surveyed are shown on Figure 3, and the topographic and pond bathymetric survey mapping is provided as Appendix D.

The survey mapping shows that existing topography across the GE Parcel is variable and comprises several localized high and low points, including pond areas likely attributable to the parcel's history as a sand and gravel quarry. In the UDF area, grades indicate that drainage generally pitches internally towards the localized low points. There are limited areas of the GE Parcel that drain off site to the east along Woodland Road and to the former Lane property to the west. Based on available flood insurance rate maps, the GE Parcel is entirely outside of the mapped 500-year floodplain for the Housatonic River to the north and west (Federal Emergency Management Agency [FEMA] 1982a) and for the Washington Mountain Brook to the south (FEMA 1982b).

Visual assessment of the concrete debris and gravel piles shown on the 2022 topographic survey (Appendix D) was conducted as part of the PDI to identify the general composition of the pile materials. The concrete debris piles were observed to consist primarily of broken and crushed concrete with embedded rebar and, to a lesser extent, brick and cement block. The debris pieces range in size from as small as a few inches to several feet. The gravel piles vary in both composition and mixture and include a variety of coarse- and fine-grained soils, soil and stone mixtures, and crushed and uncrushed stone.[7]

The 2022 topographic and bathymetric field survey has been and will continue to be used in preparing engineering evaluations and designs for the UDF, including the development of various figures and site plans and estimation of construction earthwork quantities.

3.3 Soil Geotechnical Investigation

Soil investigations are required to support the evaluations and design of the UDF. The soil investigation program for the UDF area was developed to accomplish the following objectives:

- Characterize the variability, depth, and engineering properties of site soils;
- Collect soil data through field and laboratory testing to support and identify geotechnical design considerations, such as settlement and stability, to be addressed in the engineering design of the UDF; and
- Characterize site soils for use in construction of the UDF and operational area facilities and identification of the intended use of soils excavated for construction of the UDF and operational area facilities.

3.3.1 Soil Boring Program

The locations of the soil borings completed in the UDF areas during implementation of the PDI are shown on Figure 4 and summarized in Table 3A. A total of 22 borings were completed and are positioned within and outside of the anticipated UDF area limits. The boring logs are provided in Appendix E. As indicated in Table 3A, all 22

[7] Disposition of the debris and gravel piles will be determined during preparation of the Final Design for the UDF.

borings were utilized for geotechnical testing purposes. Additionally, 16 of the 22 borings were utilized for soil quality testing purposes. Six of the 22 borings were also utilized for the installation of temporary piezometers within and outside of the UDF footprint, as discussed in Section 3.5.1. Nine of the 22 borings were utilized for the installation of monitoring wells outside of the UDF footprint, as discussed in Section 3.5.2. The locations were chosen based on the anticipated limits of the UDF, likely groundwater flow direction, and spatial distribution of data points across portions of the GE Parcel.

Prior to site mobilization for soil boring drilling activities, each soil boring location, as shown in the PDI Work Plan, was located by field survey. A field-based evaluation was then performed for each surveyed boring location to assess drill rig and support equipment accessibility and to assess proximity of the borings to existing site features, including overhead electric utility lines and associated equipment. The soil boring locations were then adjusted where necessary to accommodate site conditions. Following this evaluation and any subsequent location adjustments, the boring locations were inspected to assess the possibility for cultural resources in areas where ground disturbance could be expected. No cultural resources were identified during inspection of the soil boring locations. Further discussion regarding these CRA activities is provided in Section 3.10 and the associated appendices. Finally, an underground utility clearance investigation was conducted at each soil boring location, and underground utilities were not identified.

For geotechnical purposes, the borings were advanced to a target elevation of 935 feet or lower.[8] For borings that coincided with monitoring wells and temporary piezometers, the depth to groundwater also required a minimum target depth. The deeper of the two criteria was used when determining the minimum boring depth. Table 3A identifies the completed depth below ground surface (bgs) for each boring.

Drilling was completed between March 22 and June 16, 2022, by Cascade Drilling Inc., of Schenectady, New York. Borings were advanced using hollow-stem augers as subsurface conditions permitted. Mud rotary methods were also used for control of flowing sands and was ultimately the main method used for advancing the borings to the required depths. The drilling method used for each soil boring is indicated on the boring logs in Appendix E.

3.3.2 Soil Testing for Engineering Properties

The following types of soil testing were performed through both field and laboratory means to determine the engineering properties of the site soils:

- Standard Penetration Testing: Standard penetration test (SPT) sampling was conducted during the advancement of each geotechnical soil boring. SPT sampling was performed using a standard two-inch-outside-diameter split-spoon sampler, 24 inches long, and driven by a 140-pound automatic hammer with a 30-inch drop in accordance with ASTM International (ASTM) standard ASTM D1586. The SPT blow count (or "N-value" term) for each sample was recorded and represents the number of blows required for one-foot penetration into the soil after the initial six-inch seating drive depth. The N-values will be used during the design of the UDF to estimate the engineering properties of the site soils.
- Soil Classification: Each sample collected from the geotechnical soil borings was classified in the field through visual-manual procedures that conform to ASTM D2488 and the Arcadis Field Guide for Unified Soil Classification System (USCS) Soil Classification, which is provided in Appendix F. In addition, selected samples from the boring were submitted for laboratory classification using the USCS, which is based on the soil index property tests described below, and for quality control of the field classifications. The samples

[8] Six soil boring were unable to reach the target elevation of 935 feet due to drilling conditions that included encountering bedrock, negligible drilling progress, and drilling advancement refusal (see Table 3A).

chosen for laboratory testing generally focused on depths and locations within each soil layer to confirm the observed stratigraphy noted in the boring logs, within zones of loose or soft soils, and at depths below the groundwater table. Soil descriptions in the boring logs were updated where needed to conform to the laboratory-determined soil classifications.

- Soil Index Properties: Soil samples from the split spoons (or from a combination of split spoons) were provided to the geotechnical laboratory for analyses that included grain size (ASTM D6913), moisture content (ASTM D2216), Atterberg limits (ASTM D4318), organic content, and specific gravity (ASTM D854). One sample from each soil boring was targeted for collection at an interval of approximately two feet below the estimated groundwater depth. Sampling at this interval was generally achieved except where the collected sample volume was used for environmental quality testing rather than for geotechnical testing or where poor sample recovery occurred, in which case the next lower sample was used if possible. The analyses for these parameters were conducted in accordance with the corresponding ASTM standards. The results were used for quality control of the field soil classifications and determination of site stratigraphy. The results will also be used for development of engineering parameters, such as shear strength and soil elastic modulus, to support the stability and settlement evaluations, as well as for determining re-use criteria of excavated materials during construction of the UDF and for estimation of the permeability of the site soils.

3.3.3 Soil Testing Results

The following summary is based upon a preliminary review of the 22 borings completed at the UDF area, the SPT data collected, and supporting laboratory testing results of the geotechnical soil samples.

Subsurface data collected during the geotechnical investigation indicate that the soils at the UDF area are consistent with the characteristics and stratification of a glacial outwash deposit. The general stratigraphy consists of unconsolidated deposits overlying marble bedrock. The unconsolidated deposits consist predominantly of fine-grained silts, sands, and gravels. These deposits vary laterally across the UDF area, and with depth, in terms of density, stratification, and heterogeneity.

Based upon an initial review of the visual field-based sample descriptions and results of the laboratory testing, the glacial outwash deposits are categorized into two main soil units: a fine sand and silt unit and a mixed sand, gravel, and silt unit. While these soil units are present at each boring location, the depths and thicknesses for each unit vary among boring locations.

Soils representative of the fine sand and silt unit generally consist of alternating layers of light brown silty sand and sandy silt. This unit of the glacial outwash is generally finer-grained soils with most of the gradation between silt and fine sand. Soil samples were typically described as light brown silty fine sand to sandy silt. Stringers of coarse sand and gravel were observed and are discontinuous across the unit. Recorded N-values and visual observations of the split-spoon samples indicate that consistency of this unit is generally medium dense to dense.

The soil unit of mixed sand, gravel, and silt is typically coarser than the fine sand and silt unit. It is composed of heterogeneous silty fine to coarse sand and fine to medium gravel. Layers of gravel and cobble-sized materials were noted in the boring logs and were generally found to be rock fragments in split-spoon samples. Recorded N-values and visual observations of the split-spoon samples indicate the consistency of the mixed sand, gravels, and silt is generally loose to dense. N-values greater than 50 were recorded where fractured rock was noted in the sample and at the bedrock interface.

Bedrock surface was confirmed at three boring locations during the geotechnical investigation program (monitoring wells MW 2022-2, MW 2022-3, and MW 2022-1). From rock cores completed at these borings, the bedrock was classified as marble. Review of the core sample indicates that the marble is hard and competent

with slight weathering. Top of bedrock varied from approximately elevation 909.5 feet at monitoring well MW 2022-3 to approximately elevation 957.5 feet at monitoring well MW 2022-1, indicating that the bedrock surface generally slopes downward in a northwestern direction.

Soil classifications were typically found to have USCS symbols of SM (silty sand) to ML (sandy silt, silt). A number of samples tested were found to have a greater gravel content and were classified as GM (silty gravel) to GP-GM (gravel with silt and sand). With exception of one sample, the soils tested for Atterberg limits were found to be non-plastic. The PDI Work Plan stated that undisturbed soil samples would be collected if cohesive soil was encountered. However, cohesive soils were not encountered during the geotechnical investigations; therefore, soil samples were not collected for evaluation involving shear strength testing (e.g., triaxial shear test).

A summary of the laboratory geotechnical lab results is provided in Table 3B.

3.3.4 Soil Infiltration Testing Results

In-situ soil infiltration testing was performed in areas of the GE Parcel where stormwater infiltration basins are proposed as part of the UDF design. The need for these soil tests was determined subsequent to submission of the PDI Work Plan and based on advancement of the UDF design presented in the Conceptual Design Plan. Figure 4 shows the locations where the soil infiltration tests were performed as well as where optional test locations were identified but ultimately not used. These optional test locations were intended for use in the event certain test locations were deemed inaccessible at the time of test implementation.

A total of eight soil infiltration tests were conducted between June 13 and June 23, 2023. As shown on Figure 4, six tests were conducted in the northern UDF area and two were conducted in the southern UDF area. The soil infiltration tests were conducted in soil borings that were drilled using a track-mounted rig with three-inch diameter steel casing advanced by percussion method. The borings were advanced to predetermined depths coinciding with conceptual stormwater basin design elevations which ranged from approximately seven to 26 feet in the northern area and approximately seven feet in the southern area. In addition to the eight infiltration test soil borings, two additional soil borings (one in the northern UDF area and one in the southern UDF area) were drilled to a depth of between 28 to 30 feet for soils classification purposes. Soil samples were collected from each boring at various interval depths for the following geotechnical analysis:

- Atterberg Limits (ASTM D4318);
- USCS Classification (ASTM D2487);
- Grain Size (ASTM D6913); and
- Moisture Content (ASTM D2216).

The soil infiltration tests were performed within the drill casing using a constant head test method to measure the rate of water loss (infiltration) into the soil at the bottom of the boring. The procedures employed create a field-saturated condition of the formation soils, which are tested based on methodology provided within ASTM D5126 - Standard Guide for Comparison of Field Methods for Determining Hydraulic Conductivity in Vadose Zone (active version 16e1 updated December 27, 2016).

In general, the soil infiltration test results are similar for the northern and southern UDF areas ranging between 0.74 to 0.98 inches/hour. Two locations in the northern UDF area had test results measuring 35.11 and 78.61 inches/hour, which are considerably higher than the other results, likely due to coarser gained formation soils. A summary of the soil infiltration test results is provided in Table 3C. Soil test boring information is summarized in Table 3D. Test logs for the soil infiltration tests are provided in Appendix G. Geotechnical test results will be provided in the addendum to this Final PDI Summary discussed in Section 4.

3.4 Soil Testing for Environmental Quality

Soil testing for environmental quality was performed at each soil boring associated with the monitoring wells (MW-2022-1 through MW-2022-9), at the piezometers (PZ-2022-1 through PZ-2022-3, PZ-2022-5, and PZ-2022-8), and at two of the six additional soil borings installed for sampling purposes only (B-2022-1 and B-2022-2). Figure 5 shows the 16 soil borings that were sampled for environmental quality of the soil. The field work to collect soil samples for environmental quality testing was performed between March 22 and June 15, 2022.

The soils testing for environmental quality was conducted to determine the presence and concentration of chemical constituents (if any) in the existing soil that will allow the establishment of baseline chemical conditions for comparative evaluations during UDF operations and post-closure monitoring of the UDF. The choice of borings for environmental quality testing was based on the future use of the groundwater monitoring wells to document long-term environmental quality before, during, and after construction of the UDF. Sampling for environmental quality of soil from the piezometer borings and the two additional (sample only) borings was performed to further document the general environmental quality of the soil in the UDF area.

At each boring location, samples were collected from the top foot and from two-foot intervals spaced approximately every 15 feet thereafter, down to a depth of 60 feet bgs or to the groundwater depth, whichever was higher. A final sample was collected from each boring at the groundwater depth interface.

Apart from two exceptions, soil samples were analyzed for the following chemical constituents: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyl (PCBs), herbicides, organophosphorus pesticides, dioxins/furans, and metals. The two exceptions were due to time limitations experienced between field sampling and laboratory testing that did not allow sufficient time for analysis of the following:

- VOCs were not analyzed for the 26- to 30-foot interval at monitoring well MW-2022-6; and
- VOCs were not analyzed for the 0- to 1-foot interval at monitoring well MW-2022-7.

The PDI soil test data for environmental quality serve to document the condition of site soils in the UDF area prior to the construction and operation of the UDF.

The results of GE's PDI soil testing for environmental quality are provided in Table 4A. The data validation reports for this testing are provided in Appendix H. These data indicate no detected PCBs. Regarding these results, it is noted that the listed quantitation limits for PCBs were elevated by about an order of magnitude in relation to those specified in GE's FSP/QAPP due to the subsample size selected by the laboratory (approximately three grams). However, those quantitation limits are well below the Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-1 soil standard for PCBs, which is 1 mg/kg.[9] Thus, the sampling results demonstrate that the GE Parcel does not contain PCBs at concentrations exceeding or even close to that level.[10] The GE sampling results show further that there were only a few detections of individual VOCs, SVOCs, pesticides, and herbicides at relatively low concentrations. While the data indicate more detections of dioxins/furans, concentrations are also relatively low.

[9] It should also be noted that, for PCB mixtures other than Aroclors 1254 and 1260, the method detection limits were below those specified in the FSP/QAPP and no detections above the method detection limits were reported. Detections between the reporting/quantitation limit and method detection limit, if present, would have been flagged as estimated values.

[10] In the future, reporting/quantitation and method detection limits for PCB analyses of soil samples from the GE Parcel are expected to be equal to or lower than the limits specified in GE's applicable FSP/QAPP, as GE will instruct the laboratory to analyze a larger subsample.

Inorganics were detected in all samples and at concentrations generally consistent with what would be expected in background or reference samples collected in the Eastern United States.

Split samples were collected by EPA and analyzed by EPA for PCBs, VOCs, and inorganic constituents. EPA's analytical results associated with these split samples are presented in Table 4B, along with GE's analytical results for the same constituents. As shown therein, for the constituents analyzed by EPA, the data from EPA's split samples are generally similar to the results from GE's samples.

As directed by EPA in its April 18, 2023 conditional approval letter, the soil analytical results obtained by GE have been compared with the EPA Region 9 Preliminary Remediation Goals (PRGs) for soil and the MCP Method 1 S-1/GW-1 soil standards to evaluate the soils for potential on-site reuse. These comparisons are included in Table 4A (showing both the residential and industrial Region 9 PRGs). These comparisons indicate that arsenic concentrations in these samples are above the EPA Region 9 PRGs, but are significantly lower than the MCP Method 1 S-1/GW-1 soil standard. Given that these detections for arsenic are relatively consistent in the soil sampling, they may be indicative of regional background levels for arsenic. The comparisons also indicate that nickel detections in two samples from separate borings (MW-2022-1 and PZ-2022-1) are slightly above the MCP Method 1 soil standard but considerably lower than the Region 9 PRGs.

The initial characterization of the debris piles indicated that the debris materials consist primarily of crushed concrete, concrete slabs, pavement millings, and brick and rubble. These materials will be further characterized and evaluated for possible on-site reuse of on-site or off-site disposal with the results to be presented in the Supplemental Information Package for the UDF, which will be prepared and submitted to EPA for review prior to construction.

3.5 Piezometer and Monitoring Well Installation

Six temporary piezometers and 11 monitoring wells, including two deep-shallow monitoring well pairs, were installed within the GE Parcel.[11] Collectively, these piezometers and monitoring wells have been and are continuing to be used to collect groundwater elevation data across the GE Parcel. The monitoring wells may also be used for long-term monitoring of site groundwater during construction, operation, and post-closure of the UDF. Further discussions on the installation of the piezometers and monitoring wells are provided below. A summary of the installed conditions for the piezometers and monitoring wells is provided in Table 5.

3.5.1 Piezometer Installation

Six piezometers were installed within the UDF area, as shown on Figure 6. Although the PDI Work Plan proposed a total of eight piezometers, two of them (formerly PZ-2022-4 and PZ-2022-6) were converted to monitoring wells (MW-2022-8 and MW-2022-9) in accordance with EPA's February 25, 2022, conditional approval letter. The reference identification of the completed piezometers are as follows:

- PZ-2022-1;
- PZ-2022-2;
- PZ-2022-3;
- PZ-2022-5;

[11] The temporary piezometers were installed for gauging groundwater elevations during the PDI period and will be removed during UDF construction. The monitoring wells were installed for groundwater elevation gauging and sampling during the PDI period and may remain for long-term use.

- PZ-2022-7; and
- PZ-2022-8.

Except for piezometers PZ-2022-1, PZ-2022-7, and PZ-2022-8, separate geotechnical borings were completed in advance of drilling the well construction borings to allow for visual assessment of soil conditions and for estimation of depth to groundwater, which was used to establish the well screen depth. Piezometers PZ-2022-1, PZ-2022-7, and PZ-2022-8 were constructed in the same borings used for geotechnical purposes and were completed using a hollow-stem augur drill rig. The remaining piezometers were installed in separate borings using a sonic drill rig, which was determined to be a more effective drilling method for installation of the wells given the soil conditions encountered. Installation of piezometer PZ-2022-1 required the use of a hollow-stem auger drill rig due to access limitations encountered by the sonic drill rig.

For piezometers PZ-2022-1, PZ-2002-7, and PZ-2022-8, the completed soil boring depths exceeded the depths needed for well installation purposes due to geotechnical sampling requirements. Prior to the piezometer installation, the excess boring depth was backfilled with cement-bentonite grout to approximately one foot below the bottom of the well screen. The remainder of the boring was then backfilled with sand pack material to the bottom of the piezometer screen depth.

The piezometers consist of one-inch-diameter polyvinyl chloride well screen and riser pipe and were installed to facilitate groundwater elevation monitoring. Because the piezometers are located within the UDF development footprint, the piezometers are temporary and will be abandoned in place prior to construction of the UDF.

Construction logs for the completed piezometers are provided in Appendix I.

3.5.2 Monitoring Well Installation

Eleven monitoring wells were installed at the perimeter and within the UDF area, as shown on Figure 6. These 11 monitoring wells included six wells proposed in the PDI Work Plan, four wells added in accordance with EPA's February 25, 2022 conditional approval letter, and one well added at EPA's request during PDI implementation based on field conditions. The reference identification of the completed monitoring wells and the basis for their installation are provided below:[12]

- MW-2022-1(S): per EPA request during implementation;
- MW-2022-1(D): per the PDI Work Plan;
- MW-2022-2: per the PDI Work Plan;
- MW-2022-3: per the PDI Work Plan;
- MW-2022-4(S): per the PDI Work Plan;
- MW-2022-4(D): per EPA's conditional approval letter;
- MW-2022-5: per the PDI Work Plan, with the location adjusted per EPA's conditional approval letter;
- MW-2022-6: per EPA's conditional approval letter;
- MW-2022-7: per the PDI Work Plan (formerly MW-6 location in the PDI Work Plan);

[12] Wells designated with "S" are shallow wells and those designated with "D" are deep wells at the same locations.

- MW-2022-8: per EPA's conditional approval letter, formerly PZ-2022-4 in the PDI Work Plan; and
- MW-2022-9: per EPA's conditional approval letter, formerly PZ-2022-6 in the PDI Work Plan.

Except for monitoring well MW-2022-9, separate geotechnical borings were completed in advance of drilling the well construction borings to allow for visual assessment of soil conditions and for estimation of depth to groundwater, which was used to establish the well screen depth. Monitoring well MW-2022-9 was constructed in the same boring used for geotechnical purposes and was completed using a hollow-stem augur drill rig. Following installation of monitoring well MW-2022-9, all other monitoring wells were installed in separate borings using a sonic drill rig, which was determined to be a more effective drilling method for installation of the wells given the soil conditions encountered.

The monitoring well at location MW-2022-1 was initially installed to a depth at which the screen was submerged and was thus not appropriate to best determine groundwater elevations. To facilitate groundwater elevation gauging within the well screen, a second well was installed adjacent to the initial well and was screened across (within) the groundwater table at the time of its installation. The initial (deeper) monitoring well is identified as MW-2022-1(D) and the second (shallower) well as MW-2022-1(S). Monitoring wells MW-2022-8 and MW-2022-9 were initially proposed as piezometers in the PDI Work Plan but were converted to monitoring wells in accordance with EPA's February 25, 2022, conditional approval letter.

A summary table and construction logs for the completed monitoring wells are provided in Appendix I.

In consideration of the existing monitoring well configurations for MW-2022-1S and MW-2022-1D and the water level fluctuations observed during the PDI period, GE intends to replace existing monitoring wells MW-2022-1S and MW-2022-1D with a new monitoring well to allow for groundwater elevation gauging and sampling at that location across the range of observed year-round groundwater elevations.

For monitoring well MW-2022-9, the completed soil boring depth exceeded the depth needed for well installation purposes due to geotechnical sampling requirements. Prior to the well installation, the excess boring depth was backfilled with cement-bentonite grout to approximately one foot below the bottom of the well screen. The remainder of the boring was then backfilled with sand pack material to the bottom of the well screen depth.

The monitoring wells consist of two-inch-diameter polyvinyl chloride well screen and riser pipe and were installed to facilitate groundwater quality sampling and groundwater elevation monitoring. Because monitoring wells MW-2022-8 and MW-2022-9 are located within the footprint of the UDF consolidation area, these wells are temporary and will be abandoned in place prior to construction of the UDF.

The remaining nine wells surround the UDF consolidation area and provide monitoring at and below the water table, with the majority of wells providing shallow monitoring. The monitoring well network provides sufficient data points to monitor head conditions across the UDF operational area and, as noted above, will be enhanced by the planned new well to replace wells MW-2022-1S and MW-2022-1D. Head data are sufficient to construct potentiometric surface contour figures and thus to infer groundwater flow directions and assess gradients now and following construction activities. The wells are situated to monitor groundwater quality upgradient of the UDF consolidation area (e.g., the current MW-2022-1 cluster), cross-gradient (e.g., MW-2022-2, MW-2022-3, and MW-2022-7) and downgradient (e.g., MW-2022-4 cluster, MW-2022-5, and MW-2022-6) and were constructed to allow for hydraulic conductivity testing. The distribution of wells provides an overall understanding of the GE Parcel hydrogeology and emphasizes monitoring downgradient of that parcel. If additional monitoring is required due to changing site or off-site conditions, the monitoring network can be expanded.

3.6 Groundwater Elevation Monitoring

3.6.1 Description of Monitoring

Groundwater elevation monitoring was conducted within and outside of the GE Parcel utilizing the six piezometers and 11 monitoring wells installed within the GE Parcel, two pre-existing monitoring wells located outside of the GE Parcel at the Lee Municipal Landfill, and two surface water monitoring points located on an artificial pond within the GE Parcel (referenced as MP-1) and on the Housatonic River at the Schweitzer Bridge (referenced as MP-2). An additional surface water monitoring point (referenced as MP-3) was installed in June 2023 on an artificial pond adjacent to surface water monitoring point MP-1. Surface water monitoring point MP-3 was installed at EPA's request to facilitate measurement of the full range surface water elevations within the artificial pond. Because groundwater elevation gauging for the PDI was completed prior to installation of MP-3, data for MP-3 will be provided in the addendum to this Final PDI Summary discussed in Section 4. These groundwater and surface water monitoring locations are shown on Figure 6.[13] Additional information pertaining to the Lee Municipal Landfill groundwater wells is included in Appendix I.

Groundwater elevation monitoring data for the piezometers and monitoring wells were collected by manual measurement (gauging) on a monthly basis and using transducers that record groundwater elevations on an hourly basis. A transducer was also installed at the artificial pond monitoring point locations (MP-1 and MP-3) to collect measurements of the pond surface water elevation when pond water depths are sufficiently high enough to contact the transducer. Before the installation of MP-3, when pond water levels dropped below the transducer depth, the pond surface water elevation was measured manually using a survey rod or tape measure. MP-3 is able to measure lower pond surface water elevations than MP-1. It is noted that data collected on the surface water elevations of the pond will constitute only an approximate estimate of adjacent subsurface groundwater elevations since the pond surface elevation can fluctuate more rapidly than groundwater due to loss through evaporation and gain from stormwater inflow. In addition to these water elevation measurements, the Housatonic River surface water elevation at the Schweitzer Bridge (MP-2) is monitored manually using a survey rod or tape measure.

Groundwater elevation monitoring commenced on June 6, 2022, and continued for a one-year period, concluding in June 2023, in accordance with the PDI Work Plan. Site-based measurements and retrieval of transducer data were performed on a monthly basis during this period. The monthly groundwater elevation monitoring results to date are provided in Table 6A, and the hourly transducer groundwater elevation monitoring results to date are provided in Appendix I. Monitoring of the Housatonic River surface water elevation was required and was conducted until installation of a USGS gauging station in the vicinity of Woods Pond Dam. The latter USGS gauging station was installed downstream of the Schweitzer Bridge, and data collection at this gauging station began on September 14, 2022. However, elevation data are not available for the USGS gauge, which provides only gauge height and discharge data. In any case, GE continued monthly monitoring at the Schweitzer Bridge through June 2023, and the results are included in Table 6A. As mentioned previously, prior to UDF construction, the piezometers will be abandoned in place. However, the monitoring wells may remain in service for continued monitoring.

The recorded elevation gauging data for the piezometers and monitoring wells during the period from the start of groundwater elevation monitoring in June 2022 through June 2023 show an overall seasonal fluctuation- in

[13] Arcadis also investigated the availability of water surface elevation data for the Housatonic River as part of river stage monitoring by the USGS at its Lenoxdale, MA gaging station (active since September 2022). To date, however, these data have not been available. Arcadis will continue to coordinate with the USGS in an effort to obtain these data and, if obtained, the data will be provided in the addendum to this Final PDI Summary.

groundwater elevations across the GE Parcel, with generally peak elevations observed in mid-spring and the lowest elevations observed in mid to late fall. Based on the monthly manual measurements, this fluctuation ranged from approximately 2.5 feet (MP-1) to 9.8 feet. In monitoring well MW-2022-2, which is located close to a low-lying area in the northern portion of the GE Parcel, groundwater elevations have fluctuated more significantly than in other gauging points. This is likely due to the well's proximity to a low area where surface water runoff following precipitation events and subsequent infiltration of the soil may be higher than in other areas of the parcel and have a greater and more immediate effect on the groundwater elevations in this area.

In general, the monitoring wells and piezometers in the anticipated consolidation area footprint showed groundwater elevations in the range of 949 to 973 feet in April-May 2022 and lowering to 946 to 967 feet in November 2022. The groundwater elevation data collected to date indicate a generally east-southeast to west-northwest groundwater elevation gradient and flow direction.

It is noted that certain transducer data graphs shown in Appendix I identify periodic measurement anomalies (e.g., plots traces with sharp decreases and increases or gaps). These anomalies can result, for example, when the transducer unit is removed and redeployed for data recovery purposes or when there is a momentary interruption in connectivity. In a limited number of wells, groundwater levels may have dropped below the transducer unit sensor. This condition can be seen in monitoring wells MW-2022-7 and MW-2022-8. For monitoring well MW-2022-8, there was sufficient water column depth in the well to allow for redeployment of the transducer to a lower well depth (as can be seen in the graph by the flat trace followed by a sharp drop with corresponding manual measurements). While this redeployment did allow for monitoring at greater well depths, a continued fall in groundwater level in that well resulted in the transducer being positioned above the groundwater level for a period of time. In other wells, such as monitoring well MW-2022-7, redeployment of the transducer to a lower well depth may not be possible if there is insufficient water column depth in the well or if groundwater is absent. In one well at the Lee Municipal Landfill (MW-84-2), the transducer initially installed became inoperable and was replaced in September 2022. Transducer data for this well from June through August 2022 were not recoverable; however, the well has been gauged manually on a monthly basis since the start of groundwater elevation monitoring in June 2022. It is noted that removal of accumulated sediment from wells MW-2022-6, MW-2022-7, MW-2022-8, and MW-2022-9 was performed in December 2022. The position of the transducers in these wells was lowered to the extent possible. Monitoring of potential sediment accumulation in these, and in the other monitoring wells located on the GE Parcel, shows little, if any, continued sediment accumulation.

Each of the monitoring well pairs MW-2022-1S/MW-2022-1D and MW-2022-4S/MW-2022-4D contains adjacent wells screened at different depths within the saturated overburden. The vertical groundwater gradients observed for these well pairs are all upward, except for the measurements in May 2023 for the MW-2022-1S/D cluster. Combined plots of the transducer data from each of these wells are presented in Appendix I. The average vertical gradient from June 2022 to June 2023 based on manual measurements for both well pairs is approximately 0.04 feet/foot upward with the exception of the May 2023 data when the spring shallow groundwater elevations rose above the deeper groundwater for MW-2022-1S/D.

The groundwater elevation data collected at the Lee Municipal Landfill as part of the UDF PDI field activities do not allow for interpolation of vertical groundwater gradients since only the shallow wells (MW 84-1 and MW 84-2) were monitored. However, the Lee Sanitary Landfill Final CSA report (CDM 1995) describes the vertical groundwater gradients interpreted from the bedrock and overburden monitoring well pairs as flowing generally in an upward direction, particularly in the southwestern corner of the landfill area. That report also described a single instance where a downward gradient was reported, which could not be explained and may have been the result of inaccuracies in water level readings.

Geologic cross-sections depicting existing geology, select piezometers and monitoring wells screen intervals, and the range of measured groundwater elevations reported during the PDI period, are shown on Figures 7 and 8.

Groundwater contour maps for each of the months of monitoring during the PDI period are shown on Figures 9 through 21.

3.6.2 Estimate of Seasonally High Groundwater Elevation

As requested by the EPA, an evaluation of the groundwater elevation gauging data collected during the PDI monitoring period at the GE Parcel was performed to provide a conservative estimate of the seasonally high groundwater elevation at the GE Parcel. This conservative estimate of the high groundwater elevation will be used in the design of the UDF to establish a separation distance between the bottom of the lowest baseliner system elevation and the estimated seasonally high groundwater elevation. A summary of the evaluation conducted to estimate the seasonally high groundwater elevation is provided below.

The determination of the seasonally high groundwater elevation for the GE Parcel was performed using the Frimpter method for calculating such elevations in Massachusetts (Michael H. Frimpter 1981). This method utilizes Massachusetts-based groundwater elevation monitoring data covering decades of recording. The Frimpter method calculates probable high groundwater elevations for a given site using actual groundwater elevation measurements at that site (such as those collected during UDF PDI at the GE Parcel) and historical groundwater elevation measurements collected at an observation well (OW) site. The calculation considers other parameters including terrain setting, which for the GE Parcel is considered to a combination of “valley-flat” and “terrace”, and geologic environment, which for the GE Parcel is classified as stratified drift (sands and gravels). For the Frimpter calculation, it is important to utilize an OW with parameters (i.e., terrain setting and geologic environment) that are comparable to the site being evaluated. It is noted that the GE Parcel includes both valley-flat and terrace terrain settings but was evaluated as a terrace, which is more conservative (yields higher groundwater elevation estimates). The results of the Frimpter calculations are provided in Tables 6B and 6C.

The estimate of the seasonally high groundwater elevation for a specific site is made based on the assumption that the water level fluctuations within an OW site are comparable to the groundwater elevation fluctuations occurring at the subject site. The formula used in the Frimpter calculation compares two ratios: (1) the ratio of the measured groundwater fluctuation at the selected site and at the OW; and (2) the ratio between the standard Frimpter range of groundwater fluctuation and the recorded upper limit of the range of groundwater fluctuation at the OW. Through this comparison, the seasonally high groundwater elevation for the site is estimated based on the recorded groundwater elevation fluctuations at the OW.

A review of OW data available on the USGS website identified USGS OW “MA-PTW 51 Pittsfield, MA – 422475073112001,” located in Pittsfield, MA (off Hubbard Avenue), as being the closest OW to the GE Parcel. Based on the extensive work completed at the GE Parcel during the PDI and information available for OW MA PTW-51 on the USGS website, the GE Parcel and OW MA-PTW 51 terrain settings and geologic environments are comparable (i.e., valley-flat/terrace and stratified drift/sands and gravels, respectively). It is also noted that both the GE Parcel and the OW locations are near stream and river waterways, and adjacent to elevated (hilly) topography. Groundwater elevation data available for the Pittsfield OW (well MA-PTW 5 include data collected from 1985 to 2022 (37 years). The range of groundwater elevation fluctuation at the Pittsfield OW is 5.2 feet in comparison to 5.0 feet at the GE Parcel.

Table 6C shows the maximum measurement for each monitoring well at the GE Parcel during each month of transducer gauging. Adjacent to the maximum measured values for each month are the calculated high groundwater elevations for both the “valley” and “terrace” terrain settings, as calculated by the Frimpter method using the Pittsfield OW data. The single highest calculated groundwater elevation for each monitoring well during the gauging period was selected as the maximum adjusted groundwater elevation value for that monitoring well. Results from the Frimpter calculations show increases at the PDI gauging points on the GE Parcel ranging from

1.8 to 4.7 feet above the groundwater elevations measurements recorded during the PDI. The values in this range represent the estimated maximum groundwater elevation that could be anticipated at the gauging points.

For comparative purposes, an additional Frimpter calculation was performed using a different OW (MA-DWF 44R Deerfield, MA – 423311072355801), which is located Deerfield, MA and includes data collection from 1965 to 2023. The terrain setting and geologic environment for OW MA-DWF 44R are identified on the USGS website as valley-flat and stratified drift (sands and gravels), respectively, which are comparable to those at both the GE Parcel and the MA-PTW 51 OW. This additional Frimpter calculation showed similar results to those using OW MA-PTW 51, with the calculated increases at the PDI gauging points ranging from 1.9 to 4.7 feet above the groundwater elevations measurements recorded during the PDI. These results are nearly the same as those using the Pittsfield OW. Also of note is that the calculated average high groundwater elevation using the Deerfield OW is only slightly higher (by about 0.1 foot) than that using the Pittsfield OW. Given these close results, and the fact that the Pittsfield OW is less than nine miles from the GE Parcel, the use of the OW MW-PTW 51 is appropriate for use in the Frimpter calculations.

At EPA's request, as an additional point of comparison, the Frimpter analysis was also run on the PDI monitoring data from the two wells at the Lee Landfill to compare the seasonally high groundwater elevation predicted using the Frimpter method with historical groundwater elevation data available for the Lee Landfill. It is noted, however, that the available historical data for the Lee Landfill, as presented in Table 6D, are limited,[14] particularly as compared to the more robust data set available for the Pittsfield OW. A review of historical groundwater elevations recorded at the Lee Landfill dating back to 1984, including the recent UDF PDI gauging data, shows that the highest recorded groundwater elevations at the Lee Landfill were measured in spring 1984. The spring 1984 elevations for the two Lee Landfill monitoring wells included in the PDI (MW-84-1 and MW-84-2) were compared to the Frimpter calculation results. As seen in the results for well MW-84-1, the maximum Frimpter terrace elevation of 967.15 is approximately 1.4 feet higher than the spring 1984 elevations at the Lee Landfill, except for the June 6, 1984 groundwater measurement. The Final CSA report for the Lee Landfill (CDM 1995) describes the 970.25 elevation measurement at MW-84-1 on June 6, 1984 as possibly due to surface water ponding in a ground depression adjacent to the well that may have resulted in groundwater mounding around the well following three consecutive days rainfall totaling more than seven inches. The CSA report goes on to say that the possibility that this mounding was a cause of the amount of the groundwater level fluctuation at MW-84-1 on June 6, 1984, is supported by the fact that monitoring wells on the downstream and opposite sides of the landfill showed a substantially lower level of fluctuation on that date. With the noted possibility that the groundwater elevation at MW-84-1 recorded on June 6, 1984 may be unusually high due to surface grade conditions and excessive rainfall, the Frimpter calculation results for MW-84-1 appear reasonable.

For well MW 84-2, the maximum Frimpter terrace elevation of 957.15 is about 0.6 and 0.8 foot lower than the June 6, 1984 and the July 9, 1984 measured elevations, respectively. A review of the topography from 1995 and cross sections included in the CSA report suggests that surface grades around well MW-84-2 could have allowed for runoff concentration and subsequent ponding that, in similar fashion to MW-84-1, might have resulted in groundwater mounding conditions following significant rainfall events. Except for the June and early July 1984 GW elevation measurements, which may have been influenced by landfill operations during that time, the maximum Frimpter elevation results for MW-84-2 appear reasonable.

[14] Historical groundwater elevation data found for the Lee Landfill were limited to information contained primarily in the CSA report (CDM 1995) and in other sporadic elevation information presented in figures and reports provided by Tighe & Bond Engineers-Environmental Specialists (consultant for the Lee Landfill). See Table 6D for the available groundwater elevation data for the Lee Landfill.

In summary, use of the Frimpter method for calculating the seasonally high groundwater elevation at the GE Parcel is considered to be an appropriate and conservative approach since it considers the extensive PDI data available for the GE Parcel (13-month period of groundwater elevation measurements at 13 monitoring locations, a robust soil boring and laboratory test data set for geologic characterization) and uses of an OW for the calculation basis that includes over 37 years of groundwater elevation data, is within nine miles of the GE Parcel, and is equally characterized in terms of terrain and geology. The conservative nature of the Frimpter method and its use in estimating the seasonally high groundwater elevations at the GE Parcel is further supported by comparison of the calculation results with the limited historical groundwater elevations at the Lee Landfill, which, as described above, show the Frimpter-calculated seasonally high groundwater elevations at the two Lee Landfill wells monitored as part of the PDI to be in general agreement with the historical groundwater elevations at the Lee Landfill.

These calculations of the seasonally high groundwater elevation at the GE Parcel, together with the preliminary design information presented in GE's December 6, 2022 Conceptual Design Plan for the UDF, demonstrate that there will be at least 15 feet of separation between the bottom of the UDF consolidation area liner system (as presented in the Conceptual Design Plan) and a conservative estimate of the seasonally high groundwater elevation, as required by the Revised Permit. The design of the UDF liner system and elevations is currently being refined from the conceptual design and, as refined, will be presented in the Final Design Plan for the UDF. That plan will likewise, as required by the Revised Permit, provide a minimum 15-foot separation distance between the bottom of the UDF consolidation area liner system and the conservative estimate of the seasonally high groundwater elevation. And, of course, due to the thickness of the liner system, there will be even more separation between the bottom of the actual waste placed in the consolidation area and the seasonally high groundwater elevation.

3.7 Groundwater Testing for Environmental Quality

Groundwater testing for environmental quality has been performed at the 11 groundwater monitoring wells, including both shallow (identified as "S") and deep (identified as "D") wells at MW-2022-1 and MW-2022-4, described in Section 3.5.2. The locations of the monitoring wells used for groundwater testing for environmental quality are shown on Figure 22.

Groundwater testing for environmental quality has been and is being conducted to determine the presence and concentration of chemical constituents (if any) in the groundwater to establish baseline chemical conditions for comparative evaluations during UDF operations and post-closure monitoring of the UDF. The collected groundwater samples have been and are being analyzed for the full list of analytes presented in test result summary tables (described below), which include data for PCBs, VOCs, SVOCs, inorganics, dioxins/furans, pesticides, and herbicides, as well as for per- and polyfluoroalkyl substances (PFAS) in accordance with EPA's February 25, 2022, conditional approval letter.

Three groundwater quality sampling events have been conducted at the GE Parcel to date – in spring 2022, fall 2022, and spring 2023. The results of GE's samples are provided in Tables 7A-1 through 7A-11 for the various wells sampled. The data validation reports for this testing are included in Appendix J. In addition, during all three events, EPA collected and analyzed split samples from selected wells for PCBs, VOCs, and inorganic constituents. The analytical results associated with those EPA split samples are presented in Table 7B, along with the GE results for the same wells and same constituents. Each of these groundwater sampling events is described further in the following paragraphs.

The first PDI groundwater sampling event to test for environmental quality was performed between June 23 and July 6, 2022. The data from this event indicate no detected PCBs and only a few detections of individual VOCs,

SVOCs, and herbicides at MW-2022-1S or MW-2022-1D at relatively low concentrations. Similarly, the data indicate few detections of individual pesticides (in only four of the 11 wells sampled) and inorganics (at all 11 wells sampled) at relatively low concentrations. PFAS compounds were detected in eight of the 11 wells sampled, and dioxins/furans were detected in all wells at relatively low concentrations. For the constituents analyzed by EPA, the analytical data from EPA's split samples are generally similar to the results from GE's samples.

The second PDI groundwater sampling event was performed between November 9 and December 19, 2022.[15] The data from the second groundwater sampling event indicate no detected PCBs and only a few detections of individual VOCs, SVOCs, and herbicides at MW-2022-1D and MW-2022-2 at relatively low concentrations. Similarly, the data indicate few detections of individual pesticides (in eight of the 10 wells sampled) and inorganics (at all 10 wells sampled) at relatively low concentrations. PFAS compounds were detected in seven of the 10 wells sampled, and dioxins/furans were detected in all wells at relatively low concentrations. For the constituents analyzed by EPA, the analytical data from EPA's split samples are generally similar to the results from GE's samples.

The third groundwater sampling event was performed event between April 25 and May 5, 2023. The data from the third groundwater sampling event indicate no detected PCBs and only a few detections of individual VOCs, SVOCs, and herbicides at MW-2022-2, MW-2022-3, and MW-2022-5 at relatively low concentrations. Similarly, the data indicate few detections of individual pesticides (in five of the 11 wells sampled) and inorganics (at all 11 wells sampled) at relatively low concentrations. PFAS compounds were detected in seven of the 11 wells sampled, and dioxins/furans were detected in all wells at relatively low concentrations. For the constituents analyzed by EPA, the analytical data from EPA's split samples are generally similar to the results from GE's samples.

As directed in EPA's April 18, 2023 conditional approval letter, the groundwater analytical results obtained by GE for these three sampling events have been compared to the MCP Method 1 GW-1 and GW-3 groundwater standards. GW-1 standards are based on the potential use of groundwater as drinking water, either currently or in the foreseeable future; and GW-3 standards are based on the potential environmental effects resulting from contaminated groundwater discharging to surface water.[16] These comparisons are included in Tables 7A-1 through 7A-11. These comparisons show ten concentrations above Method 1 GW-1 standards, all but one involving PFAS. Specifically, the concentrations of total PFAS at MW-2022-1S, MW-2022-1D, and MW-2022-9 during all three events exceeded the Method 1 GW-1 standard for total PFAS. The spring 2023 parent sample Toxicity Equivalency Quotient (TEQ) result at well MW-2022-9 was greater than the GW-1 standard.[17] The duplicate result for that well was more than an order of magnitude less than the GW-1 standard. This exceedance was a result of the validation process, where several dioxins were corrected from laboratory estimated low-level detections to non-detected results. Non-detected TEQ results are incorporated at a value of one half of the reporting limit, which was greater than the laboratory estimated low-level detections, resulting in the TEQ result changing from 0.00000003 mg/L to 0.0000000301 mg/L, compared to the standard of 0.00000003 mg/L. The

[15] The extended time period to perform the second PDI groundwater sampling event was due to the presence of accumulated sediment that limited the depth of water and prevented collecting samples. After an initial attempt to collect samples was unsuccessful in certain wells, GE, with EPA approval, performed removal of sediment accumulations in those wells and was able to complete the second round of PDI groundwater sampling within all but well MW-2022-1S. MW-2022-1S was not sampled due to low groundwater levels at the time of sampling, which resulted in a water column length insufficient for sampling.

[16] GW-2 standards are based on the potential for chemicals in groundwater to volatilize and migrate into indoor air of buildings; they were not considered applicable to the UDF property.

[17] For dioxins/furans, TEQ concentrations were calculated using the Toxicity Equivalency Factors published by the World Health Organization in 1998 (van den Berg et al., Environ. Health Perspectives, vol. 106, no. 12), as required by the Statement of Work for Removal Actions Outside the River, and representing non-detected compounds as one-half the detection limit.

comparisons also show one detected concentration above GW-3 standards – for cyanide at MW-2022-5 in the spring 2022 event. Although there is no formal prohibition on the use of groundwater at the GE Parcel for drinking water, there is no current or reasonably foreseeable future use of groundwater as drinking water at this property and there are no active drinking water wells within 500 feet of the UDF consolidation area. The source of the PFAS is unclear, but it appears that they may be related to an upgradient source. MassDEP is separately investigating nearby drinking water wells for the presence of PFAS. The single TEQ result greater than the GW-1 standard may be anomalous (only one result out of three sampling events exceeded the standard, the paired duplicate result from that well was less than the standard, and it appears to be a result of the TEQ calculation method that uses ½ the reporting limit as a concentration when the result is non-detect). With regard to the one exceedance of cyanide above the GW-3 standard (at MW-2022-5), that appears to be an isolated instance as it was only detected once. Even in that one event, cyanide was not detected above the GW-3 standard in nearby wells (MW-2022-4S/4D, MW-2022-6, and MW-2022-8), and thus there does not appear to be a potential for groundwater exceeding the GW-3 standard from the location of MW-2022-5 to discharge to surface water.

The final groundwater sampling event to test for environmental quality is scheduled for fall 2023. The results of that PDI groundwater sampling event will be presented in the addendum to this Final PDI Summary discussed in Section 4, as well as in GE's monthly progress reports under the CD.

The analyte list to be used for groundwater sampling during UDF operations and/or long-term groundwater sampling may be modified based on the review of the PDI sampling results and/or the nature of the materials being disposed of. Proposed modification(s) will be presented to EPA for review and approval (e.g., in the UDF Operation, Monitoring, and Maintenance Plan and/or the UDF Post-Closure Monitoring and Maintenance Plan).

3.8 Hydraulic Conductivity Evaluation

In accordance with the requirements of EPA's February 25, 2022, conditional approval letter for the PDI Work Plan, slug testing was performed in five monitoring wells within the UDF area (representing half of the wells installed, excluding the two deep monitoring wells) to determine hydraulic conductivity of the parcel soils. Specifically, slug testing was performed at monitoring wells MW-2022-1S, MW-2022-2, MW-2022-5, MW 2022-7, and MW-2022-9. Additional slug testing was conducted in monitoring wells MW-2022-1S and MW-2022-4D in July 2023, as directed in EPA's April 18, 2023 conditional approval letter for the Interim PDI Data Summary. The results of the slug testing are provided in Table 8.

The slug tests were performed to estimate hydraulic conductivity by introducing a water level displacement and then measuring the water level recovery. The slug tests at all seven wells were performed using a solid slug (1.5 inches in diameter and two feet in length), and water level recoveries were recorded by a pressure transducer. Recovery of water levels during the slug tests at the monitoring wells was variable during test initiation. For each well, the test response with the lesser amount of initial variability was used to analyze hydraulic conductivity. The recovery data were processed and analyzed using the applicable analytical solution with AQTESOLV® following guidance presented in Butler (2019). Additional data from the wells that were utilized for analytical solution included well dimensions, saturated thickness, and effective screen length which accounts for well sedimentation thickness.

At the time of testing, the four wells successfully tested were screened within the water table groundwater zone, and three wells (MW-2022-1S, MW-2022-7, and MW-2022-9) had partially submerged screens or screens/upper filter packs that became partially submerged during the rising head tests. The analytical solutions utilized were the KGS Model (Hyder et al. 1994), the Springer-Gelhar (1991), and the Bouwer and Rice (1976) and Bouwer (1989) solutions. The results indicated an estimated hydraulic conductivity range for all but MW-2022-4D of 0.3 to 38 feet per day, as shown in Table 8. Those hydraulic conductivity estimates are in the range of what would be expected

considering the grain size description for the screened intervals of the wells. For MW-2022-4D, the well is screened within bedrock, which likely explains the significantly higher hydraulic conductivity (400 feet per day). The heterogeneous nature of the unconsolidated glacial deposits is reflected in the variability of the results with moderate to high hydraulic conductivity. The analytical solution reports for the slug tests are presented in Appendix K.

3.9 Weather Monitoring

In accordance with the requirements of EPA's February 25, 2022, conditional approval letter, a weather station was installed at the GE Parcel on October 3, 2022, to record weather data, including rainfall, temperature, wind speed and direction, and barometric pressure. The weather station is solar-powered and web-enabled, allowing for telemetric upload of collected data for desktop (dashboard) weather monitoring. It has been collecting data since early October 2022. The weather station will serve to collect year-round data and is anticipated to remain in place during construction, operation, and closure of the UDF. The collected weather data will be used to refine regional meteorological data for use in evaluating and developing baseline air monitoring requirements and UDF design parameters, as well as for use during UDF operations and closure. A lockable chain-link fence enclosure was installed around the weather station to limit access to the weather station equipment. The location of the weather station and enclosure fencing is shown on Figure 23. Weather data collected to date since installation of the weather station are provided in Table 9. A wind rose diagram depicting wind directions recorded at the GE Parcel is provided in Figure 24. The weather station will be relocated elsewhere on the GE Parcel prior to UDF construction activities if such activities will impact its operation.

3.10 Cultural Resources Assessment

In accordance with the PDI Work Plan for the UDF, an initial Phase IA CRA of the GE Parcel was conducted by AECOM on GE's behalf under EPA oversight. That CRA included the following activities:

- Definition of an archaeological Area of Potential Effects (APE) and an historic architectural APE, both of which were coextensive with the GE Parcel;
- Desktop and on-line review of the Massachusetts Historical Commission's (MHC's) report files and databases, including the MACRIS, Massachusetts State Historic Preservation Plan, and MHC State Reconnaissance Survey Reports, to determine whether the GE Parcel contains or could affect cultural resources included in those databases;
- A desktop investigation of the GE Parcel for the potential to contain unidentified potentially significant cultural resources (i.e., whether they have no, low, or high potential to contain such resources), using an approach outlined in the PDI Work Plan;
- A desktop investigation of known or suspected historic structures within the historic architectural APE by examining historic structure inventories compiled by the MHC and local historic organizations and systematically comparing them with the location of the GE Parcel; and
- A field investigation of the locations of planned soil borings at the GE Parcel and a second field investigation of the vegetated margins of the GE Parcel.

Following the completion of these activities, GE prepared and submitted a *Phase IA Cultural Resources Assessment Report for Upland Disposal Facility Area* (Phase IA CRA Report), dated July 8, 2022. A copy of that

report is provided as Appendix L. EPA provided conditional approval of that report in a letter dated September 7, 2022.

The Phase IA CRA did not identify any previously recorded or visible cultural resources within the overall APE. However, three locations within portions of the GE Parcel that could potentially be used for UDF support activities, identified as Areas A, B, and C, were identified as having a potential to contain archaeological resources. Accordingly, GE's Phase IA CRA Report included a work plan for supplemental CRA investigations to further assess whether those three areas contain potentially significant cultural resources. Following EPA's approval of the report, those supplemental investigations, termed a Phase IB survey for federal purposes and an intensive archaeological survey in MHC terminology, were conducted in October 2022, with oversight by representatives of EPA and, at times, representatives of certain interested Native American tribes. In addition to background research, these investigations included the following field activities: (a) a systematic visual inspection of Areas A, B, and C to verify current field conditions and refine the field survey strategy as needed; and (b) excavation of 116 shovel test pits (STPs), spaced on a systematic grid at 10-meter intervals across each of the three areas (79 in Area A, eight in Area B, and 29 in Area C).

As directed in EPA's September 7, 2022 conditional approval letter, a separate report on those supplemental investigations was prepared and initially submitted on December 6, 2022, and has since been revised to address conditions in EPA's April 18, 2023 conditional approval letter. That separate report, entitled *Revised Phase IB Intensive Archaeological Survey Report for Upland Disposal Site Area*, is provided as Appendix M. In accordance with MHC requirements, that report reiterates much of the background information and other research presented in the Phase IA CRA Report; and it then describes in detail the field surveys conducted and STPs excavated in Areas A, B, and C. It notes that the STPs did not identify any cultural artifacts or features in the areas investigated; and it concludes, based on the combined background research and field studies, that the GE Parcel does not contain any significant cultural resources and that no additional CRA studies or mitigation measures are required.

3.11 Non-Community and Private Water Supply Wells

In accordance with Section II.B.5.a.(3) of the Revised Permit, a review of surrounding areas that lie within 500 feet of the UDF consolidation area was conducted to identify the possible existence of non-community and private supply wells. This review began by mapping of the 500-foot offset distance from the UDF consolidation area to identify which areas are included within that zone. The area within that 500-foot limit, as well as groundwater elevation contours developed from the June 2023 gauging, are shown on Figure 25. The following activities were then conducted to determine the possible existence of non-community and private supply wells within that 500-foot area:

- Review of aerial imagery within 500 feet of the UDF consolidation area to determine what locations require investigation for the possible existence of non-community and private supply wells;
- Field reconnaissance of accessible areas requiring investigation by visual observation for evidence of private well features; and
- Discussions with MassDEP regarding the possible existence and location of private water supply wells that MassDEP is aware of.

This review did not identify the existence of any active non-community or private supply wells within 500 feet of the UDF consolidation area. The review did identify three potential nearby wells in the vicinity. However, two of those wells are outside the 500-foot limit. The third, a former private supply well that would have serviced the former residence on the adjacent property at 525 Woodland Road, is within 500 feet of the consolidation area, as

shown on Figure 25; but it is no longer in use since the former residence was demolished and the property is now being used for construction equipment and material staging. The current property owner confirmed that this well is no longer in use.

4 Schedule and Addendum

The final PDI groundwater sampling event to test for environmental quality is scheduled for fall 2023. The results of that groundwater sampling event will be presented in an addendum to this Final PDI Summary, as well as in GE's monthly progress reports under the CD. In addition, as noted in Sections 3.3 and 3.6, that addendum will provide the geotechnical test results from the soil infiltration testing and the surface water elevation monitoring data from newly installed MP-3, as well as any water surface elevation data received from the USGS as part of its river stage monitoring of the Housatonic River at its Lenoxdale, MA gaging station.

5 References

Anchor QEA. 2022. Final Revised Overall Strategy and Schedule for Implementation of the Corrective Measures. Prepared for General Electric Company, Pittsfield, Massachusetts. July.

Anchor QEA, AECOM, and Arcadis. 2021. Final Revised Rest of River Statement of Work. Prepared for General Electric Company, Pittsfield, Massachusetts. September.

Anonymous. Undated. LSP Evaluation Opinion Lee Landfill. Obtained May 2008 from MassDEP file review.

Arcadis. 2013. Field Sampling Plan/Quality Assurance Project Plan, Revision 5. Prepared for General Electric Company, Pittsfield, Massachusetts. July 2.

Arcadis and AECOM. 2021. Pre-Design Investigation Work Plan for Upland Disposal Facility. Prepared for General Electric Company, Pittsfield, Massachusetts. November. Available online at: https://semspub.epa.gov/work/01/661267.pdf.

Arcadis and AECOM. 2022. Interim Pre-Design Investigation Data Summary Report. Prepared for General Electric Company, Pittsfield, Massachusetts. December 6.

Bouwer, H. 1989. The Bouwer and Rice slug test--an update. Ground Water, vol. 27, no. 3, pp. 304-309.

Bouwer, H., and R.C. Rice. 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells. Water Resources Research, vol. 12, no. 3, pp. 423-428.

Butler Jr, J.J. 2019. The Design, Performance, and Analysis of Slug Tests, Second Edition. CRC Press.

CDM. 1995. Lee Sanitary Landfill Final Comprehensive Site Assessment. Prepared for Town of Lee, Massachusetts. November

DeGraaf, R.M., and M. Yamasaki. 2001. New England Wildlife: Habitats, Natural History, and Distribution. University Press of New England, Hanover, New Hampshire. USA. Terrestrial Plant Ecology, Third Edition.

EPA. 2020. Revised Final Permit Modification to the 2016 Reissued RCRA Permit and Selection of CERCLA Remedial Action and Operation & Maintenance for Rest of River. December 16. Available online at: https://semspub.epa.gov/work/01/650440.pdf.

FEMA. 1982a. Flood Insurance Rate Map, Town of Lee, Massachusetts, Berkshire County Community Panel Number 250028 0003 B. June 1.

FEMA. 1982b. Flood Insurance Rate Map, Town of Lee, Massachusetts, Berkshire County Community Panel Number 250028 0007 B. June 1.

Michael H. Frimpter. 1981. Probable High Ground-Water Levels in Massachusetts, U.S. Geological Survey Water Resources Investigation 80-1205. Prepared for Massachusetts Department of Environmental Quality Engineering.

Hyder, Z, J.J. Butler, Jr., C.D. McElwee, and W. Liu. 1994. Slug tests in partially penetrating wells. Water Resources Research, vol. 30, no. 11, pp. 2945-2957.

Mass EOEEA (Massachusetts Executive Office of Energy and Environmental Affairs). 2009. Designation of the Upper Housatonic River Area of Critical Environmental Concern. March

MassGIS 2021-2022. Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services.

NRCS. 2021. Web Soil Survey. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed in October 2022.

Tighe & Bond. 2021. 2021 Annual Post-Closure Monitoring Report, Lee Sanitary Landfill, Willow Hill Road, Lee, Massachusetts. July 19.

USFWS. 2021. Information for Planning and Consultation. Available online at: https://ecos.fws.gov/ipac/. Accessed in October 2021.

Woodlot Alternatives, Inc. 2002. Ecological Characterization of the Housatonic River. Prepared for EPA Region 1, September.

Tables

Tables

Table 1
Summary of 2019 Groundwater Elevation Investigation Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Boring ID	Field Survey Coordinate		Field Survey Elevation (ft)	Boring Depth (fbgs)	Bottom of Boring Elevation (ft)	Depth to Water from Ground Surface (ft)	Water Elevation (ft)	Description
	North	East						
B-1	2954048.8	185840.0	1009.6	44.0	965.6	none	-	Location is adjacent to quarry conveyor system.
B-2	2954284.1	186182.7	1021.6	46.0	975.6	none	-	Location is within area of concrete demolition and asphalt milling debris.
B-3	2954024.7	186418.1	1014.5	40.0	974.5	none	-	Location is adjacent to crushed stone pile and Dig-Safe utility pre-mark stake.
B-4	2953675.5	186378.3	984.9	46.0	938.9	35.9	949.0	Location is in the low area closest to the overhead power lines.
B-5	2953805.0	186498.2	987.9	42.0	945.9	38.6	949.3	Location is in low area away from overhead power lines (near site access point).
East Pond Water Surface	2954642.3	186053.4	947.0	-	-	-	947.0	Location is adjacent to quarry conveyor system and active mining area.
West Pond Water Surface	2954670.2	185939.5	947.0	-	-	-	947.0	Location is adjacent to quarry conveyor system and active mining area.

Notes:

1. Field survey coordinates from Hill Engineers survey on October 1, 2019.
2. Field survey coordinates are referenced to horizontal datum NAD 83.
3. Field survey elevations are referenced to vertical datum NVGD 1929 by converting NAVD 88 using CORPSCON.
4. Field survey elevations were measured at the ground surface next to each boring and the surface water at the pond locations.
5. Pond surface water elevations measured on October 1, 2019.
6. Boring depth to groundwater measured between September 10 and 11, 2019.

Abbreviations

ft = feet

fbgs = feet below ground surface

Table 3A
Summary of Soil Borings
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Boring ID	Use				Coordinates (NAD 83 State Plane, US ft)		Existing Ground Elevation (ft)	Bottom Boring Depth (fbgs)	Bottom Boring Elevation (ft)
	Soil Geotechnical Data	Soil Environmental Data	Monitoring Well	Temporary Piezometer	Northing	Easting			
MW-2022-1	X	X	X		2,954,259.2	187,006.6	1,029.6	80.0	949.6
MW-2022-2	X	X	X		2,955,026.6	186,248.6	981.9	50.0	931.9
MW-2022-3	X	X	X		2,954,723.7	185,960.9	954.4	47.0	907.4
MW-2022-4	X	X	X		2,954,209.5	186,347.0	1,025.8	110.0	915.8
MW-2022-5	X	X	X		2,953,979.5	186,004.6	1,013.5	79.0	934.5
MW-2022-6	X	X	X		2,953,513.7	186,115.5	994.4	60.0	934.4
MW-2022-7	X	X	X		2,953,332.6	186,398.5	1,036.5	102.0	934.5
MW-2022-8	X	X	X		2,954,172.8	186,354.0	1,019.0	82.0	937.0
MW-2022-9	X	X	X		2,953,747.7	186,492.6	987.8	48.0	939.8
PZ-2022-1	X	X		X	2,954,813.5	186,517.4	1,021.7	82.0	939.7
PZ-2022-2	X	X		X	2,954,510.6	186,574.0	1,029.1	92.0	937.1
PZ-2022-3	X	X		X	2,954,521.0	186,762.5	1,033.8	100.0	933.8
PZ-2022-5	X	X		X	2,954,159.3	186,694.9	1,031.9	97.0	934.9
PZ-2022-7	X			X	2,953,877.0	186,894.1	1,024.7	90.0	934.7
PZ-2022-8	X	X		X	2,953,540.1	186,868.9	1,035.4	92.0	943.4
B-2022-1	X	X			2,954,036.1	186,569.0	1,028.5	94.0	934.5
B-2022-2	X	X			2,954,354.0	186,496.0	1,032.1	97.0	935.1
B-2022-3	X				2,954,452.8	186,128.9	1,006.4	72.0	934.4
B-2022-5	X				2,954,108.7	186,181.8	1,022.1	87.0	935.1
B-2022-6	X				2,953,876.7	186,279.3	1,000.0	66.0	934.0
B-2022-7	X				2,953,565.8	186,393.3	1,005.2	72.0	933.2
B-2022-8	X				2,953,541.3	186,635.7	1,025.6	92.0	933.6

Notes:
1. Existing ground elevation at each boring location is based on June 2022 survey by Hill Engineers, Architects, and Planners, Inc.
2. Elevation reference datum is NAVD 88.

Abbreviations:
ft = feet
fbgs = feet below ground surface

Table 3B
Summary of Geotechnical Lab Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Boring ID	Sample ID	Sample Depth (ft bgs)	Sample Elevation (ft)	Moisture Content (%)	Particle Size			Atterberg Limits			Specific Gravity	Organic Content (%)	Description	ASTM Classification	USCS Symbol
					Gravel (%)	Sand (%)	Fines (%)	Liquid Limit	Plastic Limit	Plasticity Index					
				ASTM D2216	ASTM D6913			ASTM D4318			ASTM D854	ASTM D2974			
B-2022-1	S-2	2-4	1026.5-1024.5	4.5	0	74.5	25.5	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-5	8-10	1020.5-1018.5	2.9	0	90.4	9.6	-	-	-	-	-	Moist, pale brown sand with silt	-	-
	S-10	18-20	1010.5-1008.5	10.8	0	41.8	58.2	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-19	45-47	983.5-981.5	16.6	0	9.8	90.2	-	-	-	-	-	Moist, light yellowish brown clay	-	-
	S-20	50-52	978.5-976.5	9.1	0	59.8	40.2	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-26	70-72	958.5-956.5	7	39.7	43.5	16.8	-	-	-	-	-	Moist, yellowish brown silty sand with gravel	-	-
	S-31	80-82	948.5-946.5	11.1	22.4	63.1	14.5	-	NP	-	2.8	-	Moist, light olive brown silty sand with gravel	SILTY SAND WITH GRAVEL	SM
	S-33	90-92	938.5-936.5	8.7	40.1	44	15.9	-	-	-	-	-	Moist, pale brown silty sand with gravel	-	-
B-2022-2	S-8	14-18	1018.1-1014.1	8.9	0	43.5	56.5	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-9														
	S-16	30-32	1002.1-1000.1	9.2	13	59.5	27.5	-	-	-	-	-	Moist, yellowish brown and gray silty sand	-	-
	S-20	50-52	982.1-980.1	3.5	17.3	65.7	17	-	-	-	-	-	Moist, pale brown silty sand with gravel	-	-
	S-23	65-67	967.1-965.1	10.4	0.5	80.2	19.3	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-27	73-75	959.1-957.1	4.4	0	53.2	46.8	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-30	79-81	953.1-951.1	17.5	0	70.8	29.2	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-31	85-87	947.1-945.1	16.2	0	56.6	43.4	-	-	-	-	-	Moist, pale brown silty sand	-	-
B-2022-3	S-4	6-8	1000.4-998.4	2.8	0	91.2	8.8	-	-	-	-	-	Moist, light gray sand with silt	-	-
	S-5	8-10	998.4-996.4	3	0	89.2	10.8	-	-	-	-	-	Moist, light grayish brown sand with silt	-	-
	S-6,7	10-14	996.4-992.4	3.6	0	86.4	13.6	-	NP	-	-	-	Moist, light gray silty sand	SILTY SAND	SM
	S-10,11	18-22	988.4-984.4	4.3	0.6	84	15.4	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-15,16	28-32	978.4-974.4	3.2	8.4	79.6	12	-	-	-	-	-	Moist, light brownish gray silty sand	-	-
	S-21	46-48	960.4-958.4	25.7	0	4.8	95.2	-	NP	-	-	-	Moist, light olive brown silt	SILT	ML
	S-22	48-50	958.4-956.4	24.1	0	7.9	92.1	-	NP	-	-	-	Moist, light olive brown silt	SILT	ML
	S-26	56-58	950.4-948.4	25.3	0.3	23.2	76.5	-	NP	-	2.7	-	Moist, light olive brown silt with sand	SILT WITH SAND	ML
	S-27	58-60	948.4-946.4	10.9	35.4	50	14.6	-	-	-	-	-	Moist, light olive brown silty sand with gravel	-	-
	S-30	70-72	936.4-934.4	13.7	23.6	62	14.4	-	-	-	-	-	Moist, light olive brown silty sand with gravel	-	-
B-2022-5	S-3	4-8	1018.1-1014.1	7.2	0.1	78.9	21	-	NP	-	-	0.1	Moist, pale brown silty sand	-	-
	S-4														
	S-7	12-16	1010.1-1006.1	15.1	0	32.6	67.4	-	-	-	-	-	Moist, light yellowish brown sandy silt	-	-
	S-8														
	S-12	22-24	1000.1-998.1	9.6	0	35.9	64.1	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-16	30-32	992.1-990.1	12.1	0	59.9	40.1	-	-	-	-	-	Moist, light brown silty sand	-	-
	S-21	55-57	967.1-965.1	23.1	0	18.7	81.3	22	17	5	-	-	Moist, light olive brown silty clay with sand	SILTY CLAY WITH SAND	CL-ML
	S-26	65-67	957.1-955.1	21.6	0	22.5	77.5	-	-	-	-	-	Moist, pale brown silt with sand	-	-
	S-28	69-73	953.1-949.1	19.9	0	46.4	53.6	-	NP	-	2.66	-	Moist, brown sandy silt	SANDY SILT	ML
	S-29														
	S-32	80-82	942.1-940.1	21.4	0	38.9	61.1	-	-	-	-	-	Moist, light brown sandy silt	-	-
B-2022-6	S-2	2-6	998-994	11.5	5.2	37.5	57.3	-	NP	-	-	0.4	Moist, pale brown sandy silt	SANDY SILT	ML
	S-3														
	S-7	12-16	988-984	17.1	0	36	64	-	NP	-	-	0.1	Moist, light brown sandy silt	SANDY SILT	ML
	S-8														
	S-11	20-22	980-978	20.8	0	50.2	49.8	-	-	-	-	-	Moist, light brown silty sand	-	-
	S-16	30-32	970-968	4.6	37.8	49.6	12.6	-	-	-	-	-	Moist, pale brown silty sand with gravel	-	-
	S-17	32-36	968-964	4.6	59.5	31.8	8.7	-	-	-	-	-	Moist, pale brown gravel with silt and sand	-	-
	S-18														
	S-23	44-46	956-954	0.4	49.4	38.4	12.2	-	NP	-	-	-	Moist, pale brown silty gravel with sand	SILTY GRAVEL WITH SAND	GM
	S-25	50-52	950-948	7	45.7	40.5	13.8	-	-	-	-	-	Moist, pale brown silty gravel with sand	-	-
	S-28	64-66	936-934	9.1	18.4	57.3	24.3	-	-	-	-	-	Moist, pale brown silty sand with gravel	-	-
B-2022-7	S-2,3	2-6	1002.2-999.2	12.6	8.9	51.6	39.5	-	NP	-	-	2.7	Moist, dark brown silty sand	SILTY SAND	SM
	S-5	8-10	997.2-995.2	5.1	3.9	84.5	11.6	-	NP	-	-	0.4	Moist, brown sand with silt	-	-
	S-10	18-20	987.2-985.2	13.3	0	66.4	33.6	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-13,14	24-28	981.2-977.2	21.3	0.1	57.5	42.4	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-16,17	30-34	975.2-971.2	22	0.1	30.1	69.8	-	-	-	-	-	Moist, light olive brown sandy silt	-	-
	S-20,21	38-40	967.2-965.2	17.1	0	76.4	23.6	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-26	50-52	955.2-953.2	25.5	0	71.6	28.4	-	NP	-	2.7	-	Moist, light olive brown silty sand	SILTY SAND	SM
	S-28	60-62	945.2-943.2	24.7	0	86.1	13.9	-	-	-	-	-	Moist, light olive brown silty sand	-	-

Table 3B
Summary of Geotechnical Lab Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Boring ID	Sample ID	Sample Depth (ft bgs)	Sample Elevation (ft)	Moisture Content (%)	Particle Size			Atterberg Limits			Specific Gravity	Organic Content (%)	Description	ASTM Classification	USCS Symbol
					Gravel (%)	Sand (%)	Fines (%)	Liquid Limit	Plastic Limit	Plasticity Index					
				ASTM D2216	ASTM D6913			ASTM D4318			ASTM D854	ASTM D2974			
B-2022-8	S-3,4	4-8	1021.6-1017.6	12.2	0	29.2	70.8	-	NP	-	-	0.1	Moist, light olive brown silt with sand	SILT WITH SAND	ML
	S-5,6	8-12	1017.6-1013.6	10.8	0	78	22	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-9,10	16-20	1009.6-1005.6	24	0	63.7	36.3	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-15,16	28-32	997.6-993.6	21.4	0	72.7	27.3	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-21	55-57	970.6-968.6	19.6	0	43.4	56.6	-	NP	-	-	-	Moist, light olive brown sandy silt	SANDY SILT	ML
	S-25	66-68	959.6-957.6	26.8	0	24	76	-	-	-	-	-	Moist, light olive brown silt with sand	-	-
	S-26	68-70	957.6-955.6	22.2	3.9	34.4	61.7	-	NP	-	2.68	-	Moist, light olive brown sandy silt	SANDY SILT	ML
	S-29	80-82	945.6-943.6	10.8	35.5	43.7	20.8	-	-	-	-	-	Moist, light olive brown silty sand with gravel	-	-
MW-2022-1	S-2,3	2-6	1027.6-1023.6	5.2	24.6	56.2	19.2	-	NP	-	-	-	Moist, dark brown silty sand with gravel	SILTY SAND WITH GRAVEL	SM
	S-5	8-10	1021.6-1019.6	4.5	0	39.6	60.4	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-8,9	15-19	1014.6-1010.6	24.9	0.1	36.2	63.7	-	NP	-	-	-	Moist, light olive brown sandy silt	SANDY SILT	ML
	S-11,12	20-24	1009.6-1005.6	27	0.1	24.6	75.3	-	-	-	-	-	Moist, light olive brown silt with sand	-	-
	S-15	28-30	1001.6-999.6	23	0	43	57	-	-	-	-	-	Moist, light olive brown sandy silt	-	-
	S-20	50-52	979.6-977.6	22.2	0	77.4	22.6	-	-	-	-	-	Moist, olive brown silty sand	-	-
	S-24	58-60	971.6-969.6	27.4	0	33.1	66.9	-	NP	-	2.7	-	Moist, light olive brown sandy silt	SANDY SILT	ML
MW-2022-2	S-2	2-4	979.9-977.9	24.3	2.2	51.7	46.1	-	NP	-	-	2.7	Moist, dark yellowish brown silty sand	SILTY SAND	SM
	S-6	10-12	971.9-969.9	14.9	44.7	46.6	8.7	-	-	-	-	-	Moist, brown sand with silt and gravel	-	-
	S-13	24-26	957.9-955.9	17.5	16.9	25.7	57.4	-	-	-	-	-	Moist, light olive brown sandy silt with gravel	-	-
	S-16	30-32	951.9-949.9	12.5	0	69.9	30.1	-	NP	-	2.69	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
MW-2022-3	S-5	8-10	946.4-944.4	9.7	27	48.5	24.5	-	NP	-	2.7	-	Moist, light olive brown silty sand and gravel	SILTY SAND WITH GRAVEL	SM
	S-6	10-12	944.4-942.4	7.5	-	-	-	-	-	-	-	-	-	-	-
	S-8,9	14-16	940.4-938.4	22.1	-	-	-	-	NP	-	-	-	-	-	-
	S-11	20-22	934.4-932.4	9.7	39.3	41.3	19.4	-	-	-	-	-	Moist, light olive brown silty sand with gravel	-	-
	S-12,13	24-26	930.4-928.4	8.8	-	-	-	-	NP	-	-	-	-	-	-
MW-2022-4	S-3	4-8	1021.8-1017.8	0.1	0	79	21	-	NP	-	-	0.1	Moist, pale brown silty sand	SILTY SAND	SM
	S-4														
	S-12	22-24	1003.8-1001.8	0	0	81.1	18.9	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-17	40-42	985.8-983.8	16.8	0	81.8	18.2	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-19	50-57	975.8-968.8	12.6	0	78.1	21.9	-	NP	-	-	-	Moist, pale brown silty sand	SILTY SAND	SM
	S-20														
	S-23	64-68	961.8-957.8	6.4	4.4	56.8	38.8	-	NP	-	2.7	-	Moist, pale brown silty sand	SILTY SAND	SM
	S-24														
	S-27	72-74	953.8-951.8	7.3	0	64.5	35.5	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-28	74-78	951.8-947.8	19.9	0	25.9	74.1	-	NP	-	2.7	-	Moist, pale brown silt with sand	SILT WITH SAND	ML
	S-29														
	S-30	80-82	945.8-943.8	19.5	0	77	23	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-31	85-87	940.8-938.8	6.6	35.1	49.2	15.7	-	-	-	-	-	Moist, light olive brown silty sand with gravel	-	-
	S-34	100-107	925.8-918.8	13.4	2.4	83.9	13.7	-	NP	-	2.69	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-35														
MW-2022-5	S-3,4	4-8	1009.5-1005.5	5.6	2.2	77.3	20.5	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-10	18-20	995.5-993.5	7.6	0	39.4	60.6	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-11	20-22	993.5-991.5	21.9	0	11.9	88.1	-	-	-	-	-	Moist, light yellowish brown silt	-	-
	S-16	35-37	978.5-976.5	28.2	0	28.9	71.1	-	NP	-	-	-	Moist, light olive brown silt with sand	SILT WITH SAND	ML
	S-23	60-62	953.5-951.5	23.3	0	36.3	63.7	-	-	-	-	-	Moist, light yellowish brown sandy silt	-	-
	S-24	62-64	951.5-949.5	11.2	0	53.4	46.6	-	NP	-	2.71	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-28	77-79	936.5-934.5	21.5	0	57	43	-	-	-	-	-	Moist, light olive brown silty sand	-	-
MW-2022-6	S-4	6-8	988.4-986.4	12.1	35.9	42	22.1	-	-	-	-	-	Moist, dark olive brown silty sand with gravel	-	-
	S-13	24-26	970.4-968.4	11.5	1	80.3	18.7	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-18	34-36	960.4-958.4	17.5	0.4	76.3	23.3	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-22	42-44	952.4-950.4	17.8	0	74	26	-	NP	-	2.79	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-24	50-52	944.4-942.4	21.5	0.1	84.2	15.7	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM

Table 3B
Summary of Geotechnical Lab Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Boring ID	Sample ID	Sample Depth (ft bgs)	Sample Elevation (ft)	Moisture Content (%)	Particle Size			Atterberg Limits			Specific Gravity	Organic Content (%)	Description	ASTM Classification	USCS Symbol
					Gravel (%)	Sand (%)	Fines (%)	Liquid Limit	Plastic Limit	Plasticity Index					
				ASTM D2216	ASTM D6913			ASTM D4318			ASTM D854	ASTM D2974			
MW-2022-7	S-4	6-10	1030.5-1026.5	9.9	0	36.4	63.6	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-5														
	S-11	20-24	1016.5-1012.5	16.9	0	63	37	-	NP	-	-	-	Moist, light brown silty sand	SILTY SAND	SM
	S-12														
	S-17	35-37	1001.5-999.5	19.4	0	83.9	16.1	-	-	-	-	-	Moist, yellowish brown silty sand	-	-
	S-20	50-52	986.5-984.5	13	0	48.8	51.2	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-24	70-72	966.5-964.5	14.6	0	33.9	66.1	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-27	76-80	960.5-956.5	18.2	0	15	85	-	-	-	-	-	Moist, light brown silt with sand	-	-
	S-28														
	S-29	80-82	956.5-954.5	24.4	0	13.5	86.5	-	NP	-	2.8	-	Moist, light olive brown silt	SILT	ML
	S-31	85-87	951.5-949.5	20.9	0	59.5	40.5	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-34	100-102	936.5-934.5	5.1	58.5	34.8	6.7	-	-	-	-	-	Moist, pale brown gravel with silt and sand	-	-
MW-2022-8	S-8,9	14-18	1005-1001	14.2	0.1	31.2	68.7	-	-	-	-	-	Moist, light brownish gray sandy silt	-	-
	S-12	22-24	997-995	21.2	0	25	75	-	NP	-	-	-	Moist, light yellowish brown silt with sand	SILT WITH SAND	ML
	S-13	24-26	995-993	13.4	0.1	65.8	34.1	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-19	45-47	974-972	10.7	0	52	48	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-20	50-52	969-967	28.1	0.1	7.8	92.1	-	-	-	-	-	Moist, light olive brown silt	-	-
	S-23,24	56-60	963-959	10.7	0	48.1	51.9	-	NP	-	-	-	Moist, light yellowish brown sandy silt	SANDY SILT	ML
	S-26,27	62-66	957-953	19	4.6	34	61.4	-	-	-	-	-	Moist, light olive brown sandy silt	-	-
	S-28	66-68	953-951	17.8	0	42.9	57.1	-	NP	-	2.68	-	Moist, pale brown sandy silt	SANDY SILT	ML
	S-29	68-70	951-949	20.2	0	77.8	22.2	-	-	-	-	-	Moist, light olive brown silty sand	-	-
	S-31	80-82	939-937	24.5	0	29.4	70.6	-	NP	-	-	-	Moist, light yellowish brown silt with sand	SILT WITH SAND	ML
MW-2022-9	S-2	2-4	985.8-983.8	27.3	0.4	16.8	82.8	-	NP	-	-	-	Moist, light olive brown silt with sand	SILT WITH SAND	ML
	S-8,9	14-18	973.8-969.8	4.2	14.4	73.3	12.3	-	-	-	-	-	Moist, light brownish gray silty sand	-	-
	S-13	24-26	963.8-961.8	30.1	1	8.8	90.2	-	-	-	-	-	Moist, light yellowish brown silt	-	-
	S-14	26-28	961.8-959.8	7.5	12.4	67.8	19.8	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-17	32-34	955.8-953.8	5.5	50	33.9	16.1	-	-	-	2.71	-	Moist, light olive brown silty gravel with sand	-	-
	S-18	34-36	953.8-951.8	6.3	38.7	33.8	27.5	-	NP	-	-	-	Moist, light yellowish brown silty gravel with sand	SILTY GRAVEL WITH SAND	GM
	S-21	40-42	947.8-945.8	9.7	32.5	55.7	11.8	-	-	-	-	-	Moist, light olive brown sand with silt and gravel	-	-
	S-23	44-46	943.8-941.8	7.6	49.5	37.1	13.4	-	NP	-	-	-	Moist, light olive brown silty gravel with sand	SILTY GRAVEL WITH SAND	GM
PZ-2022-1	S-4,5	6-10	1015.7-1011.7	11.9	0.7	61.9	37.4	-	NP	-	-	0.4	Moist, light olive brown silty sand	SILTY SAND	SM
	S-7	12-14	1009.7-1007.7	18.9	3	58.8	38.2	-	-	-	-	-	Moist, olive yellow silty sand	-	-
	S-10	18-20	1003.7-1001.7	14.1	17.8	55.3	26.9	-	-	-	-	1.1	Moist, dark yellowish brown silty sand with gravel	-	-
	S-14	26-28	995.7-993.7	1.4	16.3	80.6	3.1	-	-	-	2.72	-	Moist, light brown sand with gravel	POORLY GRADED SAND WITH GRAVEL	SP
	S-20	56-58	965.7-963.7	7.8	56	35.2	8.8	-	-	-	-	-	Moist, light brownish gray gravel with silt and sand	-	-
	S-26	68-70	953.7-951.7	8.6	34.7	45	20.3	-	-	-	-	-	Moist, light yellowish brown silty sand with gravel	-	-
	S-27	70-72	951.7-949.7	3.2	78	16.8	5.2	-	-	-	-	-	Moist, light yellowish brown gravel with silt and sand	-	-
PZ-2022-2	S-3,4	4-8	1025.1-1021.1	7.6	17.9	57.7	24.4	-	NP	-	-	-	Moist, light olive brown silty sand with gravel	SILTY SAND WITH GRAVEL	SM
	S-10	18-20	1011.1-1009.1	24.8	0	6.7	93.3	-	NP	-	-	-	Moist, light olive brown silt	SILT	ML
	S-17	40-42	989.1-987.1	3.2	0.3	71.3	28.4	-	-	-	-	0.3	Moist, pale brown silty sand	-	-
	S-20	55-57	974.1-972.1	11.8	16.3	72.6	11.1	-	-	-	-	-	Moist, light yellowish brown sand with silt and gravel	-	-
	S-24	68-70	961.1-959.1	2.1	0	80.7	19.3	-	-	-	-	-	Moist, white silty sand	-	-
	S-28	76-78	953.1-951.1	22.6	0	70.9	29.1	-	NP	-	2.69	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-30	85-87	944.1-942.1	23.5	0	30.8	69.2	-	-	-	-	-	Moist, light yellowish brown sandy silt	-	-
PZ-2022-3	S-2,3	2-6	1031.8-1027.8	12.2	0	56.1	43.9	-	NP	-	2.68	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-13,14	24-28	1009.8-1005.8	13.3	0.1	84.3	15.6	-	-	-	-	-	Moist, light yellowish brown silty sand	-	-
	S-20	55-57	978.8-976.8	10.8	0	92.2	7.8	-	NP	-	-	-	Moist, light yellowish brown sand with silt	POORLY GRADED SAND WITH SILT	SP-SM
	S-22	65-67	968.8-966.8	23.6	0	4.5	95.5	-	-	-	-	-	Moist, light yellowish brown silt	-	-
	S-23	70-72	963.8-961.8	23.3	0	21.5	78.5	21	20	1	2.71	-	Moist, light olive brown silt with sand	SILT WITH SAND	ML
	S-26	76-78	957.8-955.8	10.1	15.9	57.8	26.3	-	-	-	-	-	Moist, light yellowish brown silty sand with gravel	-	-
	S-27	78-80	955.8-953.8	9.6	33	46.2	20.8	-	-	-	-	-	Moist, light yellowish brown silty sand with gravel	-	-

Table 3B
Summary of Geotechnical Lab Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Boring ID	Sample ID	Sample Depth (ft bgs)	Sample Elevation (ft)	Moisture Content (%)	Particle Size			Atterberg Limits			Specific Gravity	Organic Content (%)	Description	ASTM Classification	USCS Symbol
					Gravel (%)	Sand (%)	Fines (%)	Liquid Limit	Plastic Limit	Plasticity Index					
				ASTM D2216	ASTM D6913			ASTM D4318			ASTM D854	ASTM D2974			
PZ-2022-5	S-2	2-4	1029.9-1027.9	7.7	0	73.9	26.1	-	NP	-	-	-	Moist, pale brown silty sand	SILTY SAND	SM
	S-5	8-10	1023.9-1021.9	3	0.2	89.6	10.2	-	-	-	-	-	Moist, pale brown sand with silt	-	-
	S-9	16-18	1015.9-1013.9	27.1	0.1	8.9	91	-	-	-	-	-	Moist, light olive brown silt	-	-
	S-12	22-24	1009.9-1007.9	11.4	0.5	42.8	56.7	-	NP	-	-	-	Moist, light yellowish brown sandy silt	SANDY SILT	ML
	S-18	45-47	986.9-984.9	13.5	0	51.9	48.1	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-22	65-67	966.9-964.9	9.5	0.1	46.4	53.5	-	-	-	-	-	Moist, pale brown sandy silt	-	-
	S-24	72-76	959.9-955.9	18.5	0	51.9	48.1	-	NP	-	2.67	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-25														
	S-27	80-82	951.9-949.9	11.2	34	43.5	22.5	-	-	-	-	-	Moist, light brownish gray silty sand with gravel	-	-
	S-29	90-92	941.9-939.9	10.7	46.1	46.9	7	-	-	-	-	-	Moist, light yellowish brown sand with silt and gravel	-	-
PZ-2022-7	S-3,4	4-8	1020.7-1016.7	10.1	0	25.6	74.4	-	NP	-	-	-	Moist, light yellowish brown silt with sand	SILT WITH SAND	ML
	S-7,8	12-16	1012.7-1008.7	5	0.2	54.2	45.6	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-9	16-18	1008.7-1006.7	28.3	1.7	18.1	80.2	-	-	-	2.7	-	Moist, light olive brown silt with sand	-	-
	S-11	20-22	1004.7-1002.7	1	3.7	87.2	9.1	-	NP	-	-	-	Moist, pale brown sand with silt	POORLY GRADED SAND WITH SILT	SP-SM
	S-17	40-42	984.7-982.7	0.8	6.1	78	15.9	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-23	64-66	960.7-958.7	2.8	36.7	47.9	15.4	-	NP	-	2.67	-	Moist, pale brown silty sand with gravel	SILTY SAND WITH GRAVEL	SM
	S-24,25	66-70	958.7-954.7	7.8	52.9	35.2	11.9	-	-	-	-	-	Moist, light olive brown gravel with silt and sand	-	-
	S-27	72-74	952.7-950.7	10.6	24.7	59.6	15.7	-	-	-	-	-	Moist, light olive brown silty sand with gravel	-	-
	S-31,32	80-84	944.7-940.7	10.5	24	54.4	21.6	-	NP	-	-	-	Moist, light olive brown silty sand with gravel	SILTY SAND WITH GRAVEL	SM
PZ-2022-8	S-3,4	4-8	1031.4-1027.4	9.3	0.1	77.1	22.8	-	NP	-	-	-	Moist, light yellowish brown silty sand	SILTY SAND	SM
	S-9	16-18	1019.4-1017.4	7.7	0.1	69.3	30.6	-	-	-	2.7	-	Moist, pale brown silty sand	-	-
	S-13,14	24-28	1011.4-1007.4	4.5	0.1	76.1	23.8	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-16	35-37	1000.4-998.4	4.6	0	70.6	29.4	-	-	-	-	-	Moist, pale brown silty sand	-	-
	S-20	55-57	980.4-978.4	15	0	8.8	91.2	-	NP	-	-	-	Moist, pale brown silt	SILT	ML
	S-23	70-72	965.4-963.4	6.5	50.8	16.8	32.4	-	-	-	-	-	Moist, light yellowish brown silty gravel with sand	-	-
	S-25,26	74-78	961.4-957.4	3	51.6	37.2	11.2	-	-	-	2.7	-	Moist, light yellowish brown gravel with silt and sand	-	-
	S-30	84-86	951.4-949.4	9.5	43.2	42.4	14.4	-	-	-	-	-	Moist, light brownish gray silty gravel with sand	-	-
	S-32,33	88-92	947.4-943.4	14.4	22.3	49.3	28.4	-	NP	-	-	-	Moist, light olive brown silty sand with gravel	SILTY SAND WITH GRAVEL	SM

Notes:
Unified Soil Classification System definitions:
Fine material: Material passing the No. 200 sieve (less than 75 microns).
Sand: Material passing No. 4 sieve and retained on the No. 200 sieve (less than 4.75 mm and greater than 75 microns).
Gravel: Material retained on the No. 4 sieve (greater than 4.75 millimeters).

Abbreviations
ASTM = ASTM International
USCS = Unified Soil Classification System
NP = nonplastic
% = percent
- = Indicates that no test was performed.

Table 3C
Summary of Soil Borings for Soil Infiltration Testing
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Boring ID	Surveyed Coordinates (ft)		Surveyed Ground Elevation (ft)	Completed Boring Depth (fbgs)	Completed Boring Elevation (ft)
	North	East			
NB-1	2,955,115.6	186,387.2	1,017.5	17.0	1,000.5
NB-2	2,955,154.4	186,448.4	1,022.7	na	na
NB-3	2,955,065.4	186,406.9	1,019.2	na	na
NB-4	2,955,129.0	186,468.8	1,021.9	na	na
NB-5	2,955,166.5	186,531.7	1,027.9	26.6	977.4
NB-6	2,955,010.3	186,434.6	1,019.0	na	na
NB-7	2,955,049.1	186,503.2	1,023.8	23.2	980.8
NB-8	2,955,083.1	186,566.0	1,026.8	na	na
NB-9	2,955,136.2	186,595.1	1,023.9	na	na
NB-10	2,954,948.9	186,455.6	1,015.7	na	na
NB-11	2,954,975.7	186,508.0	1,009.6	7.8	996.2
NB-11 Deep	2,954,975.7	186,508.0	1,009.6	30.0	974.0
NB-12	2,955,051.1	186,595.5	1,019.6	20.0	984.0
NB-13	2,954,894.3	186,499.8	1,013.4	na	na
NB-14	2,954,972.6	186,581.9	1,006.8	na	na
NB-15	2,954,786.7	186,576.4	1,021.1	23.9	977.1
SB-1	2,953,294.9	187,082.1	1,032.4	na	na
SB-1 Deep	2,953,294.9	187,082.1	1,032.4	28.0	1,001.0
SB-2	2,953,344.3	187,096.0	1,032.4	7.6	1,021.4
SB-3	2,953,386.8	187,086.7	1,033.1	11.2	1,017.8

Notes:

1. Coordinates are referenced to NAD 83 MA State Plane.
2. Elevations are referenced to NAVD 88.
3. Surveyed information by Hill Engineers, Architects, Planners, July 17, 2023.

Abbreviations:

ft = feet

fbgs = feet below ground surface

na = not applicable

Table 3D
Summary of Soil Infiltration Testing
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Test Location ID	Soil Infiltration Rate Hydraulic Conductivity, K (in/hr)
NB-1	0.74
NB-2	No Test
NB-3	No Test
NB-4	No Test
NB-5	35.11
NB-6	No Test
NB-7	1.14
NB-8	No Test
NB-9	No Test
NB-10	No Test
NB-11	0.82
NB-12	78.61
NB-13	No Test
NB-14	No Test
NB-15	0.96
SB-1	No Test
SB-2	0.79
SB-3	0.76

Notes:

1. Some test locations required multiple test iterations to achieve a successful test condition. Only the final test results are shown.

2. Test locations NB-5 and NB-12 had K values high enough that water overflow at the maximum pump rate was not achievable during the test procedure. As a result, constant head testing at these locations was conducted with a water level head maintained below the overflow outlet.

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-1 05/16/22 0-1	B 2022-1 05/16/22 12 16	B-2022-1 05/16/22 28-32	B-2022-1 05/16/22 43-47	B-2022-1 05/17/22 58-66
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	0.000011	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.00000019 JNX
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	0.0000044 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	0.00000036 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.000000041 JNX
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	0.00000021 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.000000034 JNX
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	0.00000068 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.00000006 JNX
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	0.00000035 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.000000033 J
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	0.00000034 JNX	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	0.00000012 JNX	0.000000038 JNX	ND(0.0000058)	0.000000042 JNX	ND(0.0000051)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	0.00000025 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.000000057 JNX
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	ND(0.0000012)	0.000000063 JNX	ND(0.0000012)	ND(0.000001)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000064 JNX	0.000000033 JNX	ND(0.0000012)	0.00000011 JNX	ND(0.000001)
Heptachlorodibenzofurans	--	--	--	mg/kg	0.0000048 J	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.000011	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.00000019 JNX
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	0.000000067 JNX
Octachlorodibenzofuran	--	--	--	mg/kg	0.000017	ND(0.000012)	ND(0.000012)	ND(0.000012)	ND(0.00001)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	0.00022	ND(0.000012)	ND(0.000012)	ND(0.000012)	ND(0.00001)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000059)	ND(0.0000058)	ND(0.0000059)	ND(0.0000051)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000012 JNX	0.000000038 JNX	ND(0.0000058)	0.000000042 JNX	ND(0.0000051)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000064 JNX	0.000000033 JNX	ND(0.0000012)	0.00000011 JNX	ND(0.000001)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000012)	0.000000063 JNX	ND(0.0000012)	ND(0.000001)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000201	0.00000377	0.0000061	0.00000378	0.00000426
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Total PCBs	1	3.9	21	mg/kg	ND(0.26)	ND(0.29)	ND(0.27)	ND(0.25)	ND(0.26)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-1 05/16/22 0-1	B 2022-1 05/16/22 12 16	B-2022-1 05/16/22 28-32	B-2022-1 05/16/22 43-47	B-2022-1 05/17/22 58-66
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0088)	ND(0.0099)	ND(0.01)	ND(0.0095)	ND(0.009)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
Acetone	6	1400	610000	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
Acetonitrile	--	200	3700	mg/kg	ND(0.044)	ND(0.05)	ND(0.051)	ND(0.048)	ND(0.045)
Acrolein	--	0.1	0.68	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Benzene	2	0.62	5.6	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Bromoform	0.1	56	220	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
CFC-11	--	380	3400	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
CFC-12	--	94	780	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Chloroethane	--	1600	62000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	0.00067 J	0.00045 J
Chloromethane	--	1.2	510	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Dibromomethane	--	550	10000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Ethylbenzene	40	230	29	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Iodomethane	--	1.2	--	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
m,p-Xylene	--	--	--	mg/kg	ND(0.0088)	ND(0.0099)	ND(0.01)	ND(0.0095)	ND(0.009)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.022)	ND(0.025)	ND(0.025)	ND(0.024)	ND(0.023)
o-Xylene	--	280	23000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Propionitrile	--	200	--	mg/kg	ND(0.044)	ND(0.05)	ND(0.051)	ND(0.048)	ND(0.045)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Toluene	30	520	46000	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)
Vinyl acetate	--	420	4200	mg/kg	R	ND(0.0099)	ND(0.01)	ND(0.0095)	ND(0.009)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0044)	ND(0.005)	ND(0.0051)	ND(0.0048)	ND(0.0045)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-1 05/16/22 0-1	B 2022-1 05/16/22 12 16	B-2022-1 05/16/22 28-32	B-2022-1 05/16/22 43-47	B-2022-1 05/17/22 58-66
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.1)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
1-Naphthylamine	--	--	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(2)	ND(1.9)	ND(2)	ND(1.7)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
2-Nitrophenol	--	--	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
2-Picoline	--	55	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.71)	ND(0.78)	ND(0.77)	ND(0.79)	ND(0.67)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.71)	ND(0.78)	ND(0.77)	ND(0.79)	ND(0.67)
4-Phenylenediamine	--	10000	120000	mg/kg	R	ND(0.95)	ND(0.93)	ND(0.96)	ND(0.82)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-1 05/16/22 0-1	B 2022-1 05/16/22 12 16	B-2022-1 05/16/22 28-32	B-2022-1 05/16/22 43-47	B-2022-1 05/17/22 58-66
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	R	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Acenaphthene	4	2600	33000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Acenaphthylene	1	55	20	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Acetophenone	--	0.49	100000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Aniline	--	78	300	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Anthracene	1000	14000	170000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Aramite	--	18	69	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Benzidine	--	0.0019	0.0075	mg/kg	R	ND(5.9)	ND(5.8)	ND(6)	ND(5.1)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.18)	0.23	0.2	0.086 J	0.38
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Chrysene	70	56	210	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Diallate	--	7.3	28	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Dibenzofuran	--	210	1600	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Dimethoate	--	11	120	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.3)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Dinoseb	--	55	620	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Diphenylamine	--	1400	15000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Disulfoton	--	2.2	25	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Famphur	--	--	--	mg/kg	R	R	R	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Fluorene	1000	1800	22000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Hexachloropropene	--	--	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Isodrin	--	--	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Isophorone	--	470	1800	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Isosafrole	--	--	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-1 05/16/22 0-1	B 2022-1 05/16/22 12 16	B-2022-1 05/16/22 28-32	B-2022-1 05/16/22 43-47	B-2022-1 05/17/22 58-66
Kepone	--	0.025	0.11	mg/kg	R	R	R	R	R
Methapyrilene	--	55	--	mg/kg	ND(1.6)	ND(1.8)	ND(1.7)	ND(1.8)	ND(1.5)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Methyl Parathion	--	14	150	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Naphthalene	4	55	20	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Nitrobenzene	--	16	22	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Phenacetin	--	640	780	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Phenanthrene	10	55	20	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Phenol	1	33000	180000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Phorate	--	11	120	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Pronamide	--	4100	46000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Pyrene	1000	1500	17000	mg/kg	ND(0.18)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.17)
Pyridine	--	55	1000	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Safrole	--	--	7.8	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Sulfotep	--	27	310	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Thionazin	--	330	--	mg/kg	ND(0.36)	ND(0.39)	ND(0.38)	ND(0.39)	ND(0.34)
Inorganics									
Antimony	20	30	410	mg/kg	4.4 J	2.2 J	2.1 J	2.0 J	ND(16.3)
Arsenic	20	0.38	1.6	mg/kg	**6.0**	**3.4**	**3.3**	**3.7**	**1.1 J**
Barium	1000	5200	190000	mg/kg	21.0	26.8	21.4	21.5	8.0
Beryllium	100	150	2000	mg/kg	0.44	0.19 J	0.22 J	0.23 J	0.063 J
Cadmium	2	37	800	mg/kg	0.054 J	0.063 J	0.071 J	0.061 J	0.041 J
Chromium	30	210	1400	mg/kg	6.2	4.4	5.2	5.8	1.9
Cobalt	--	3300	300	mg/kg	8.6	5.9	5.1	5.5	1.2
Copper	--	2800	41000	mg/kg	9.0	7.6	7.3	10.2	4.0
Cyanide	100	11	20000	mg/kg	R	ND(0.099)	ND(0.098)	ND(0.10)	ND(0.087)
Lead	300	400	800	mg/kg	9.4	5.5	5.6	6.4	2.2
Mercury	20	22	24	mg/kg	0.014 J	ND(0.023)	ND(0.024)	ND(0.024)	ND(0.021)
Nickel	20	1500	20000	mg/kg	14.4	9.7	9.0	10.0	2.8 J
Selenium	400	370	5100	mg/kg	2.2 J	0.90 J	0.72 J	0.78 J	ND(4.4)
Silver	100	370	5100	mg/kg	ND(0.66)	ND(0.71)	ND(0.71)	ND(0.75)	ND(0.65)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-1 05/16/22 0-1	B 2022-1 05/16/22 12 16	B-2022-1 05/16/22 28-32	B-2022-1 05/16/22 43-47	B-2022-1 05/17/22 58-66
Thallium	8	6	66	mg/kg	ND(6.6)	ND(7.1)	ND(7.1)	ND(7.5)	ND(6.5)
Tin	--	45000	610000	mg/kg	ND(2.2)	0.81 J	ND(2.4)	ND(2.5)	ND(2.2)
Vanadium	600	520	7200	mg/kg	9.3	5.3	6.1	6.9	1.7
Zinc	2500	22000	310000	mg/kg	54.1	27.7	27.2	31.1	7.6
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.017)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.017)
2,4-D	--	640	--	mg/kg	ND(0.018)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.017)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.018)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.017)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Delta-BHC	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Dimethoate	--	11	120	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Disulfoton	--	2.2	25	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Endosulfan I	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Endosulfan II	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Endrin	8	16	180	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Endrin Ketone	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Famphur	--	--	--	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Methoxychlor	200	270	3100	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0019)	ND(0.002)	ND(0.0017)
Methyl Parathion	--	14	150	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Phorate	--	11	120	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Sulfotep	--	27	310	mg/kg	ND(0.036)	ND(0.038)	ND(0.038)	ND(0.039)	ND(0.034)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.018)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.017)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.018)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.017)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(20.2)	ND(21.1)	ND(21.2)	ND(22.0)	ND(18.6)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B 2022-1 05/18/22 74 80	B-2022-2 05/12/22 0-1	B-2022-2 05/12/22 12-16	B 2022-2 05/12/22 26 30
Dioxins								
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000053)	0.0000051 J [0.0000043 J]	ND(0.0000058)	0.00000037 JNX
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000053)	0.00000092 J [0.00000095 J]	ND(0.0000058)	ND(0.000006)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	0.000000048 J	0.00000012 JNX [0.00000017 JNX]	0.00000013 JNX	0.000000097 JNX
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000053)	0.00000036 J [0.00000012 J]	0.000000075 JNX	ND(0.000006)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000053)	0.00000011 JNX [0.00000018 JNX]	0.00000013 JNX	ND(0.000006)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	0.000000034 JNX [ND(0.0000011)]	0.000000023 JNX	0.000000062 JNX
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011) [ND(0.0000011)]	ND(0.0000012)	ND(0.0000012)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000053)	0.0000051 J [0.0000043 JNX]	ND(0.0000058)	0.00000037 JNX
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	0.0000026 J [0.0000038 JNX]	ND(0.000012)	ND(0.000012)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	0.00005 [0.000032]	ND(0.000012)	ND(0.000012)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000054) [ND(0.0000054)]	ND(0.0000058)	ND(0.000006)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011) [ND(0.0000011)]	ND(0.0000012)	ND(0.0000012)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	0.000000034 JNX [ND(0.0000011)]	0.000000023 JNX	0.000000062 JNX
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000581	0.00000492 [0.00000541]	0.00000522	0.00000599
PCBs			--					
Aroclor 1016	--	--	21	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Total PCBs	1	3.9	21	mg/kg	ND(0.24)	ND(0.21) [ND(0.21)]	ND(0.26)	ND(0.22)
Volatile Organics			--					
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B 2022-1 05/18/22 74 80	B-2022-2 05/12/22 0-1	B-2022-2 05/12/22 12-16	B 2022-2 05/12/22 26 30
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0081)	ND(0.011) [ND(0.012)]	ND(0.012)	ND(0.011)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
Acetone	6	1400	610000	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
Acetonitrile	--	200	3700	mg/kg	ND(0.041)	ND(0.054) [ND(0.061)]	ND(0.058)	ND(0.056)
Acrolein	--	0.1	0.68	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Benzene	2	0.62	5.6	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Bromoform	0.1	56	220	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
CFC-11	--	380	3400	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
CFC-12	--	94	780	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Chloroethane	--	1600	62000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Chloroform	0.4	0.24	1.5	mg/kg	0.0017 J	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Chloromethane	--	1.2	510	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Dibromomethane	--	550	10000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Ethylbenzene	40	230	29	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Iodomethane	--	1.2	--	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
m,p-Xylene	--	--	--	mg/kg	ND(0.0081)	ND(0.011) [ND(0.012)]	ND(0.012)	ND(0.011)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.02)	ND(0.027) [ND(0.03)]	ND(0.029)	ND(0.028)
o-Xylene	--	280	23000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Propionitrile	--	200	--	mg/kg	ND(0.041)	ND(0.054) [ND(0.061)]	ND(0.058)	ND(0.056)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Toluene	30	520	46000	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0081)	ND(0.011) [ND(0.012)]	ND(0.012)	ND(0.011)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0041)	ND(0.0054) [ND(0.0061)]	ND(0.0058)	ND(0.0056)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B 2022-1 05/18/22 74 80	B-2022-2 05/12/22 0-1	B-2022-2 05/12/22 12-16	B 2022-2 05/12/22 26 30
Semivolatile Organics								
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.11) [ND(0.11)]	ND(0.12)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
1-Naphthylamine	--	--	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(1.8) [ND(1.8)]	ND(1.9)	ND(2)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
2-Nitrophenol	--	--	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
2-Picoline	--	55	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.71)	ND(0.73) [ND(0.7)]	ND(0.76)	ND(0.78)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.71)	ND(0.73) [ND(0.7)]	ND(0.76)	ND(0.78)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.86)	ND(0.89) [ND(0.85)]	R	ND(0.94)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B 2022-1 05/18/22 74 80	B-2022-2 05/12/22 0-1	B-2022-2 05/12/22 12-16	B 2022-2 05/12/22 26 30
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Acenaphthene	4	2600	33000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Acenaphthylene	1	55	20	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Acetophenone	--	0.49	100000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Aniline	--	78	300	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Anthracene	1000	14000	170000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Aramite	--	18	69	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.4)	ND(5.5) [ND(5.3)]	R	ND(5.9)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	0.28	ND(0.19) [0.12 J]	ND(0.2)	ND(0.2)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Chrysene	70	56	210	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Diallate	--	7.3	28	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Dibenzofuran	--	210	1600	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Dimethoate	--	11	120	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.38)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Dinoseb	--	55	620	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Diphenylamine	--	1400	15000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Disulfoton	--	2.2	25	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Famphur	--	--	--	mg/kg	R	R [R]	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Fluorene	1000	1800	22000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Hexachloropropene	--	--	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Isodrin	--	--	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Isophorone	--	470	1800	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Isosafrole	--	--	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B 2022-1 05/18/22 74 80	B-2022-2 05/12/22 0-1	B-2022-2 05/12/22 12-16	B 2022-2 05/12/22 26 30
Kepone	--	0.025	0.11	mg/kg	R	R [R]	R	R
Methapyrilene	--	55	--	mg/kg	ND(1.6)	ND(1.7) [ND(1.6)]	ND(1.7)	ND(1.8)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Methyl Parathion	--	14	150	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Naphthalene	4	55	20	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Nitrobenzene	--	16	22	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Phenacetin	--	640	780	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Phenanthrene	10	55	20	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Phenol	1	33000	180000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Phorate	--	11	120	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Pronamide	--	4100	46000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Pyrene	1000	1500	17000	mg/kg	ND(0.18)	ND(0.19) [ND(0.18)]	ND(0.2)	ND(0.2)
Pyridine	--	55	1000	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Safrole	--	--	7.8	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Sulfotep	--	27	310	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Thionazin	--	330	--	mg/kg	ND(0.36)	ND(0.37) [ND(0.35)]	ND(0.38)	ND(0.39)
Inorganics								
Antimony	20	30	410	mg/kg	ND(16.4)	1.5 J [2.5 J]	2.4 J	2.0 J
Arsenic	20	0.38	1.6	mg/kg	**1.7 J**	**3.1 [3.6]**	**4.2**	**3.6**
Barium	1000	5200	190000	mg/kg	9.0	13.5 [19.4]	13.4	16.1
Beryllium	100	150	2000	mg/kg	0.11 J	0.16 J [0.21]	0.18 J	0.18 J
Cadmium	2	37	800	mg/kg	0.050 J	0.11 J [0.063 J]	0.064 J	0.096 J
Chromium	30	210	1400	mg/kg	3.4	3.9 [5.2]	4.3	3.8
Cobalt	--	3300	300	mg/kg	2.6	4.3 [5.6]	6.3	4.9
Copper	--	2800	41000	mg/kg	4.0	6.5 [7.1]	7.0	6.6
Cyanide	100	11	20000	mg/kg	ND(0.091)	ND(0.99) [ND(0.090)]	ND(1.1)	ND(1.1)
Lead	300	400	800	mg/kg	3.5	4.7 [6.0]	5.3	4.8
Mercury	20	22	24	mg/kg	ND(0.021)	0.0094 J [0.0077 J]	ND(0.024)	ND(0.023)
Nickel	20	1500	20000	mg/kg	5.2 J	7.7 [9.5]	9.7	7.9
Selenium	400	370	5100	mg/kg	ND(4.4)	0.65 J [0.85 J]	ND(4.9)	ND(4.9)
Silver	100	370	5100	mg/kg	ND(0.66)	ND(0.67) [ND(0.63)]	ND(0.73)	ND(0.74)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B 2022-1 05/18/22 74 80	B-2022-2 05/12/22 0-1	B-2022-2 05/12/22 12-16	B 2022-2 05/12/22 26 30
Thallium	8	6	66	mg/kg	ND(6.6)	ND(6.7) [ND(6.3)]	ND(7.3)	ND(7.4)
Tin	--	45000	610000	mg/kg	ND(2.2)	ND(2.2) [ND(2.1)]	ND(2.4)	ND(2.5)
Vanadium	600	520	7200	mg/kg	3.4	5.3 [6.7]	5.6	4.7
Zinc	2500	22000	310000	mg/kg	20.4	22.8 [31.4]	31.1	23.8
Pesticides								
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.018) [ND(0.018)]	ND(0.019)	ND(0.02)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018)	ND(0.018) [ND(0.018)]	ND(0.019)	ND(0.02)
2,4-D	--	640	--	mg/kg	ND(0.018)	ND(0.018) [ND(0.018)]	ND(0.019)	ND(0.02)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.018)	ND(0.018) [ND(0.018)]	ND(0.019)	ND(0.02)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Delta-BHC	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Dimethoate	--	11	120	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Disulfoton	--	2.2	25	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Endosulfan I	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Endosulfan II	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Endrin	8	16	180	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Endrin Ketone	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Famphur	--	--	--	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Methoxychlor	200	270	3100	mg/kg	ND(0.0018)	ND(0.0018) [ND(0.0018)]	ND(0.0019)	ND(0.002)
Methyl Parathion	--	14	150	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Phorate	--	11	120	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Sulfotep	--	27	310	mg/kg	ND(0.036)	ND(0.037) [ND(0.036)]	ND(0.039)	ND(0.039)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.018)	ND(0.018) [ND(0.018)]	ND(0.019)	ND(0.02)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.018)	ND(0.018) [ND(0.018)]	ND(0.019)	ND(0.02)
Wet Chemistry								
Sulfide	--	350	3000	mg/kg	ND(20.2)	ND(20.2) [ND(20.4)]	ND(21.5)	26.6

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-2 05/12/22 43-47	B 2022-2 05/12/22 58 62	B-2022-2 05/13/22 77-81	MW-2022-1 06/15/22 0-2	MW-2022-1 06/15/22 15-19
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.0000033 J	0.00000054 JNX
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000064 J	ND(0.0000064)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	0.000000079 JNX	0.000000035 JNX	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000017 JNX	ND(0.0000064)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000016 JNX	ND(0.0000064)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	0.000000067 JNX	ND(0.000006)	ND(0.0000064)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	0.00000011 JNX
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000018 JNX	0.00000011 J
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	0.000000087 JNX	0.000000043 JNX	0.0000062 J	0.00000032 JNX	ND(0.0000064)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000016 JNX	0.00000012 JNX
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000012)	ND(0.000001)	ND(0.0000012)	ND(0.0000012)	ND(0.0000013)
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000012)	ND(0.000001)	ND(0.0000012)	0.00000013 JNX	ND(0.0000013)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000064 JNX	ND(0.0000064)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.0000033 JNX	0.00000054 JNX
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000012)	ND(0.00001)	ND(0.000012)	ND(0.000012)	ND(0.000013)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000012)	ND(0.00001)	ND(0.000012)	0.000024	ND(0.000013)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	0.00000034 JNX	0.00000023 JNX
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000059)	ND(0.0000052)	ND(0.0000062)	ND(0.000006)	ND(0.0000064)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000012)	ND(0.000001)	ND(0.0000012)	0.00000013 JNX	ND(0.0000013)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000012)	ND(0.000001)	ND(0.0000012)	ND(0.0000012)	ND(0.0000013)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000617	0.0000054	0.00000706	0.00000501	0.00000596
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Total PCBs	1	3.9	21	mg/kg	ND(0.22)	ND(0.20)	ND(0.31)	ND(0.23)	ND(0.26)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-2 05/12/22 43-47	B 2022-2 05/12/22 58 62	B-2022-2 05/13/22 77-81	MW-2022-1 06/15/22 0-2	MW-2022-1 06/15/22 15-19
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.024)	ND(0.026)	ND(0.026)	ND(0.027)	ND(0.024)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0095)	ND(0.01)	ND(0.01)	ND(0.011)	ND(0.0095)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.024)	ND(0.026)	ND(0.026)	ND(0.027)	ND(0.024)
Acetone	6	1400	610000	mg/kg	ND(0.024)	0.0074 J	ND(0.026)	ND(0.027)	0.0045 J
Acetonitrile	--	200	3700	mg/kg	ND(0.047)	ND(0.052)	ND(0.052)	ND(0.053)	ND(0.048)
Acrolein	--	0.1	0.68	mg/kg	ND(0.024)	ND(0.026)	ND(0.026)	ND(0.027)	ND(0.024)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.024)	ND(0.026)	ND(0.026)	ND(0.027)	ND(0.024)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Benzene	2	0.62	5.6	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Bromoform	0.1	56	220	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
CFC-11	--	380	3400	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
CFC-12	--	94	780	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Chloroethane	--	1600	62000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Chloromethane	--	1.2	510	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Dibromomethane	--	550	10000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Ethylbenzene	40	230	29	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Iodomethane	--	1.2	--	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
m,p-Xylene	--	--	--	mg/kg	ND(0.0095)	ND(0.01)	ND(0.01)	ND(0.011)	ND(0.0095)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.024)	ND(0.026)	ND(0.026)	ND(0.027)	ND(0.024)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.024)	ND(0.026)	ND(0.026)	ND(0.027)	ND(0.024)
o-Xylene	--	280	23000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Propionitrile	--	200	--	mg/kg	ND(0.047)	ND(0.052)	ND(0.052)	ND(0.053)	ND(0.048)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Toluene	30	520	46000	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0095)	ND(0.01)	ND(0.01)	ND(0.011)	ND(0.0095)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0047)	ND(0.0052)	ND(0.0052)	ND(0.0053)	ND(0.0048)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-2 05/12/22 43-47	B 2022-2 05/12/22 58 62	B-2022-2 05/13/22 77-81	MW-2022-1 06/15/22 0-2	MW-2022-1 06/15/22 15-19
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.12)	ND(0.1)	ND(0.13)	ND(0.12)	ND(0.13)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
1-Naphthylamine	--	--	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(2)	ND(1.7)	ND(2.1)	ND(2)	ND(2.1)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
2-Nitrophenol	--	--	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
2-Picoline	--	55	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.78)	ND(0.69)	ND(0.83)	ND(0.79)	ND(0.85)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
4-Methylphenol	--	270	3100	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.78)	ND(0.69)	ND(0.83)	ND(0.79)	ND(0.85)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.95)	ND(0.84)	ND(1)	R	R

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-2 05/12/22 43-47	B 2022-2 05/12/22 58 62	B-2022-2 05/13/22 77-81	MW-2022-1 06/15/22 0-2	MW-2022-1 06/15/22 15-19
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Acenaphthene	4	2600	33000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Acenaphthylene	1	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Acetophenone	--	0.49	100000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Aniline	--	78	300	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Anthracene	1000	14000	170000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Aramite	--	18	69	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.9)	ND(5.2)	ND(6.3)	ND(6)	ND(6.4)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	0.17 J	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Chrysene	70	56	210	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Diallate	--	7.3	28	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Dibenzofuran	--	210	1600	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Dimethoate	--	11	120	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Dinoseb	--	55	620	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Diphenylamine	--	1400	15000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Disulfoton	--	2.2	25	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Famphur	--	--	--	mg/kg	R	R	R	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Fluorene	1000	1800	22000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Hexachloropropene	--	--	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Isodrin	--	--	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Isophorone	--	470	1800	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Isosafrole	--	--	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-2 05/12/22 43-47	B 2022-2 05/12/22 58 62	B-2022-2 05/13/22 77-81	MW-2022-1 06/15/22 0-2	MW-2022-1 06/15/22 15-19
Kepone	--	0.025	0.11	mg/kg	R	R	R	ND(3.9)	ND(4.2)
Methapyrilene	--	55	--	mg/kg	ND(1.8)	ND(1.6)	ND(1.9)	ND(1.8)	ND(1.9)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Methyl Parathion	--	14	150	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Naphthalene	4	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Nitrobenzene	--	16	22	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Phenacetin	--	640	780	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Phenanthrene	10	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Phenol	1	33000	180000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Phorate	--	11	120	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Pronamide	--	4100	46000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Pyrene	1000	1500	17000	mg/kg	ND(0.2)	ND(0.18)	ND(0.21)	ND(0.2)	ND(0.22)
Pyridine	--	55	1000	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Safrole	--	--	7.8	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Sulfotep	--	27	310	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Thionazin	--	330	--	mg/kg	ND(0.39)	ND(0.35)	ND(0.41)	ND(0.39)	ND(0.42)
Inorganics									
Antimony	20	30	410	mg/kg	1.7 J	1.8 J	2.3 J	2.6 J	0.82 J
Arsenic	20	0.38	1.6	mg/kg	**3.5**	**3.6**	**3.9**	**5.2**	**3.0**
Barium	1000	5200	190000	mg/kg	19.0	12.2	21.8	46.4	15.6
Beryllium	100	150	2000	mg/kg	0.19 J	0.17 J	0.26	0.52	0.23 J
Cadmium	2	37	800	mg/kg	0.075 J	0.051 J	0.11 J	ND(0.25)	0.045 J
Chromium	30	210	1400	mg/kg	4.7	3.7	5.8	13.4	4.4
Cobalt	--	3300	300	mg/kg	5.2	6.0	5.8	8.8	4.6
Copper	--	2800	41000	mg/kg	7.3	6.1	8.1	8.4	5.4
Cyanide	100	11	20000	mg/kg	ND(1.1)	ND(0.088)	ND(0.11)	ND(0.10)	ND(0.11)
Lead	300	400	800	mg/kg	5.5	4.8	6.2	10.4	5.4
Mercury	20	22	24	mg/kg	ND(0.024)	ND(0.020)	ND(0.025)	0.042	ND(0.026)
Nickel	20	1500	20000	mg/kg	8.7	8.2	10.3	16.3	8.2
Selenium	400	370	5100	mg/kg	ND(4.9)	0.90 J	0.76 J	0.63 J	ND(5.2)
Silver	100	370	5100	mg/kg	ND(0.73)	ND(0.63)	ND(0.77)	ND(0.75)	ND(0.78)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	B-2022-2 05/12/22 43-47	B 2022-2 05/12/22 58 62	B-2022-2 05/13/22 77-81	MW-2022-1 06/15/22 0-2	MW-2022-1 06/15/22 15-19
Thallium	8	6	66	mg/kg	ND(7.3)	ND(6.3)	ND(7.7)	ND(7.5)	ND(7.8)
Tin	--	45000	610000	mg/kg	ND(2.4)	ND(2.1)	ND(2.6)	0.81 J	ND(2.6)
Vanadium	600	520	7200	mg/kg	5.8	4.3	6.9	20.6	5.6
Zinc	2500	22000	310000	mg/kg	27.1	25.7	32.7	62.8	25.7
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.02)	ND(0.017)	ND(0.02)	ND(0.02)	ND(0.022)
2,4,5-TP	--	440	4900	mg/kg	ND(0.02)	ND(0.017)	ND(0.02)	ND(0.02)	ND(0.022)
2,4-D	--	640	--	mg/kg	ND(0.02)	ND(0.017)	ND(0.02)	ND(0.02)	ND(0.022)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.019)	ND(0.017)	ND(0.02)	ND(0.02)	ND(0.022)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Delta-BHC	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Dimethoate	--	11	120	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Disulfoton	--	2.2	25	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Endosulfan I	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Endosulfan II	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Endrin	8	16	180	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	0.00099 J	ND(0.002)	ND(0.0022)
Endrin Ketone	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Famphur	--	--	--	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Methoxychlor	200	270	3100	mg/kg	ND(0.0019)	ND(0.0017)	ND(0.002)	ND(0.002)	ND(0.0022)
Methyl Parathion	--	14	150	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Phorate	--	11	120	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Sulfotep	--	27	310	mg/kg	ND(0.038)	ND(0.034)	ND(0.041)	ND(0.039 J)	ND(0.043 J)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.019)	ND(0.017)	ND(0.02)	ND(0.02)	ND(0.022)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.019)	ND(0.017)	ND(0.02)	ND(0.02)	ND(0.022)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(21.9)	ND(20.2)	ND(23.1)	ND(22.1)	ND(23.8)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-1 06/15/22 28-32	MW-2022-1 06/15/22 40 44	MW-2022-1 06/16/22 60-64	MW 2022-2 05/24/22 0-1
Dioxins								
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	0.00000074 J	0.00000043 JNX	0.00000044 JNX	0.00043 J [0.00011 J]
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	0.000000097 JNX	ND(0.0000065)	ND(0.0000063)	0.000098 J [0.000027]
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	0.00000055 JNX	ND(0.0000065)	ND(0.0000063)	0.0000057 J [0.0000019 J]
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.0000065 J [0.0000022 J]
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.0000041 J [0.0000022 J]
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	0.000000039 JNX	0.000012 [0.0000034 J]
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	0.000000063 JNX	0.0000035 J [0.000002 J]
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.000015 [0.0000045 J]
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	0.000000073 JNX	0.00000052 J [0.00000032 J]
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.0000052 JNX [0.0000015 JNX]
1,2,3,7,8-PeCDF	--	--	--	mg/kg	0.0000001 JNX	ND(0.0000065)	0.000000077 JNX	0.00000092 J [0.0000011 J]
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000064)	0.000000052 JNX	ND(0.0000063)	0.0000052 J [0.0000021 J]
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.0000024 J [0.0000018 J]
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000013)	ND(0.0000013)	ND(0.0000013)	0.0000018 [0.0000017]
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000013)	0.000000031 JNX	ND(0.0000013)	0.0000016 [ND(0.0000016)]
Heptachlorodibenzofurans	--	--	--	mg/kg	0.00000065 JNX	ND(0.0000065)	ND(0.0000063)	0.0001 J [0.000029 J]
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.00000074 JNX	0.00000043 JNX	0.00000044 JNX	0.00043 J [0.00011 J]
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.000013 [0.0000066 J]
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.000034 J [0.00001 J]
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000013)	ND(0.000013)	ND(0.000013)	0.00052 J [0.00011 J]
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000013)	ND(0.000013)	ND(0.000013)	0.0038 J [0.00082 J]
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	0.0000001 JNX	ND(0.0000065)	0.000000077 JNX	0.0000033 J [0.0000029 J]
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000064)	ND(0.0000065)	ND(0.0000063)	0.0000052 JNX [0.0000015 JNX]
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000013)	0.000000031 JNX	ND(0.0000013)	0.0000016 [ND(0.0000016)]
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000013)	ND(0.0000013)	ND(0.0000013)	0.0000018 [0.0000017]
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000714	0.000007	0.00000616	0.0000192 [0.00000719]
PCBs			--					
Aroclor 1016	--	--	21	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Aroclor 1221	--	--	0.62	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Aroclor 1232	--	--	0.62	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Aroclor 1242	--	--	0.74	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Aroclor 1248	--	--	0.74	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Aroclor 1254	--	--	0.74	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Aroclor 1260	--	--	0.74	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Total PCBs	1	3.9	21	mg/kg	ND(0.23)	ND(0.23)	ND(0.23)	ND(0.32) [ND(0.33)]
Volatile Organics			--					
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076 J)]
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076 J)]
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076 J)]
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-1 06/15/22 28-32	MW-2022-1 06/15/22 40 44	MW-2022-1 06/16/22 60-64	MW 2022-2 05/24/22 0-1
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036) [ND(0.038)]
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072 J) [ND(0.0076 J)]
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.014)	ND(0.01)	ND(0.0083 J)	ND(0.014 J) [ND(0.015 J)]
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036) [ND(0.038)]
Acetone	6	1400	610000	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036) [ND(0.038)]
Acetonitrile	--	200	3700	mg/kg	ND(0.069)	ND(0.052)	ND(0.042 J)	ND(0.072 J) [ND(0.076 J)]
Acrolein	--	0.1	0.68	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036 J) [ND(0.038 J)]
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036) [ND(0.038)]
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Benzene	2	0.62	5.6	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Bromoform	0.1	56	220	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
CFC-11	--	380	3400	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
CFC-12	--	94	780	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Chlorobenzene	1	54	1500	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Chloroethane	--	1600	62000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0069)	0.00053 J	0.0008 J	ND(0.0072) [ND(0.0076)]
Chloromethane	--	1.2	510	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Dibromomethane	--	550	10000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Ethylbenzene	40	230	29	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Iodomethane	--	1.2	--	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
m,p-Xylene	--	--	--	mg/kg	ND(0.014)	ND(0.01)	ND(0.0083 J)	ND(0.014) [ND(0.015)]
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036 J) [ND(0.038 J)]
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072 J) [ND(0.0076 J)]
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.034)	ND(0.026)	ND(0.021 J)	ND(0.036) [ND(0.038)]
o-Xylene	--	280	23000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Propionitrile	--	200	--	mg/kg	ND(0.069)	ND(0.052)	ND(0.042 J)	ND(0.072 J) [ND(0.076 J)]
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Toluene	30	520	46000	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076 J)]
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]
Vinyl acetate	--	420	4200	mg/kg	ND(0.014)	ND(0.01)	ND(0.0083 J)	ND(0.014) [ND(0.015)]
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0069)	ND(0.0052)	ND(0.0042 J)	ND(0.0072) [ND(0.0076)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-1 06/15/22 28-32	MW-2022-1 06/15/22 40 44	MW-2022-1 06/16/22 60-64	MW 2022-2 05/24/22 0-1
Semivolatile Organics								
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.14) [ND(0.16)]
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
1-Naphthylamine	--	--	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(2.2)	ND(2.1)	ND(2.1)	ND(2.3) [ND(2.6)]
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2-Methylphenol	--	2700	31000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
2-Nitrophenol	--	--	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
2-Picoline	--	55	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.87)	ND(0.84)	ND(0.85)	ND(0.93) [ND(1)]
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
3-Methylphenol	--	2700	31000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46 J) [ND(0.52 J)]
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
4-Methylphenol	--	270	3100	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
4-Nitrophenol	--	3400	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.87)	ND(0.84)	ND(0.85)	ND(0.93 J) [ND(1 J)]
4-Phenylenediamine	--	10000	120000	mg/kg	R	R	ND(1)	ND(1.1) [ND(1.3)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-1 06/15/22 28-32	MW-2022-1 06/15/22 40 44	MW-2022-1 06/16/22 60-64	MW 2022-2 05/24/22 0-1
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Acenaphthene	4	2600	33000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Acenaphthylene	1	55	20	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Acetophenone	--	0.49	100000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Aniline	--	78	300	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Anthracene	1000	14000	170000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Aramite	--	18	69	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Benzidine	--	0.0019	0.0075	mg/kg	ND(6.6)	ND(6.4)	ND(6.4)	ND(7 J) [ND(7.8 J)]
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	0.054 J [ND(0.52)]
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Chrysene	70	56	210	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Diallate	--	7.3	28	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Dibenzofuran	--	210	1600	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Dimethoate	--	11	120	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Dinoseb	--	55	620	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Diphenylamine	--	1400	15000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Disulfoton	--	2.2	25	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Ethyl Parathion	--	330	3700	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Famphur	--	--	--	mg/kg	R	R	R	R [R]
Fluoranthene	1000	2000	22000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Fluorene	1000	1800	22000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Hexachloroethane	0.7	32	120	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Hexachloropropene	--	--	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Isodrin	--	--	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Isophorone	--	470	1800	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Isosafrole	--	--	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-1 06/15/22 28-32	MW-2022-1 06/15/22 40 44	MW-2022-1 06/16/22 60-64	MW 2022-2 05/24/22 0-1
Kepone	--	0.025	0.11	mg/kg	ND(4.4)	ND(4.2)	R	R [R]
Methapyrilene	--	55	--	mg/kg	ND(2)	ND(1.9)	ND(1.9)	ND(2.1 J) [ND(2.3 J)]
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Methyl Parathion	--	14	150	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Naphthalene	4	55	20	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Nitrobenzene	--	16	22	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46 J) [ND(0.52 J)]
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46 J) [ND(0.52 J)]
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Pentachlorobenzene	--	44	490	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Phenacetin	--	640	780	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Phenanthrene	10	55	20	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Phenol	1	33000	180000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Phorate	--	11	120	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Pronamide	--	4100	46000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Pyrene	1000	1500	17000	mg/kg	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.24) [ND(0.27)]
Pyridine	--	55	1000	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Safrole	--	--	7.8	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Sulfotep	--	27	310	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Thionazin	--	330	--	mg/kg	ND(0.44)	ND(0.42)	ND(0.42)	ND(0.46) [ND(0.52)]
Inorganics								
Antimony	20	30	410	mg/kg	1.7 J	1.0 J	ND(19.7)	ND(21.2 J) [ND(23.6 J)]
Arsenic	20	0.38	1.6	mg/kg	**5.5**	**2.7**	**5.8**	**5.8 J [6.4 J]**
Barium	1000	5200	190000	mg/kg	46.7	17.2	20.0	74.5 J [82.7 J]
Beryllium	100	150	2000	mg/kg	0.48	0.23 J	0.44	0.81 J [0.92 J]
Cadmium	2	37	800	mg/kg	0.070 J	0.064 J	0.13 J	0.27 J [0.32 J]
Chromium	30	210	1400	mg/kg	12.2	5.1	9.0	13.2 [14.8]
Cobalt	--	3300	300	mg/kg	11.0	4.4	6.6	10.5 [11.9]
Copper	--	2800	41000	mg/kg	15.6	5.6	10.9	12.7 [15.2]
Cyanide	100	11	20000	mg/kg	ND(0.11)	ND(0.11)	ND(1.1 J)	ND(0.12) [ND(0.13)]
Lead	300	400	800	mg/kg	10.5	5.3	10.1	26.5 [29.4]
Mercury	20	22	24	mg/kg	ND(0.027)	ND(0.023)	ND(0.024)	0.099 [0.11]
Nickel	20	1500	20000	mg/kg	20.8	8.1	12.8	17.5 [19.5]
Selenium	400	370	5100	mg/kg	ND(5.1)	ND(5.2)	ND(5.2)	ND(5.6 J) [ND(6.3 J)]
Silver	100	370	5100	mg/kg	ND(0.76)	ND(0.78)	ND(0.79)	ND(0.85 J) [ND(0.94 J)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-1 06/15/22 28-32	MW-2022-1 06/15/22 40 44	MW-2022-1 06/16/22 60-64	MW 2022-2 05/24/22 0-1
Thallium	8	6	66	mg/kg	ND(7.6)	ND(7.8)	ND(7.9)	ND(8.5) [ND(9.4)]
Tin	--	45000	610000	mg/kg	ND(2.7)	ND(2.6)	0.65 J	1.5 J [1.5 J]
Vanadium	600	520	7200	mg/kg	13.8	6.2	11.6	20.2 J [22.3 J]
Zinc	2500	22000	310000	mg/kg	54.6	25.6	36.0	67.0 J [76.1 J]
Pesticides								
2,4,5-T	--	550	6200	mg/kg	ND(0.022)	ND(0.022)	ND(0.021)	ND(0.024) [ND(0.026)]
2,4,5-TP	--	440	4900	mg/kg	ND(0.022)	ND(0.022)	ND(0.021)	ND(0.024 J) [ND(0.026 J)]
2,4-D	--	640	--	mg/kg	ND(0.022)	ND(0.022)	ND(0.021)	ND(0.024 J) [ND(0.026 J)]
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.022)	ND(0.021)	ND(0.022)	ND(0.023) [ND(0.026)]
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023 J) [ND(0.0026 J)]
Delta-BHC	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Dimethoate	--	11	120	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047 J) [ND(0.052 J)]
Disulfoton	--	2.2	25	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047) [ND(0.052)]
Endosulfan I	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Endosulfan II	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Endrin	8	16	180	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Endrin Ketone	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Ethyl Parathion	--	330	3700	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047 J) [ND(0.052 J)]
Famphur	--	--	--	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047) [ND(0.052)]
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [ND(0.0026)]
Methoxychlor	200	270	3100	mg/kg	ND(0.0022)	ND(0.0021)	ND(0.0022)	ND(0.0023) [0.00076 J]
Methyl Parathion	--	14	150	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047 J) [ND(0.052 J)]
Phorate	--	11	120	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047) [ND(0.052)]
Sulfotep	--	27	310	mg/kg	ND(0.044 J)	ND(0.043 J)	ND(0.042 J)	ND(0.047) [ND(0.052)]
Technical Chlordane	--	1.6	--	mg/kg	ND(0.022)	ND(0.021)	ND(0.022)	ND(0.023) [ND(0.026)]
Toxaphene	--	0.4	1.6	mg/kg	ND(0.022)	ND(0.021)	ND(0.022)	ND(0.023) [ND(0.026)]
Wet Chemistry								
Sulfide	--	350	3000	mg/kg	ND(25.3)	ND(24.3)	ND(24.1)	ND(26.3) [ND(29.0)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-2 05/24/22 12-22	MW-2022-2 05/24/22 26 32	MW-2022-2 05/24/22 33-37	MW-2022-3 05/31/22 0-1	MW-2022-3 05/31/22 2-10
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000056)	ND(0.0000053)	ND(0.0000055)	0.0000013 J	0.00000074 JNX
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	0.00000012 JNX	ND(0.0000053)	0.000000088 J	ND(0.000056)	0.00000025 JNX
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000056)	ND(0.0000053)	0.000000078 JNX	ND(0.000056)	ND(0.0000065)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000056)	ND(0.0000053)	ND(0.0000055)	ND(0.000056)	ND(0.0000065)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000056)	0.000000091 JNX	0.00000014 J	ND(0.000056)	ND(0.0000065)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	0.000000097 J	0.000000094 JNX	ND(0.0000055)	0.0000011 JNX	ND(0.0000065)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	0.000000092 J	0.00000014 JNX	0.00000016 J	ND(0.000056)	ND(0.0000065)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000056)	ND(0.0000053)	0.00000017 JNX	ND(0.000056)	ND(0.0000065)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000056)	0.000000064 JNX	ND(0.0000055)	ND(0.000056)	ND(0.0000065)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000056)	0.000000081 JNX	0.000000083 JNX	ND(0.000056)	ND(0.0000065)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	0.000000052 JNX	ND(0.0000053)	0.00000012 JNX	ND(0.000056)	0.00000014 JNX
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000056)	0.00000011 JNX	0.000000094 JNX	ND(0.000056)	ND(0.0000065)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000056)	0.000000099 JNX	0.000000079 JNX	ND(0.000056)	ND(0.0000065)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.000011)	0.00000022 JNX
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.000011)	ND(0.0000013)
Heptachlorodibenzofurans	--	--	--	mg/kg	0.00000012 JNX	ND(0.0000053)	0.00000017 JNX	ND(0.000056)	ND(0.0000065)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000056)	ND(0.0000053)	ND(0.0000055)	0.0000013 J	0.00000074 JNX
Hexachlorodibenzofurans	--	--	--	mg/kg	0.000000092 J	0.00000041 JNX	0.00000039 JNX	ND(0.000056)	ND(0.0000065)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.000000097 J	0.000000094 JNX	0.00000017 JNX	ND(0.000056)	ND(0.0000065)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	ND(0.000011)	ND(0.000011)	ND(0.00011)	ND(0.000013)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	ND(0.000011)	ND(0.000011)	0.000013 J	0.0000046 J
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000052 JNX	0.000000099 JNX	0.0000002 JNX	ND(0.000056)	ND(0.0000065)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000056)	0.000000081 JNX	0.000000083 JNX	ND(0.000056)	ND(0.0000065)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.000011)	ND(0.0000013)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.000011)	0.00000022 JNX
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000573	0.00000146	0.00000163	0.0000608	0.00000683
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Total PCBs	1	3.9	21	mg/kg	ND(0.27)	ND(0.24)	ND(0.22)	ND(0.21)	ND(0.25)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-2 05/24/22 12-22	MW-2022-2 05/24/22 26 32	MW-2022-2 05/24/22 33-37	MW-2022-3 05/31/22 0-1	MW-2022-3 05/31/22 2-10
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.022)	ND(0.024)	ND(0.02)	ND(0.024)	ND(0.019)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0044 J)	ND(0.0048 J)	ND(0.004 J)	ND(0.0049 J)	ND(0.0039 J)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0088 J)	ND(0.0095 J)	ND(0.008 J)	ND(0.0098 J)	ND(0.0078 J)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.022)	ND(0.024)	ND(0.02)	ND(0.024)	ND(0.019)
Acetone	6	1400	610000	mg/kg	ND(0.022)	ND(0.024)	ND(0.02)	ND(0.024)	0.0035 J
Acetonitrile	--	200	3700	mg/kg	ND(0.044 J)	ND(0.048 J)	ND(0.04 J)	ND(0.049 J)	ND(0.039 J)
Acrolein	--	0.1	0.68	mg/kg	ND(0.022 J)	ND(0.024 J)	ND(0.02 J)	ND(0.024 J)	ND(0.019 J)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.022)	ND(0.024)	ND(0.02)	ND(0.024)	ND(0.019)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Benzene	2	0.62	5.6	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Bromoform	0.1	56	220	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
CFC-11	--	380	3400	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
CFC-12	--	94	780	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Chloroethane	--	1600	62000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Chloroform	0.4	0.24	1.5	mg/kg	0.00081 J	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Chloromethane	--	1.2	510	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Dibromomethane	--	550	10000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049 J)	ND(0.0039)
Ethylbenzene	40	230	29	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Iodomethane	--	1.2	--	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
m,p-Xylene	--	--	--	mg/kg	ND(0.0088)	ND(0.0095)	ND(0.008)	ND(0.0098)	ND(0.0078)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.022 J)	ND(0.024 J)	ND(0.02 J)	ND(0.024 J)	ND(0.019 J)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0044 J)	ND(0.0048 J)	ND(0.004 J)	ND(0.0049 J)	ND(0.0039 J)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.022)	ND(0.024)	ND(0.02)	ND(0.024)	ND(0.019)
o-Xylene	--	280	23000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Propionitrile	--	200	--	mg/kg	ND(0.044 J)	ND(0.048 J)	ND(0.04 J)	ND(0.049 J)	ND(0.039 J)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Toluene	30	520	46000	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0088)	ND(0.0095)	ND(0.008)	ND(0.0098 J)	ND(0.0078)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0044)	ND(0.0048)	ND(0.004)	ND(0.0049)	ND(0.0039)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-2 05/24/22 12-22	MW-2022-2 05/24/22 26 32	MW-2022-2 05/24/22 33-37	MW-2022-3 05/31/22 0-1	MW-2022-3 05/31/22 2-10
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.13)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
1-Naphthylamine	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.9)	ND(2.1)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
2-Picoline	--	55	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.72)	ND(0.7)	ND(0.73)	ND(0.74)	ND(0.84)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.36 J)	ND(0.35 J)	ND(0.37 J)	ND(0.37)	ND(0.42)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.72 J)	ND(0.7 J)	ND(0.73 J)	ND(0.74)	ND(0.84)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.88)	ND(0.85)	ND(0.89)	ND(0.89)	ND(1)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-2 05/24/22 12-22	MW-2022-2 05/24/22 26 32	MW-2022-2 05/24/22 33-37	MW-2022-3 05/31/22 0-1	MW-2022-3 05/31/22 2-10
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Aniline	--	78	300	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Aramite	--	18	69	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37 J)	ND(0.42)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.5 J)	ND(5.3 J)	ND(5.6 J)	ND(5.6 J)	ND(6.3 J)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.19)	0.078 J	0.89	ND(0.19)	3.6
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Diallate	--	7.3	28	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Dimethoate	--	11	120	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Dinoseb	--	55	620	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Diphenylamine	--	1400	15000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Disulfoton	--	2.2	25	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Famphur	--	--	--	mg/kg	R	R	R	ND(0.74)	ND(0.84)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Hexachloropropene	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Isodrin	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Isosafrole	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-2 05/24/22 12-22	MW-2022-2 05/24/22 26 32	MW-2022-2 05/24/22 33-37	MW-2022-3 05/31/22 0-1	MW-2022-3 05/31/22 2-10
Kepone	--	0.025	0.11	mg/kg	R	R	R	R	R
Methapyrilene	--	55	--	mg/kg	ND(1.6 J)	ND(1.6 J)	ND(1.7 J)	ND(1.7 J)	ND(1.9 J)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Methyl Parathion	--	14	150	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.36 J)	ND(0.35 J)	ND(0.37 J)	ND(0.37)	ND(0.42)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.36 J)	ND(0.35 J)	ND(0.37 J)	ND(0.37)	ND(0.42)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Phenacetin	--	640	780	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Phorate	--	11	120	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Pronamide	--	4100	46000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Pyrene	1000	1500	17000	mg/kg	ND(0.19)	ND(0.18)	ND(0.19)	ND(0.19)	ND(0.22)
Pyridine	--	55	1000	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Safrole	--	--	7.8	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Sulfotep	--	27	310	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Thionazin	--	330	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.37)	ND(0.37)	ND(0.42)
Inorganics									
Antimony	20	30	410	mg/kg	ND(16.0)	ND(17.1)	ND(17.8)	3.1 J	2.5 J
Arsenic	20	0.38	1.6	mg/kg	**6.5**	**2.9**	**3.8**	**5.8**	**4.9**
Barium	1000	5200	190000	mg/kg	42.8	11.3	18.1	25.9	35.3
Beryllium	100	150	2000	mg/kg	0.36	0.27	0.25	0.42	0.39
Cadmium	2	37	800	mg/kg	0.13 J	0.046 J	0.051 J	ND(0.23)	0.056 J
Chromium	30	210	1400	mg/kg	7.1	4.0	5.1	8.0	9.2
Cobalt	--	3300	300	mg/kg	9.8	4.2	5.2	8.0	8.0
Copper	--	2800	41000	mg/kg	10.1	4.6	7.4	11.1	12.1
Cyanide	100	11	20000	mg/kg	ND(0.093)	ND(0.091)	ND(0.094)	ND(0.095)	ND(0.11)
Lead	300	400	800	mg/kg	13.6	4.7	5.9	12.3	7.9
Mercury	20	22	24	mg/kg	0.018 J	ND(0.021)	ND(0.022)	0.0076 J	ND(0.026)
Nickel	20	1500	20000	mg/kg	17.3	7.5	9.1	15.0	14.7
Selenium	400	370	5100	mg/kg	ND(4.3)	ND(4.6)	ND(4.7)	1.7 J	0.88 J
Silver	100	370	5100	mg/kg	ND(0.64)	ND(0.69)	ND(0.71)	ND(0.68)	ND(0.74)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-2 05/24/22 12-22	MW-2022-2 05/24/22 26 32	MW-2022-2 05/24/22 33-37	MW-2022-3 05/31/22 0-1	MW-2022-3 05/31/22 2-10
Thallium	8	6	66	mg/kg	ND(6.4)	ND(6.9)	ND(7.1)	ND(6.8)	ND(7.4)
Tin	--	45000	610000	mg/kg	1.3 J	0.50 J	ND(2.4)	ND(2.3)	0.68 J
Vanadium	600	520	7200	mg/kg	10	5.0	6.3	9.5	9.3
Zinc	2500	22000	310000	mg/kg	49.2	16.9	23.9	40.5 J	38.3
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.019)	ND(0.021)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018 J)	ND(0.018 J)	ND(0.018 J)	ND(0.019 J)	ND(0.021 J)
2,4-D	--	640	--	mg/kg	ND(0.018 J)	ND(0.018 J)	ND(0.018 J)	ND(0.019 J)	ND(0.021 J)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0019)	ND(0.0018)	0.0006 J	ND(0.0019)	ND(0.0021)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.019)	ND(0.018)	ND(0.019)	ND(0.019)	ND(0.021)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Alpha-BHC	--	0.086	0.27	mg/kg	0.00046 J	ND(0.0018)	0.00041 J	ND(0.0019)	ND(0.0021)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Delta-BHC	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019 J)	ND(0.0021)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Dimethoate	--	11	120	mg/kg	ND(0.036 J)	ND(0.036 J)	ND(0.037 J)	ND(0.038 J)	ND(0.042)
Disulfoton	--	2.2	25	mg/kg	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.038)	ND(0.042)
Endosulfan I	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Endosulfan II	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Endrin	8	16	180	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	0.00051 J	ND(0.0019)	ND(0.0021)
Endrin Ketone	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.036 J)	ND(0.036 J)	ND(0.037 J)	ND(0.038)	ND(0.042)
Famphur	--	--	--	mg/kg	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.038)	ND(0.042)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019 J)	ND(0.0021)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Methoxychlor	200	270	3100	mg/kg	ND(0.0019)	ND(0.0018)	ND(0.0019)	ND(0.0019)	ND(0.0021)
Methyl Parathion	--	14	150	mg/kg	ND(0.036 J)	ND(0.036 J)	ND(0.037 J)	ND(0.038 J)	ND(0.042 J)
Phorate	--	11	120	mg/kg	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.038)	ND(0.042)
Sulfotep	--	27	310	mg/kg	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.038)	ND(0.042)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.019)	ND(0.018)	ND(0.019)	ND(0.019)	ND(0.021)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.019)	ND(0.018)	ND(0.019)	ND(0.019)	ND(0.021)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(21.4)	ND(20.0)	16.1 J	ND(21.9 J)	29.1

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-3 05/31/22 12-16	MW-2022-3 06/01/22 26-30	MW-2022-4 04/12/22 0-1	MW-2022-4 04/13/22 12-16
Dioxins								
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	0.0000087	ND(0.0000058)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	0.00000005 JNX	ND(0.0000053)	0.0000021 J	ND(0.0000058)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	0.000000053 JNX	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	0.00000011 J	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	0.000000072 JNX	ND(0.0000053)	0.00000061 J	0.00000007 JNX
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	0.000000083 J	ND(0.0000053)	0.0000002 JNX	ND(0.0000058)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	0.00000012 JNX	ND(0.0000053)	0.00000062 JNX	ND(0.0000058)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	0.000000076 JNX	ND(0.0000058)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	0.00000013 J	ND(0.0000053)	0.00000038 JNX	ND(0.0000058)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	0.00000013 JNX	ND(0.0000058)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	0.000000064 J	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	0.0000001 JNX	ND(0.0000053)	0.00000021 JNX	ND(0.0000058)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000012)	ND(0.0000011)	0.00000022 J	ND(0.0000012)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000026 J	ND(0.0000011)	ND(0.000001)	ND(0.0000012)
Heptachlorodibenzofurans	--	--	--	mg/kg	0.0000001 JNX	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	0.0000087	ND(0.0000058)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.0000003 JNX	ND(0.0000053)	0.0000017 JNX	ND(0.0000058)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000012)	ND(0.000011)	0.0000062 J	ND(0.000012)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000012)	ND(0.000011)	0.000081	ND(0.000012)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000058)	ND(0.0000053)	0.00000034 JNX	ND(0.0000058)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000013 JNX	ND(0.0000053)	0.00000038 JNX	ND(0.0000058)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000026 JNX	ND(0.0000011)	ND(0.000001)	ND(0.0000012)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000012)	ND(0.0000011)	0.00000022 J	ND(0.0000012)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000151	0.00000607	0.00000181	0.00000635
PCBs			--					
Aroclor 1016	--	--	21	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Total PCBs	1	3.9	21	mg/kg	ND(0.25)	ND(0.20)	ND(0.24)	ND(0.22)
Volatile Organics			--					
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-3 05/31/22 12-16	MW-2022-3 06/01/22 26-30	MW-2022-4 04/12/22 0-1	MW-2022-4 04/13/22 12-16
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.019)	ND(0.019)	ND(0.025)	ND(0.023)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0038 J)	ND(0.0039)	ND(0.0049 J)	ND(0.0047 J)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0076 J)	ND(0.0078)	ND(0.0099 J)	ND(0.0094 J)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.019)	ND(0.019)	ND(0.025)	ND(0.023)
Acetone	6	1400	610000	mg/kg	ND(0.019)	ND(0.019)	0.0095 J	ND(0.023)
Acetonitrile	--	200	3700	mg/kg	ND(0.038 J)	ND(0.039)	ND(0.049 J)	ND(0.047 J)
Acrolein	--	0.1	0.68	mg/kg	ND(0.019 J)	ND(0.019)	ND(0.025)	ND(0.023)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.019)	ND(0.019)	ND(0.025)	ND(0.023)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Benzene	2	0.62	5.6	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Bromoform	0.1	56	220	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
CFC-11	--	380	3400	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
CFC-12	--	94	780	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Chloroethane	--	1600	62000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0038)	0.00028 J	ND(0.0049)	ND(0.0047)
Chloromethane	--	1.2	510	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Dibromomethane	--	550	10000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Ethylbenzene	40	230	29	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Iodomethane	--	1.2	--	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
m,p-Xylene	--	--	--	mg/kg	ND(0.0076)	ND(0.0078)	ND(0.0099)	ND(0.0094)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.019 J)	ND(0.019)	ND(0.025 J)	ND(0.023 J)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0038 J)	ND(0.0039)	ND(0.0049 J)	ND(0.0047 J)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.019)	ND(0.019)	ND(0.025)	ND(0.023)
o-Xylene	--	280	23000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Propionitrile	--	200	--	mg/kg	ND(0.038 J)	ND(0.039)	ND(0.049 J)	ND(0.047 J)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Toluene	30	520	46000	mg/kg	ND(0.0038)	ND(0.0039)	0.00049 J	ND(0.0047)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0076)	ND(0.0078)	ND(0.0099)	ND(0.0094)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0038)	ND(0.0039)	ND(0.0049)	ND(0.0047)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-3 05/31/22 12-16	MW-2022-3 06/01/22 26-30	MW-2022-4 04/12/22 0-1	MW-2022-4 04/13/22 12-16
Semivolatile Organics								
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.12)	ND(0.1)	ND(0.11)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
1-Naphthylamine	--	--	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(2)	ND(1.7)	ND(1.7)	ND(1.9)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
2-Nitrophenol	--	--	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
2-Picoline	--	55	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.79)	ND(0.69)	ND(0.7)	ND(0.77)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
4-Methylphenol	--	270	3100	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.79)	ND(0.69)	ND(0.7)	ND(0.77 J)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.96)	ND(0.84)	R	R

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-3 05/31/22 12-16	MW-2022-3 06/01/22 26-30	MW-2022-4 04/12/22 0-1	MW-2022-4 04/13/22 12-16
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.39)	ND(0.34)	R	R
Acenaphthene	4	2600	33000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Acenaphthylene	1	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Acetophenone	--	0.49	100000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Aniline	--	78	300	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Anthracene	1000	14000	170000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Aramite	--	18	69	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Benzidine	--	0.0019	0.0075	mg/kg	ND(6 J)	ND(5.2)	ND(5.3 J)	R
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	0.55	0.35	ND(0.18)	ND(0.2)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Chrysene	70	56	210	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Diallate	--	7.3	28	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Dibenzofuran	--	210	1600	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2 J)
Dimethoate	--	11	120	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39 J)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Dinoseb	--	55	620	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Diphenylamine	--	1400	15000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Disulfoton	--	2.2	25	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Famphur	--	--	--	mg/kg	ND(0.79)	ND(0.69)	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Fluorene	1000	1800	22000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Hexachloropropene	--	--	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Isodrin	--	--	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Isophorone	--	470	1800	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Isosafrole	--	--	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-3 05/31/22 12-16	MW-2022-3 06/01/22 26-30	MW-2022-4 04/12/22 0-1	MW-2022-4 04/13/22 12-16
Kepone	--	0.025	0.11	mg/kg	R	ND(3.4)	ND(0.7)	ND(0.77 J)
Methapyrilene	--	55	--	mg/kg	ND(1.8 J)	ND(1.6)	ND(1.6)	ND(1.8)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Methyl Parathion	--	14	150	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Naphthalene	4	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Nitrobenzene	--	16	22	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Phenacetin	--	640	780	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Phenanthrene	10	55	20	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Phenol	1	33000	180000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Phorate	--	11	120	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Pronamide	--	4100	46000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Pyrene	1000	1500	17000	mg/kg	ND(0.2)	ND(0.18)	ND(0.18)	ND(0.2)
Pyridine	--	55	1000	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Safrole	--	--	7.8	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Sulfotep	--	27	310	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Thionazin	--	330	--	mg/kg	ND(0.39)	ND(0.34)	ND(0.35)	ND(0.39)
Inorganics								
Antimony	20	30	410	mg/kg	1.6 J	ND(15.9)	2.4 J	ND(18.4 J)
Arsenic	20	0.38	1.6	mg/kg	**3.1**	**2.9**	**3.9**	**3.2**
Barium	1000	5200	190000	mg/kg	16.9	14.8	18.8 J	16.0
Beryllium	100	150	2000	mg/kg	0.17 J	0.22	0.24	0.22 J
Cadmium	2	37	800	mg/kg	0.10 J	ND(0.21)	0.074 J	0.070 J
Chromium	30	210	1400	mg/kg	3.5	4.6	4.5	4.5
Cobalt	--	3300	300	mg/kg	5.6	4.6	8.2	5.9
Copper	--	2800	41000	mg/kg	5.2	7.8	6.6	6.3
Cyanide	100	11	20000	mg/kg	ND(0.10)	0.62 J	ND(1.0)	ND(1.0)
Lead	300	400	800	mg/kg	5.7	6.0	6.5	6.6
Mercury	20	22	24	mg/kg	ND(0.023)	ND(0.022)	ND(0.022)	ND(0.023 J)
Nickel	20	1500	20000	mg/kg	7.9	8.6	11.7	10.1
Selenium	400	370	5100	mg/kg	ND(4.9)	ND(4.2)	1.1 J	ND(4.9)
Silver	100	370	5100	mg/kg	ND(0.74)	ND(0.64)	ND(0.67)	ND(0.74)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-3 05/31/22 12-16	MW-2022-3 06/01/22 26-30	MW-2022-4 04/12/22 0-1	MW-2022-4 04/13/22 12-16
Thallium	8	6	66	mg/kg	ND(7.4)	ND(6.4)	ND(6.7)	ND(7.4)
Tin	--	45000	610000	mg/kg	ND(2.5)	1.4 J	ND(2.2)	ND(2.5)
Vanadium	600	520	7200	mg/kg	4.0	4.9	5.7	5.8
Zinc	2500	22000	310000	mg/kg	21.0	26.9	31.3	29.4
Pesticides								
2,4,5-T	--	550	6200	mg/kg	ND(0.02)	ND(0.018)	ND(0.017)	ND(0.02)
2,4,5-TP	--	440	4900	mg/kg	ND(0.02 J)	ND(0.018)	ND(0.017)	ND(0.02)
2,4-D	--	640	--	mg/kg	ND(0.02 J)	ND(0.018)	ND(0.017)	ND(0.02)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Delta-BHC	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Dimethoate	--	11	120	mg/kg	ND(0.039)	R	ND(0.035)	ND(0.039)
Disulfoton	--	2.2	25	mg/kg	ND(0.039)	R	ND(0.035)	ND(0.039)
Endosulfan I	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endosulfan II	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin	8	16	180	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin Ketone	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.039)	R	ND(0.035)	ND(0.039)
Famphur	--	--	--	mg/kg	ND(0.039)	R	ND(0.035)	ND(0.039)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Methoxychlor	200	270	3100	mg/kg	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Methyl Parathion	--	14	150	mg/kg	ND(0.039 J)	R	ND(0.035)	ND(0.039)
Phorate	--	11	120	mg/kg	ND(0.039)	R	ND(0.035)	ND(0.039)
Sulfotep	--	27	310	mg/kg	ND(0.039)	R	ND(0.035)	ND(0.039)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
Wet Chemistry								
Sulfide	--	350	3000	mg/kg	ND(22.5)	ND(20.0)	ND(18.8)	ND(21.1)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-4 04/13/22 26-30	MW-2022-4 04/13/22 45-47	MW-2022-4 04/13/22 60 64	MW-2022-4 04/14/22 74-78
Dioxins								
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	0.00000012 JNX	ND(0.000006)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	0.000000055 JNX [ND(0.0000058)]	ND(0.000006)	0.000000081 JNX	ND(0.000006)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	0.000000039 JNX	ND(0.0000056)	ND(0.000006)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	0.000000052 JNX	ND(0.0000056)	ND(0.000006)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	0.000000084 J
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	0.000000035 JNX [ND(0.0000012)]	ND(0.0000012)	ND(0.0000011)	ND(0.0000012)
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000012) [ND(0.0000012)]	0.000000017 J	ND(0.0000011)	0.000000032 JNX
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000012) [ND(0.000012)]	ND(0.000012)	ND(0.000011)	ND(0.000012)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000012) [ND(0.000012)]	ND(0.000012)	ND(0.000011)	ND(0.000012)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	ND(0.000006)	ND(0.0000056)	ND(0.000006)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000058) [ND(0.0000058)]	0.000000039 JNX	ND(0.0000056)	ND(0.000006)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000012) [ND(0.0000012)]	0.000000017 JNX	ND(0.0000011)	0.000000032 JNX
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.000000035 JNX [ND(0.0000012)]	ND(0.0000012)	ND(0.0000011)	ND(0.0000012)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000579 [0.00000664]	0.00000353	0.00000608	0.00000591
PCBs			--					
Aroclor 1016	--	--	21	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Total PCBs	1	3.9	21	mg/kg	ND(0.21) [ND(0.21)]	ND(0.23)	ND(0.21)	ND(0.22)
Volatile Organics			--					
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-4 04/13/22 26-30	MW-2022-4 04/13/22 45-47	MW-2022-4 04/13/22 60 64	MW-2022-4 04/14/22 74-78
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.026) [ND(0.023)]	ND(0.023)	ND(0.026)	ND(0.023)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0051 J) [ND(0.0046 J)]	ND(0.0047 J)	ND(0.0052 J)	ND(0.0046)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.01 J) [ND(0.0093 J)]	ND(0.0093 J)	ND(0.01 J)	ND(0.0092)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.026) [ND(0.023)]	ND(0.023)	ND(0.026)	ND(0.023)
Acetone	6	1400	610000	mg/kg	ND(0.026) [ND(0.023)]	ND(0.023)	ND(0.026)	0.0054 J
Acetonitrile	--	200	3700	mg/kg	ND(0.051 J) [ND(0.046 J)]	ND(0.047 J)	ND(0.052 J)	ND(0.046)
Acrolein	--	0.1	0.68	mg/kg	ND(0.026) [ND(0.023)]	ND(0.023)	ND(0.026)	ND(0.023)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.026) [ND(0.023)]	ND(0.023)	ND(0.026)	ND(0.023)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Benzene	2	0.62	5.6	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Bromoform	0.1	56	220	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
CFC-11	--	380	3400	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
CFC-12	--	94	780	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Chloroethane	--	1600	62000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Chloroform	0.4	0.24	1.5	mg/kg	0.0005 J [0.00078 J]	0.00098 J	0.0009 J	0.00059 J
Chloromethane	--	1.2	510	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Dibromomethane	--	550	10000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Ethylbenzene	40	230	29	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Iodomethane	--	1.2	--	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
m,p-Xylene	--	--	--	mg/kg	ND(0.01) [ND(0.0093)]	ND(0.0093)	ND(0.01)	ND(0.0092)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.026 J) [ND(0.023 J)]	ND(0.023 J)	ND(0.026 J)	ND(0.023)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0051 J) [ND(0.0046 J)]	ND(0.0047 J)	ND(0.0052 J)	ND(0.0046)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.026) [ND(0.023)]	ND(0.023)	ND(0.026)	ND(0.023)
o-Xylene	--	280	23000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Propionitrile	--	200	--	mg/kg	ND(0.051 J) [ND(0.046 J)]	ND(0.047 J)	ND(0.052 J)	ND(0.046)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Toluene	30	520	46000	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)
Vinyl acetate	--	420	4200	mg/kg	ND(0.01) [ND(0.0093)]	ND(0.0093)	ND(0.01)	ND(0.0092)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0051) [ND(0.0046)]	ND(0.0047)	ND(0.0052)	ND(0.0046)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-4 04/13/22 26-30	MW-2022-4 04/13/22 45-47	MW-2022-4 04/13/22 60 64	MW-2022-4 04/14/22 74-78
Semivolatile Organics								
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.12) [ND(0.12)]	ND(0.12)	ND(0.12)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
1-Naphthylamine	--	--	--	mg/kg	ND(0.39 J) [ND(0.39 J)]	ND(0.39 J)	ND(0.38 J)	ND(0.4)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.9) [ND(1.9)]	ND(2)	ND(1.9)	ND(2)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.39 J) [ND(0.39 J)]	ND(0.39 J)	ND(0.38 J)	ND(0.4)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
2-Nitrophenol	--	--	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
2-Picoline	--	55	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.77) [ND(0.77)]	ND(0.79)	ND(0.77)	ND(0.8)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.39 J) [ND(0.39 J)]	ND(0.39 J)	ND(0.38 J)	ND(0.4)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
4-Methylphenol	--	270	3100	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.77) [ND(0.77)]	ND(0.79)	ND(0.77)	ND(0.8)
4-Phenylenediamine	--	10000	120000	mg/kg	R [R]	R	R	ND(0.97)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-4 04/13/22 26-30	MW-2022-4 04/13/22 45-47	MW-2022-4 04/13/22 60 64	MW-2022-4 04/14/22 74-78
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	R [R]	R	R	R
Acenaphthene	4	2600	33000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Acenaphthylene	1	55	20	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Acetophenone	--	0.49	100000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Aniline	--	78	300	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Anthracene	1000	14000	170000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Aramite	--	18	69	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.8 J) [ND(5.8 J)]	ND(6 J)	ND(5.8 J)	ND(6)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Chrysene	70	56	210	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Diallate	--	7.3	28	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Dibenzofuran	--	210	1600	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Dimethoate	--	11	120	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Dinoseb	--	55	620	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Diphenylamine	--	1400	15000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Disulfoton	--	2.2	25	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Famphur	--	--	--	mg/kg	R [R]	R	R	ND(0.8)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Fluorene	1000	1800	22000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Hexachloropropene	--	--	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Isodrin	--	--	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Isophorone	--	470	1800	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Isosafrole	--	--	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-4 04/13/22 26-30	MW-2022-4 04/13/22 45-47	MW-2022-4 04/13/22 60 64	MW-2022-4 04/14/22 74-78
Kepone	--	0.025	0.11	mg/kg	ND(0.77) [ND(0.77)]	ND(0.79)	ND(0.77)	ND(0.8)
Methapyrilene	--	55	--	mg/kg	ND(1.8) [ND(1.8)]	ND(1.8)	ND(1.7)	ND(1.8)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Methyl Parathion	--	14	150	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Naphthalene	4	55	20	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Nitrobenzene	--	16	22	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Phenacetin	--	640	780	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Phenanthrene	10	55	20	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Phenol	1	33000	180000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Phorate	--	11	120	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Pronamide	--	4100	46000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Pyrene	1000	1500	17000	mg/kg	ND(0.2) [ND(0.2)]	ND(0.2)	ND(0.2)	ND(0.21)
Pyridine	--	55	1000	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Safrole	--	--	7.8	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Sulfotep	--	27	310	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Thionazin	--	330	--	mg/kg	ND(0.39) [ND(0.39)]	ND(0.39)	ND(0.38)	ND(0.4)
Inorganics								
Antimony	20	30	410	mg/kg	ND(17.5 J) [ND(18.0 J)]	ND(18.3 J)	0.47 J	ND(18.3)
Arsenic	20	0.38	1.6	mg/kg	**2.9 [3.2]**	**3.8**	**5.0**	**3.2**
Barium	1000	5200	190000	mg/kg	13.4 [17.0]	21.7	21.4	22.4
Beryllium	100	150	2000	mg/kg	0.23 [0.21 J]	0.23 J	0.29	0.25
Cadmium	2	37	800	mg/kg	0.051 J [0.087 J]	0.11 J	0.11 J	0.11 J
Chromium	30	210	1400	mg/kg	4.6 [4.0]	3.8	4.3	5.5
Cobalt	--	3300	300	mg/kg	7.6 [6.9]	7.5	10.5	5.7
Copper	--	2800	41000	mg/kg	6.1 [5.4]	6.2	6.1	6.8
Cyanide	100	11	20000	mg/kg	ND(1.0) [ND(1.1)]	ND(1.2)	ND(1.1)	ND(1.1)
Lead	300	400	800	mg/kg	5.7 [6.5]	6.8	7.2	6.2
Mercury	20	22	24	mg/kg	ND(0.021 J) [ND(0.023 J)]	ND(0.025 J)	ND(0.023 J)	ND(0.024)
Nickel	20	1500	20000	mg/kg	9.6 [9.6]	11.4	13.9	9.7
Selenium	400	370	5100	mg/kg	ND(4.7) [ND(4.8)]	ND(4.9)	ND(4.7)	ND(4.9)
Silver	100	370	5100	mg/kg	ND(0.70) [ND(0.72)]	ND(0.73)	ND(0.70)	ND(0.73)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-4 04/13/22 26-30	MW-2022-4 04/13/22 45-47	MW-2022-4 04/13/22 60 64	MW-2022-4 04/14/22 74-78
Thallium	8	6	66	mg/kg	ND(7.0) [ND(7.2)]	ND(7.3)	ND(7.0)	ND(7.3)
Tin	--	45000	610000	mg/kg	ND(2.3) [ND(2.4)]	ND(2.4)	ND(2.3)	ND(2.4)
Vanadium	600	520	7200	mg/kg	5.3 [5.3]	5.3	5.8	6.4
Zinc	2500	22000	310000	mg/kg	27.2 [28.8]	35.3	35.9	30.1
Pesticides								
2,4,5-T	--	550	6200	mg/kg	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.019)	ND(0.02)
2,4,5-TP	--	440	4900	mg/kg	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.019)	ND(0.02)
2,4-D	--	640	--	mg/kg	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.019)	ND(0.02)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.019) [ND(0.019)]	ND(0.02)	ND(0.019)	ND(0.02)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Delta-BHC	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Dimethoate	--	11	120	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Disulfoton	--	2.2	25	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Endosulfan I	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Endosulfan II	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Endrin	8	16	180	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	0.00076 J	ND(0.0019)	ND(0.002)
Endrin Ketone	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019 J)	ND(0.002)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Famphur	--	--	--	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0019) [ND(0.0019)]	ND(0.002)	ND(0.0019)	ND(0.002)
Methoxychlor	200	270	3100	mg/kg	ND(0.0019) [0.0014 J]	0.0015 J	0.001 J	ND(0.002)
Methyl Parathion	--	14	150	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Phorate	--	11	120	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Sulfotep	--	27	310	mg/kg	ND(0.038) [ND(0.039)]	ND(0.04)	ND(0.038)	ND(0.04)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.019) [ND(0.019)]	ND(0.02)	ND(0.019)	ND(0.02)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.019) [ND(0.019)]	ND(0.02)	ND(0.019)	ND(0.02)
Wet Chemistry								
Sulfide	--	350	3000	mg/kg	ND(20.2) [ND(21.3)]	ND(20.5)	ND(21.4)	ND(20.9)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 04/29/22 0-1	MW-2022-5 04/29/22 12-16	MW-2022-5 04/29/22 26-30	MW-2022-5 04/29/22 45-49	MW-2022-5 05/02/22 54-58
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	0.000032	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	0.0000078	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	0.00000049 J	ND(0.0000057)	0.00000018 JNX	ND(0.0000055)	ND(0.0000063)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	0.00000024 JNX	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	0.00000051 J	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	0.00000076 J	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	0.00000026 J	ND(0.0000057)	0.00000015 JNX	0.000000091 JNX	ND(0.0000063)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	0.00000035 J	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	0.00000015 JNX	ND(0.0000057)	ND(0.0000059)	0.000000087 JNX	ND(0.0000063)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000053)	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	0.00000045 J	ND(0.0000057)	0.00000014 J	ND(0.0000055)	ND(0.0000063)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	0.00000062 JNX	ND(0.0000057)	0.00000011 JNX	ND(0.0000055)	ND(0.0000063)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	0.00000023 J	ND(0.0000011)	ND(0.0000012 J)	0.000000017 JNX	ND(0.0000013)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000082 JNX	ND(0.0000011)	ND(0.0000012)	ND(0.0000011)	ND(0.0000013)
Heptachlorodibenzofurans	--	--	--	mg/kg	0.0000083	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.000032	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
Hexachlorodibenzofurans	--	--	--	mg/kg	0.0000012 J	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.0000014 JNX	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
Octachlorodibenzofuran	--	--	--	mg/kg	0.000045	ND(0.000011)	ND(0.000012)	ND(0.000011)	ND(0.000013)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	0.00036 J	ND(0.000011)	ND(0.000012)	ND(0.000011)	ND(0.000013)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	0.0000007 JNX	ND(0.0000057)	ND(0.0000059)	ND(0.0000055)	ND(0.0000063)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000015 JNX	ND(0.0000057)	ND(0.0000059)	0.000000087 JNX	ND(0.0000063)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000082 JNX	ND(0.0000011)	ND(0.0000012)	ND(0.0000011)	ND(0.0000013)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000023 JNX	ND(0.0000011)	ND(0.0000012)	0.000000017 JNX	ND(0.0000013)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.0000017	0.00000648	0.0000053	0.00000281	0.00000721
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Total PCBs	1	3.9	21	mg/kg	ND(0.23)	ND(0.21)	ND(0.24)	ND(0.21)	ND(0.25)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 04/29/22 0-1	MW-2022-5 04/29/22 12-16	MW-2022-5 04/29/22 26-30	MW-2022-5 04/29/22 45-49	MW-2022-5 05/02/22 54-58
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.032 J)	ND(0.024)	ND(0.025)	ND(0.028)	ND(0.024)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0064 J)	ND(0.0048 J)	ND(0.0051 J)	ND(0.0056 J)	ND(0.0047)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.013 J)	ND(0.0096 J)	ND(0.01 J)	ND(0.011 J)	ND(0.0095)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.032 J)	ND(0.024)	ND(0.025)	ND(0.028)	ND(0.024)
Acetone	6	1400	610000	mg/kg	ND(0.032 J)	ND(0.024)	ND(0.025)	ND(0.028)	ND(0.024)
Acetonitrile	--	200	3700	mg/kg	ND(0.064 J)	ND(0.048 J)	ND(0.051 J)	ND(0.056 J)	ND(0.047)
Acrolein	--	0.1	0.68	mg/kg	R	ND(0.024)	ND(0.025)	ND(0.028)	ND(0.024)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.032 J)	ND(0.024)	ND(0.025)	ND(0.028)	ND(0.024)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Benzene	2	0.62	5.6	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Bromoform	0.1	56	220	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
CFC-11	--	380	3400	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
CFC-12	--	94	780	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Chloroethane	--	1600	62000	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	0.00064 J
Chloromethane	--	1.2	510	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Dibromomethane	--	550	10000	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Ethyl Methacrylate	--	140	92000	mg/kg	R	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Ethylbenzene	40	230	29	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Iodomethane	--	1.2	--	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
m,p-Xylene	--	--	--	mg/kg	0.0014 J	ND(0.0096)	ND(0.01)	ND(0.011)	ND(0.0095)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.032 J)	ND(0.024 J)	ND(0.025 J)	ND(0.028 J)	ND(0.024)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0064 J)	ND(0.0048 J)	ND(0.0051 J)	ND(0.0056 J)	ND(0.0047)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.032 J)	ND(0.024)	ND(0.025)	ND(0.028)	ND(0.024)
o-Xylene	--	280	23000	mg/kg	0.0011 J	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Propionitrile	--	200	--	mg/kg	ND(0.064 J)	ND(0.048 J)	ND(0.051 J)	ND(0.056 J)	ND(0.047)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Toluene	30	520	46000	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)
Vinyl acetate	--	420	4200	mg/kg	R	ND(0.0096)	ND(0.01)	ND(0.011)	ND(0.0095)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0064 J)	ND(0.0048)	ND(0.0051)	ND(0.0056)	ND(0.0047)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 04/29/22 0-1	MW-2022-5 04/29/22 12-16	MW-2022-5 04/29/22 26-30	MW-2022-5 04/29/22 45-49	MW-2022-5 05/02/22 54-58
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1,4-Dioxane	0.2	40	160	mg/kg	R	ND(0.11)	ND(0.12)	ND(0.11)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
1-Naphthylamine	--	--	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(35)	ND(1.9)	ND(2)	ND(1.8)	ND(2)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2-Methylphenol	--	2700	31000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2-Naphthylamine	--	--	0.96	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
2-Nitrophenol	--	--	--	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
2-Picoline	--	55	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(14)	ND(0.75)	ND(0.78)	ND(0.73)	ND(0.81)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
3-Methylphenol	--	2700	31000	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
3-Nitroaniline	--	5.5	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
4-Aminobiphenyl	--	1400	0.082	mg/kg	R	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
4-Methylphenol	--	270	3100	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
4-Nitroaniline	--	5.5	86	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
4-Nitrophenol	--	3400	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(14)	ND(0.75)	ND(0.78)	ND(0.73)	ND(0.81)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(17)	ND(0.91)	ND(0.95)	ND(0.88)	ND(0.98)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 04/29/22 0-1	MW-2022-5 04/29/22 12-16	MW-2022-5 04/29/22 26-30	MW-2022-5 04/29/22 45-49	MW-2022-5 05/02/22 54-58
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Acenaphthene	4	2600	33000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Acenaphthylene	1	55	20	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Acetophenone	--	0.49	100000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Aniline	--	78	300	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Anthracene	1000	14000	170000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Aramite	--	18	69	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Benzidine	--	0.0019	0.0075	mg/kg	ND(100 J)	ND(5.7 J)	ND(5.9 J)	ND(5.5 J)	ND(6.1)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Chrysene	70	56	210	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Diallate	--	7.3	28	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Dibenzofuran	--	210	1600	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Diethyl phthalate	10	44000	490000	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Dimethoate	--	11	120	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Dimethyl phthalate	30	100000	--	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(3.5)	ND(0.19)	0.039 J	ND(0.19)	ND(0.21)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Dinoseb	--	55	620	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Diphenylamine	--	1400	15000	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Disulfoton	--	2.2	25	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Ethyl Methanesulfonate	--	--	--	mg/kg	R	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Ethyl Parathion	--	330	3700	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Famphur	--	--	--	mg/kg	R	R	R	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Fluorene	1000	1800	22000	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Hexachloroethane	0.7	32	120	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Hexachloropropene	--	--	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Isodrin	--	--	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Isophorone	--	470	1800	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Isosafrole	--	--	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 04/29/22 0-1	MW-2022-5 04/29/22 12-16	MW-2022-5 04/29/22 26-30	MW-2022-5 04/29/22 45-49	MW-2022-5 05/02/22 54-58
Kepone	--	0.025	0.11	mg/kg	ND(14)	ND(0.75)	ND(0.78)	ND(0.73)	R
Methapyrilene	--	55	--	mg/kg	ND(31)	ND(1.7)	ND(1.8)	ND(1.7)	ND(1.8)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Methyl Parathion	--	14	150	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Naphthalene	4	55	20	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Nitrobenzene	--	16	22	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	R	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	R	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(3.5 J)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	R	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
o-Toluidine	--	1.9	9.6	mg/kg	R	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
p-Chloroaniline	1	220	8.6	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Pentachlorobenzene	--	44	490	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Pentachlorophenol	3	2.5	9	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Phenacetin	--	640	780	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Phenanthrene	10	55	20	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Phenol	1	33000	180000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Phorate	--	11	120	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Pronamide	--	4100	46000	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Pyrene	1000	1500	17000	mg/kg	ND(3.5)	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.21)
Pyridine	--	55	1000	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Safrole	--	--	7.8	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Sulfotep	--	27	310	mg/kg	ND(6.9 J)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Thionazin	--	330	--	mg/kg	ND(6.9)	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.41)
Inorganics									
Antimony	20	30	410	mg/kg	ND(16.7 J)	ND(17.0 J)	ND(17.9 J)	ND(17.8 J)	ND(19.5)
Arsenic	20	0.38	1.6	mg/kg	**5.9 J**	**3.7**	**3.2**	**2.9**	**2.3 J**
Barium	1000	5200	190000	mg/kg	24.8	16.9	23.2	14.3	16.9
Beryllium	100	150	2000	mg/kg	0.24	0.16 J	0.21 J	0.16 J	0.17 J
Cadmium	2	37	800	mg/kg	0.063 J	0.050 J	0.039 J	ND(0.24)	0.052 J
Chromium	30	210	1400	mg/kg	6.0	4.1	6.2	3.8	4.3
Cobalt	--	3300	300	mg/kg	7.7	4.9	6.3	3.9	4.8
Copper	--	2800	41000	mg/kg	13.1	6.4	8.2	5.0	5.4
Cyanide	100	11	20000	mg/kg	R	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.2)
Lead	300	400	800	mg/kg	12.8 J	6.4	7.1	5.1	5.8
Mercury	20	22	24	mg/kg	0.010 J	ND(0.023)	ND(0.024)	ND(0.022)	ND(0.026)
Nickel	20	1500	20000	mg/kg	13.0	9.2	11.5	7.3	7.8
Selenium	400	370	5100	mg/kg	ND(4.5)	ND(4.5)	ND(4.8)	ND(4.8)	ND(5.2)
Silver	100	370	5100	mg/kg	ND(0.67)	ND(0.68)	ND(0.72)	ND(0.71)	ND(0.78)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 04/29/22 0-1	MW-2022-5 04/29/22 12-16	MW-2022-5 04/29/22 26-30	MW-2022-5 04/29/22 45-49	MW-2022-5 05/02/22 54-58
Thallium	8	6	66	mg/kg	ND(6.7)	ND(6.8)	ND(7.2)	ND(7.1)	ND(7.8)
Tin	--	45000	610000	mg/kg	ND(2.2)	1.8 J	ND(2.4)	ND(2.4)	ND(2.6)
Vanadium	600	520	7200	mg/kg	11.5	5.4	7.6	4.9	5.7
Zinc	2500	22000	310000	mg/kg	38.4 J	25.7	33.4	22.5	26.2
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.019)	ND(0.02)	ND(0.019)	ND(0.021)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018)	ND(0.019)	ND(0.02)	ND(0.019)	ND(0.021)
2,4-D	--	640	--	mg/kg	ND(0.018)	ND(0.019)	ND(0.02)	ND(0.019)	ND(0.021)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.35 J)	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.021)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Beta-BHC	--	0.3	0.96	mg/kg	R	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Delta-BHC	--	--	--	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Dieldrin	0.05	0.028	0.11	mg/kg	R	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Dimethoate	--	11	120	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Disulfoton	--	2.2	25	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Endosulfan I	--	--	--	mg/kg	R	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Endosulfan II	--	--	--	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Endrin	8	16	180	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Endrin Aldehyde	--	--	--	mg/kg	R	ND(0.0019)	ND(0.0019)	0.00061 J	ND(0.0021)
Endrin Ketone	--	--	--	mg/kg	R	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Ethyl Parathion	--	330	3700	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Famphur	--	--	--	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Heptachlor	0.2	0.099	0.38	mg/kg	R	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.035 J)	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Methoxychlor	200	270	3100	mg/kg	0.019 J	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0021)
Methyl Parathion	--	14	150	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Phorate	--	11	120	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Sulfotep	--	27	310	mg/kg	R	ND(0.038 J)	ND(0.039 J)	ND(0.037 J)	ND(0.042)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.35 J)	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.021)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.35 J)	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.021)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(18.7)	ND(20.9)	ND(21.3)	ND(20.2)	ND(23.3)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 05/02/22 61-64	MW-2022-6 05/02/22 0-1	MW 2022-6 05/03/22 12-16	MW-2022-6 05/03/22 26-30	MW-2022-6 05/03/22 40-44
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000062)	0.00027	0.000012	ND(0.000006)	ND(0.0000059)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000062)	0.000038	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000062)	0.0000029 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000062)	0.0000044 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000062)	0.000002 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000062)	0.0000086	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000062)	0.000001 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000062)	0.000011	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000062)	ND(0.0000059)	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000062)	0.0000028 JNX	ND(0.0000057)	0.00000018 J	0.00000019 J
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000062)	0.00000024 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000062)	0.0000015 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000062)	0.00000093 J	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000012)	0.000000087 JNX	0.00000034 J	0.000000062 JNX	ND(0.0000012)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000016 JNX	ND(0.0000012)	0.00000075 J	ND(0.0000012)	0.000000032 JNX
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000062)	0.000041	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000062)	0.00027	0.000012	ND(0.000006)	ND(0.0000059)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000062)	0.0000048 JNX	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000062)	0.000024 JNX	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000012)	0.00019	0.000011	ND(0.000012)	ND(0.000012)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000012)	0.0026	0.000081	ND(0.000012)	ND(0.000012)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000062)	0.0000012 JNX	ND(0.0000057)	ND(0.000006)	ND(0.0000059)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000062)	0.0000028 JNX	ND(0.0000057)	0.00000018 JNX	0.00000019 J
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000016 JNX	ND(0.0000012)	0.00000075 JNX	ND(0.0000012)	0.000000032 JNX
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000012)	0.000000087 JNX	0.00000034 JNX	0.000000062 JNX	ND(0.0000012)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000699	0.0000103	0.00000641	0.00000349	0.00000392
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Total PCBs	1	3.9	21	mg/kg	ND(0.29)	ND(0.23)	ND(0.21)	ND(0.23)	ND(0.26)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 05/02/22 61-64	MW-2022-6 05/02/22 0-1	MW 2022-6 05/03/22 12-16	MW-2022-6 05/03/22 26-30	MW-2022-6 05/03/22 40-44
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.029)	ND(0.029)	ND(0.043 J)	NA	ND(0.031 J)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.012)	ND(0.011)	ND(0.017 J)	NA	ND(0.012 J)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.029)	ND(0.029)	ND(0.043 J)	NA	ND(0.031 J)
Acetone	6	1400	610000	mg/kg	ND(0.029)	0.011 J	ND(0.043 J)	NA	ND(0.031 J)
Acetonitrile	--	200	3700	mg/kg	ND(0.058)	ND(0.057)	ND(0.086 J)	NA	ND(0.062 J)
Acrolein	--	0.1	0.68	mg/kg	ND(0.029)	ND(0.029)	ND(0.043 J)	NA	ND(0.031 J)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.029)	ND(0.029)	ND(0.043 J)	NA	ND(0.031 J)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Benzene	2	0.62	5.6	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Bromoform	0.1	56	220	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
CFC-11	--	380	3400	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
CFC-12	--	94	780	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Chloroethane	--	1600	62000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	0.00042 J
Chloromethane	--	1.2	510	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Dibromomethane	--	550	10000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Ethylbenzene	40	230	29	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Iodomethane	--	1.2	--	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
m,p-Xylene	--	--	--	mg/kg	ND(0.012)	ND(0.011)	ND(0.017 J)	NA	ND(0.012 J)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.029)	ND(0.029)	ND(0.043 J)	NA	ND(0.031 J)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.029)	ND(0.029)	ND(0.043 J)	NA	ND(0.031 J)
o-Xylene	--	280	23000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Propionitrile	--	200	--	mg/kg	ND(0.058)	ND(0.057)	ND(0.086 J)	NA	ND(0.062 J)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Toluene	30	520	46000	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)
Vinyl acetate	--	420	4200	mg/kg	ND(0.012)	ND(0.011)	ND(0.017 J)	NA	ND(0.012 J)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0058)	ND(0.0057)	ND(0.0086 J)	NA	ND(0.0062 J)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 05/02/22 61-64	MW-2022-6 05/02/22 0-1	MW 2022-6 05/03/22 12-16	MW-2022-6 05/03/22 26-30	MW-2022-6 05/03/22 40-44
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
1-Naphthylamine	--	--	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(2.1)	ND(1.9)	ND(1.9)	ND(2)	ND(2)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
2-Nitrophenol	--	--	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
2-Picoline	--	55	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.82)	ND(0.77)	ND(0.76)	ND(0.79)	ND(0.79)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
4-Methylphenol	--	270	3100	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.82)	ND(0.77)	ND(0.76)	ND(0.79)	ND(0.79)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.99)	ND(0.93)	ND(0.92)	ND(0.96)	ND(0.95)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 05/02/22 61-64	MW-2022-6 05/02/22 0-1	MW 2022-6 05/03/22 12-16	MW-2022-6 05/03/22 26-30	MW-2022-6 05/03/22 40-44
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Acenaphthene	4	2600	33000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Acenaphthylene	1	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Acetophenone	--	0.49	100000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Aniline	--	78	300	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Anthracene	1000	14000	170000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Aramite	--	18	69	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Benzidine	--	0.0019	0.0075	mg/kg	ND(6.2)	ND(5.8)	ND(5.8)	ND(6)	ND(6)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.21)	ND(0.2)	0.14 J	ND(0.2)	ND(0.2)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Chrysene	70	56	210	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Diallate	--	7.3	28	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Dibenzofuran	--	210	1600	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Dimethoate	--	11	120	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.21)	ND(0.2)	0.041 J	0.038 J	ND(0.2)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Dinoseb	--	55	620	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Diphenylamine	--	1400	15000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Disulfoton	--	2.2	25	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Famphur	--	--	--	mg/kg	R	R	R	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Fluorene	1000	1800	22000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Hexachloropropene	--	--	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Isodrin	--	--	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Isophorone	--	470	1800	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Isosafrole	--	--	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 05/02/22 61-64	MW-2022-6 05/02/22 0-1	MW 2022-6 05/03/22 12-16	MW-2022-6 05/03/22 26-30	MW-2022-6 05/03/22 40-44
Kepone	--	0.025	0.11	mg/kg	R	R	R	R	R
Methapyrilene	--	55	--	mg/kg	ND(1.9)	ND(1.7)	ND(1.7)	ND(1.8)	ND(1.8)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Methyl Parathion	--	14	150	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Naphthalene	4	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Nitrobenzene	--	16	22	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Phenacetin	--	640	780	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Phenanthrene	10	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Phenol	1	33000	180000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Phorate	--	11	120	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Pronamide	--	4100	46000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Pyrene	1000	1500	17000	mg/kg	ND(0.21)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Pyridine	--	55	1000	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Safrole	--	--	7.8	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Sulfotep	--	27	310	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Thionazin	--	330	--	mg/kg	ND(0.41)	ND(0.38)	ND(0.38)	ND(0.4)	ND(0.39)
Inorganics									
Antimony	20	30	410	mg/kg	ND(18.9)	ND(18.3)	1.3 J	0.81 J	0.55 J
Arsenic	20	0.38	1.6	mg/kg	**4.1**	**4.8**	**5.8**	**3.6**	**3.9**
Barium	1000	5200	190000	mg/kg	19.0	22.0	59.6	15.2	13.4
Beryllium	100	150	2000	mg/kg	0.18 J	0.31	0.42	0.20 J	0.20 J
Cadmium	2	37	800	mg/kg	ND(0.25)	0.17 J	0.17 J	0.057 J	0.10 J
Chromium	30	210	1400	mg/kg	4.5	6.3	9.6	4.0	4.5
Cobalt	--	3300	300	mg/kg	6.5	6.8	10.5	4.4	4.7
Copper	--	2800	41000	mg/kg	7.0	9.6	10.9	6.6	6.1
Cyanide	100	11	20000	mg/kg	ND(1.2)	ND(1.1)	ND(1.1)	ND(1.2)	ND(1.1)
Lead	300	400	800	mg/kg	6.8	10.5	17.4	6.3	5.4
Mercury	20	22	24	mg/kg	ND(0.026)	0.022 J	0.042	ND(0.022)	ND(0.024)
Nickel	20	1500	20000	mg/kg	9.9	12.4	14.5	12.0	8.2
Selenium	400	370	5100	mg/kg	ND(5.0)	ND(4.9)	ND(4.4)	ND(5.1)	ND(4.9)
Silver	100	370	5100	mg/kg	ND(0.76)	ND(0.73)	ND(0.67)	ND(0.77)	ND(0.73)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-5 05/02/22 61-64	MW-2022-6 05/02/22 0-1	MW 2022-6 05/03/22 12-16	MW-2022-6 05/03/22 26-30	MW-2022-6 05/03/22 40-44
Thallium	8	6	66	mg/kg	ND(7.6)	ND(7.3)	ND(6.7)	ND(7.7)	ND(7.3)
Tin	--	45000	610000	mg/kg	ND(2.5)	ND(2.4)	0.50 J	ND(2.6)	ND(2.4)
Vanadium	600	520	7200	mg/kg	5.9	10	17.2	5.0	5.7
Zinc	2500	22000	310000	mg/kg	29.3	45.5	64.7	35.8	27.9
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.021)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.02)
2,4,5-TP	--	440	4900	mg/kg	ND(0.021)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.02)
2,4-D	--	640	--	mg/kg	ND(0.021)	ND(0.02)	ND(0.019)	ND(0.02)	ND(0.02)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.021)	ND(0.096)	ND(0.019)	ND(0.02)	ND(0.02)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0021)	ND(0.0096)	0.00046 J	ND(0.002)	ND(0.002)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Delta-BHC	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Dimethoate	--	11	120	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Disulfoton	--	2.2	25	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Endosulfan I	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Endosulfan II	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Endrin	8	16	180	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Endrin Ketone	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Famphur	--	--	--	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0021)	ND(0.0096)	ND(0.0019)	ND(0.002)	ND(0.002)
Methoxychlor	200	270	3100	mg/kg	ND(0.0021)	0.0057 J	0.00065 J	ND(0.002)	ND(0.002)
Methyl Parathion	--	14	150	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Phorate	--	11	120	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Sulfotep	--	27	310	mg/kg	ND(0.04)	ND(0.038)	ND(0.039)	ND(0.04)	ND(0.039)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.021)	ND(0.096)	ND(0.019)	ND(0.02)	ND(0.02)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.021)	ND(0.096)	ND(0.019)	ND(0.02)	ND(0.02)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(21.8)	ND(21.2)	ND(21.4)	ND(21.8)	ND(22.1)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/03/22 0-1	MW-2022-7 05/04/22 12-16	MW-2022-7 05/04/22 28-32	MW-2022-7 05/04/22 43-47
Dioxins								
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	0.000014	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,7,8-PeCDD	--	--	--	mg/kg	0.00000021 JNX	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	0.000000014 J	ND(0.0000012)	0.000000021 J	ND(0.0000013) [ND(0.0000012)]
2,3,7,8-TCDF	--	--	--	mg/kg	0.0000001 JNX	ND(0.0000012)	ND(0.0000011)	0.000000019 JNX [ND(0.0000012)]
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.000014	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000012)	ND(0.000012)	ND(0.000011)	ND(0.000013) [ND(0.000012)]
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	0.0001	ND(0.000012)	ND(0.000011)	ND(0.000013) [ND(0.000012)]
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.000006)	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000021 JNX	ND(0.0000061)	ND(0.0000055)	ND(0.0000066) [ND(0.0000061)]
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.0000001 JNX	ND(0.0000012)	ND(0.0000011)	0.000000019 JNX [ND(0.0000012)]
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.000000014 JNX	ND(0.0000012)	0.000000021 JNX	ND(0.0000013) [ND(0.0000012)]
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000356	0.00000695	0.00000574	0.00000745 [0.00000695]
PCBs			--					
Aroclor 1016	--	--	21	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Aroclor 1221	--	--	0.62	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Aroclor 1232	--	--	0.62	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Aroclor 1242	--	--	0.74	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Aroclor 1248	--	--	0.74	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Aroclor 1254	--	--	0.74	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Aroclor 1260	--	--	0.74	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Total PCBs	1	3.9	21	mg/kg	ND(0.30)	ND(0.22)	ND(0.26)	ND(0.32) [ND(0.23)]
Volatile Organics			--					
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,1,1-Trichloroethane	30	680	39000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,1-Dichloroethane	0.4	570	17	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,1-Dichloroethene	3	0.052	1100	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/03/22 0-1	MW-2022-7 05/04/22 12-16	MW-2022-7 05/04/22 28-32	MW-2022-7 05/04/22 43-47
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
2-Butanone (MEK)	4	6900	190000	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	NA	ND(0.12)	ND(0.01)	ND(0.013) [ND(0.014)]
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
Acetone	6	1400	610000	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
Acetonitrile	--	200	3700	mg/kg	NA	ND(0.6)	ND(0.05)	ND(0.065) [ND(0.069)]
Acrolein	--	0.1	0.68	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
Acrylonitrile	--	0.19	1.2	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
Allyl chloride	--	2700	3.5	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Benzene	2	0.62	5.6	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Bromodichloromethane	0.1	0.98	1.4	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Bromoform	0.1	56	220	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Bromomethane	0.5	3.8	35	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Carbon Disulfide	--	350	3000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Carbon Tetrachloride	10	0.23	1.3	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
CFC-11	--	380	3400	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
CFC-12	--	94	780	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Chlorobenzene	1	54	1500	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Chloroethane	--	1600	62000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Chloroform	0.4	0.24	1.5	mg/kg	NA	ND(0.06)	0.001 J	ND(0.0065) [ND(0.0069)]
Chloromethane	--	1.2	510	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
cis-1,3-Dichloropropene	--	--	--	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Dibromomethane	--	550	10000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Dichloromethane	0.1	8.5	54	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Ethyl Methacrylate	--	140	92000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Ethylbenzene	40	230	29	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Iodomethane	--	1.2	--	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
m,p-Xylene	--	--	--	mg/kg	NA	ND(0.12)	ND(0.01)	ND(0.013) [ND(0.014)]
Methacrylonitrile	--	1.8	18	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
Methyl Methacrylate	--	2200	20000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	NA	ND(0.3)	ND(0.025)	ND(0.033) [ND(0.035)]
o-Xylene	--	280	23000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Propionitrile	--	200	--	mg/kg	NA	ND(0.6)	ND(0.05)	ND(0.065) [ND(0.069)]
Styrene (Monomer)	3	1700	38000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Tetrachloroethene	1	4.7	2.7	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Toluene	30	520	46000	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
trans-1,2-Dichloroethene	1	62	500	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
trans-1,3-Dichloropropene	--	--	--	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Trichloroethene	0.3	2.7	14	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]
Vinyl acetate	--	420	4200	mg/kg	NA	ND(0.12)	ND(0.01)	ND(0.013) [ND(0.014)]
Vinyl chloride	0.6	0.021	1.7	mg/kg	NA	ND(0.06)	ND(0.005)	ND(0.0065) [ND(0.0069)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/03/22 0-1	MW-2022-7 05/04/22 12-16	MW-2022-7 05/04/22 28-32	MW-2022-7 05/04/22 43-47
Semivolatile Organics								
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.12)	ND(0.12)	ND(0.11)	ND(0.13) [ND(0.12)]
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
1-Naphthylamine	--	--	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(2)	ND(2)	ND(1.8)	ND(2.2) [ND(2)]
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2-Methylphenol	--	2700	31000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
2-Nitrophenol	--	--	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
2-Picoline	--	55	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.8)	ND(0.79)	ND(0.74)	ND(0.88) [ND(0.8)]
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
3-Methylphenol	--	2700	31000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
4-Methylphenol	--	270	3100	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
4-Nitrophenol	--	3400	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.8)	ND(0.79)	ND(0.74)	ND(0.88) [ND(0.8)]
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.96)	ND(0.96)	ND(0.89)	ND(1.1) [ND(0.97)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/03/22 0-1	MW-2022-7 05/04/22 12-16	MW-2022-7 05/04/22 28-32	MW-2022-7 05/04/22 43-47
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Acenaphthene	4	2600	33000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Acenaphthylene	1	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Acetophenone	--	0.49	100000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Aniline	--	78	300	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Anthracene	1000	14000	170000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Aramite	--	18	69	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Benzidine	--	0.0019	0.0075	mg/kg	ND(6)	ND(6)	ND(5.6)	ND(6.7) [ND(6)]
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Chrysene	70	56	210	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Diallate	--	7.3	28	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Dibenzofuran	--	210	1600	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Dimethoate	--	11	120	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Di-n-butyl phthalate	--	5500	62000	mg/kg	0.035 J	ND(0.2)	0.035 J	ND(0.23) [0.069 J]
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Dinoseb	--	55	620	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Diphenylamine	--	1400	15000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Disulfoton	--	2.2	25	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Ethyl Parathion	--	330	3700	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Famphur	--	--	--	mg/kg	R	R	R	R [R]
Fluoranthene	1000	2000	22000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Fluorene	1000	1800	22000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Hexachloroethane	0.7	32	120	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Hexachloropropene	--	--	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Isodrin	--	--	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Isophorone	--	470	1800	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Isosafrole	--	--	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/03/22 0-1	MW-2022-7 05/04/22 12-16	MW-2022-7 05/04/22 28-32	MW-2022-7 05/04/22 43-47
Kepone	--	0.025	0.11	mg/kg	R	R	R	R [R]
Methapyrilene	--	55	--	mg/kg	ND(1.8)	ND(1.8)	ND(1.7)	ND(2) [ND(1.8)]
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Methyl Parathion	--	14	150	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Naphthalene	4	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Nitrobenzene	--	16	22	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Pentachlorobenzene	--	44	490	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Phenacetin	--	640	780	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Phenanthrene	10	55	20	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Phenol	1	33000	180000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Phorate	--	11	120	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Pronamide	--	4100	46000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Pyrene	1000	1500	17000	mg/kg	ND(0.21)	ND(0.2)	ND(0.19)	ND(0.23) [ND(0.21)]
Pyridine	--	55	1000	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Safrole	--	--	7.8	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Sulfotep	--	27	310	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Thionazin	--	330	--	mg/kg	ND(0.4)	ND(0.39)	ND(0.37)	ND(0.44) [ND(0.4)]
Inorganics								
Antimony	20	30	410	mg/kg	0.85 J	ND(18.0)	ND(16.6)	ND(21.1) [0.50 J]
Arsenic	20	0.38	1.6	mg/kg	**6.0**	**2.8**	**2.5**	**4.0 [3.1]**
Barium	1000	5200	190000	mg/kg	37.2	14.2	15.3	15.0 [14.0]
Beryllium	100	150	2000	mg/kg	0.47	0.19 J	0.16 J	0.19 J [0.16 J]
Cadmium	2	37	800	mg/kg	0.13 J	0.078 J	0.067 J	0.13 J [0.080 J]
Chromium	30	210	1400	mg/kg	9.6	3.9	3.5	4.5 [4.2]
Cobalt	--	3300	300	mg/kg	9.3	5.6	5.2	5.8 [4.7]
Copper	--	2800	41000	mg/kg	11.2	5.4	5.8	6.2 [5.2]
Cyanide	100	11	20000	mg/kg	ND(1.2)	ND(1.2)	ND(1.1)	ND(1.2) [ND(1.1)]
Lead	300	400	800	mg/kg	16.6	6.0	4.5	6.2 [5.1]
Mercury	20	22	24	mg/kg	0.048	ND(0.026)	ND(0.022)	ND(0.026) [ND(0.024)]
Nickel	20	1500	20000	mg/kg	18.5	7.9	7.8	9.2 [7.7]
Selenium	400	370	5100	mg/kg	ND(5.1)	ND(4.8)	ND(4.4)	ND(5.6) [ND(4.9)]
Silver	100	370	5100	mg/kg	ND(0.76)	ND(0.72)	ND(0.66)	ND(0.84) [ND(0.74)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/03/22 0-1	MW-2022-7 05/04/22 12-16	MW-2022-7 05/04/22 28-32	MW-2022-7 05/04/22 43-47
Thallium	8	6	66	mg/kg	ND(7.6)	ND(7.2)	ND(6.6)	ND(8.4) [ND(7.4)]
Tin	--	45000	610000	mg/kg	ND(2.5)	ND(2.4)	ND(2.2)	ND(2.8) [ND(2.5)]
Vanadium	600	520	7200	mg/kg	14.9	5.3	4.4	5.7 [4.9]
Zinc	2500	22000	310000	mg/kg	61.9	25.3	21.9	28.6 [24.7]
Pesticides								
2,4,5-T	--	550	6200	mg/kg	ND(0.02)	ND(0.02)	ND(0.018)	ND(0.022) [ND(0.02)]
2,4,5-TP	--	440	4900	mg/kg	ND(0.02)	ND(0.02)	ND(0.018)	ND(0.022) [ND(0.02)]
2,4-D	--	640	--	mg/kg	ND(0.02)	ND(0.02)	ND(0.018)	ND(0.022) [ND(0.02)]
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
4,4'-DDT	3	1.7	7	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.02)	ND(0.02)	ND(0.019)	ND(0.022) [ND(0.02)]
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Alpha-Chlordane	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Delta-BHC	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Dimethoate	--	11	120	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Disulfoton	--	2.2	25	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Endosulfan I	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Endosulfan II	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Endrin	8	16	180	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Endrin Aldehyde	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Endrin Ketone	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Ethyl Parathion	--	330	3700	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Famphur	--	--	--	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Gamma-Chlordane	--	--	--	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Methoxychlor	200	270	3100	mg/kg	ND(0.002)	ND(0.002)	ND(0.0019)	ND(0.0022) [ND(0.002)]
Methyl Parathion	--	14	150	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Phorate	--	11	120	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Sulfotep	--	27	310	mg/kg	ND(0.04)	ND(0.04)	ND(0.036)	ND(0.043) [ND(0.04)]
Technical Chlordane	--	1.6	--	mg/kg	ND(0.02)	ND(0.02)	ND(0.019)	ND(0.022) [ND(0.02)]
Toxaphene	--	0.4	1.6	mg/kg	ND(0.02)	ND(0.02)	ND(0.019)	ND(0.022) [ND(0.02)]
Wet Chemistry								
Sulfide	--	350	3000	mg/kg	ND(23.6)	ND(21.6)	ND(20.1)	ND(24.5) [ND(22.0)]

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/04/22 58 62	MW 2022-7 05/05/22 80-84	MW-2022-8 04/07/22 0-1	MW-2022-8 04/07/22 13-15
Dioxins								
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.0000062 [0.000016]	ND(0.0000057)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.0000019 J [0.0000051 J]	ND(0.0000057)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [ND(0.0000055)]	ND(0.0000057)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.00000018 JNX [0.00000047 J]	0.00000012 JNX
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [0.00000061 JNX]	ND(0.0000057)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.00000022 J [0.00000074 J]	ND(0.0000057)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.0000003 JNX [0.00000056 JNX]	ND(0.0000057)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [0.0000007 JNX]	ND(0.0000057)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [ND(0.0000055)]	ND(0.0000057)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000055)	0.00000024 JNX	0.00000013 JNX [0.00000033 JNX]	ND(0.0000057)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.0000002 JNX [0.00000029 J]	ND(0.0000057)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [0.00000092 J]	ND(0.0000057)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [0.0000009 J]	ND(0.0000057)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	0.000000042 J	0.0000009 JNX [0.0000042]	0.000000037 JNX
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000011)	0.000000068 JNX	0.00000018 J [0.00000064 J]	ND(0.0000011)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.0000021 JNX [0.0000054 JNX]	ND(0.0000057)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.0000062 [0.000016]	ND(0.0000057)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [0.0000021 JNX]	ND(0.0000057)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	0.00000071 JNX [0.0000019 JNX]	ND(0.0000057)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	ND(0.000012)	0.0000042 JNX [0.000011 JNX]	ND(0.000011)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	ND(0.000012)	0.000056 J [0.00014]	ND(0.000011)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000061)	ND(0.0000052) [0.0000012 JNX]	ND(0.0000057)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000055)	0.00000024 JNX	0.00000013 JNX [0.00000033 JNX]	ND(0.0000057)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000011)	0.000000068 JNX	0.00000018 JNX [0.00000064 JNX]	ND(0.0000011)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	0.000000042 JNX	0.0000009 JNX [0.0000042 JNX]	0.000000037 JNX
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000627	0.00000353	0.00000307 [0.00000583]	0.00000569
PCBs			--					
Aroclor 1016	--	--	21	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Total PCBs	1	3.9	21	mg/kg	ND(0.22)	ND(0.30)	ND(0.24) [ND(0.21)]	ND(0.23)
Volatile Organics			--					
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/04/22 58 62	MW 2022-7 05/05/22 80-84	MW-2022-8 04/07/22 0-1	MW-2022-8 04/07/22 13-15
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.011)	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.009)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
Acetone	6	1400	610000	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
Acetonitrile	--	200	3700	mg/kg	ND(0.054)	ND(0.052)	ND(0.052) [ND(0.051)]	ND(0.045)
Acrolein	--	0.1	0.68	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Benzene	2	0.62	5.6	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Bromoform	0.1	56	220	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
CFC-11	--	380	3400	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
CFC-12	--	94	780	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Chloroethane	--	1600	62000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Chloroform	0.4	0.24	1.5	mg/kg	0.00093 J	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Chloromethane	--	1.2	510	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Dibromomethane	--	550	10000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Ethylbenzene	40	230	29	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Iodomethane	--	1.2	--	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
m,p-Xylene	--	--	--	mg/kg	ND(0.011)	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.009)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.027)	ND(0.026)	ND(0.026) [ND(0.025)]	ND(0.022)
o-Xylene	--	280	23000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Propionitrile	--	200	--	mg/kg	ND(0.054)	ND(0.052)	ND(0.052) [ND(0.051)]	ND(0.045)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Toluene	30	520	46000	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)
Vinyl acetate	--	420	4200	mg/kg	ND(0.011)	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.009)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0054)	ND(0.0052)	ND(0.0052) [ND(0.0051)]	ND(0.0045)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/04/22 58 62	MW 2022-7 05/05/22 80-84	MW-2022-8 04/07/22 0-1	MW-2022-8 04/07/22 13-15
Semivolatile Organics								
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.12)	ND(0.11) [ND(0.54)]	ND(0.11)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
1-Naphthylamine	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.9)	ND(2)	ND(1.8) [ND(9)]	ND(1.9)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
2-Picoline	--	55	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.74)	ND(0.79)	ND(0.71) [ND(3.6)]	ND(0.75)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.74)	ND(0.79)	ND(0.71) [ND(3.6)]	ND(0.75)
4-Phenylenediamine	--	10000	120000	mg/kg	R	ND(0.95)	R [R]	R

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/04/22 58 62	MW 2022-7 05/05/22 80-84	MW-2022-8 04/07/22 0-1	MW-2022-8 04/07/22 13-15
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	R	ND(0.39)	R [R]	R
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Aniline	--	78	300	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Aramite	--	18	69	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Benzidine	--	0.0019	0.0075	mg/kg	R	ND(6)	R [ND(27)]	ND(5.7)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	0.019 J [ND(0.92)]	ND(0.19)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	0.03 J [ND(0.92)]	ND(0.19)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.2)	0.026 J [ND(0.92)]	ND(0.19)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	0.072 J
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Diallate	--	7.3	28	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Dimethoate	--	11	120	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Di-n-butyl phthalate	--	5500	62000	mg/kg	0.036 J	0.054 J	ND(0.18) [ND(0.92)]	ND(0.19)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Dinoseb	--	55	620	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Diphenylamine	--	1400	15000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Disulfoton	--	2.2	25	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Famphur	--	--	--	mg/kg	R	R	ND(0.71) [ND(3.6)]	ND(0.75)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.2)	0.028 J [ND(0.92)]	ND(0.19)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Hexachloropropene	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	0.023 J [ND(0.92)]	ND(0.19)
Isodrin	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Isosafrole	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/04/22 58 62	MW 2022-7 05/05/22 80-84	MW-2022-8 04/07/22 0-1	MW-2022-8 04/07/22 13-15
Kepone	--	0.025	0.11	mg/kg	R	R	ND(0.71) [ND(3.6)]	ND(0.75)
Methapyrilene	--	55	--	mg/kg	ND(1.7)	ND(1.8)	ND(1.6) [ND(8.1)]	ND(1.7)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Methyl Parathion	--	14	150	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Phenacetin	--	640	780	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18) [ND(0.92)]	ND(0.19)
Phorate	--	11	120	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Pronamide	--	4100	46000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Pyrene	1000	1500	17000	mg/kg	ND(0.19)	ND(0.2)	0.027 J [ND(0.92)]	ND(0.19)
Pyridine	--	55	1000	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Safrole	--	--	7.8	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Sulfotep	--	27	310	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Thionazin	--	330	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.35) [ND(1.8)]	ND(0.37)
Inorganics								
Antimony	20	30	410	mg/kg	ND(17.5)	1.7 J	3.4 J [2.9 J]	2.0 J
Arsenic	20	0.38	1.6	mg/kg	**3.0**	**4.1**	**5.3 [8.1]**	**3.5**
Barium	1000	5200	190000	mg/kg	19.0	17.4	22.5 J [43.5 J]	20.1
Beryllium	100	150	2000	mg/kg	0.21 J	0.20 J	0.26 [0.34]	0.21 J
Cadmium	2	37	800	mg/kg	0.080 J	0.054 J	0.11 J [0.14 J]	0.050 J
Chromium	30	210	1400	mg/kg	5.4	5.1	6.5 [8.3]	4.7
Cobalt	--	3300	300	mg/kg	5.2	5.0	7.5 [7.9]	5.0
Copper	--	2800	41000	mg/kg	6.6	7.7	8.5 [12.1]	7.2
Cyanide	100	11	20000	mg/kg	ND(1.0)	R	ND(1.0) [ND(0.97)]	ND(1.1)
Lead	300	400	800	mg/kg	5.8	5.5	7.4 J [15.4 J]	5.9
Mercury	20	22	24	mg/kg	ND(0.023)	ND(0.025 J)	0.0092 J [0.47 J]	ND(0.023)
Nickel	20	1500	20000	mg/kg	9.4	9.3	12.6 [13.0]	8.5
Selenium	400	370	5100	mg/kg	ND(4.7)	ND(4.8)	1.4 J [1.4 J]	0.51 J
Silver	100	370	5100	mg/kg	ND(0.70)	ND(0.71)	ND(0.68) [ND(0.69)]	ND(0.69)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-7 05/04/22 58 62	MW 2022-7 05/05/22 80-84	MW-2022-8 04/07/22 0-1	MW-2022-8 04/07/22 13-15
Thallium	8	6	66	mg/kg	ND(7.0)	ND(7.1)	ND(6.8) [ND(6.9)]	ND(6.9)
Tin	--	45000	610000	mg/kg	ND(2.3)	0.53 J	ND(2.3) [ND(2.3)]	ND(2.3)
Vanadium	600	520	7200	mg/kg	6.4	6.3	9.0 [11.6]	6.2
Zinc	2500	22000	310000	mg/kg	28.4	28.2	37.4 [48.2]	28.2
Pesticides								
2,4,5-T	--	550	6200	mg/kg	ND(0.019)	ND(0.02)	ND(0.018) [ND(0.018)]	ND(0.019)
2,4,5-TP	--	440	4900	mg/kg	ND(0.019)	ND(0.02)	ND(0.018) [ND(0.018)]	ND(0.019)
2,4-D	--	640	--	mg/kg	ND(0.019)	ND(0.02)	ND(0.018) [ND(0.018)]	ND(0.019)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0019)	ND(0.002)	0.00044 J [ND(0.0018)]	ND(0.0019)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0019)	ND(0.002)	0.0047 [0.0071]	ND(0.0019)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.019)	ND(0.02)	ND(0.018) [ND(0.018)]	ND(0.019)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Delta-BHC	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Dimethoate	--	11	120	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Disulfoton	--	2.2	25	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Endosulfan I	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Endosulfan II	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Endrin	8	16	180	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	0.00062 J
Endrin Ketone	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Famphur	--	--	--	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Methoxychlor	200	270	3100	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0018) [ND(0.0018)]	ND(0.0019)
Methyl Parathion	--	14	150	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Phorate	--	11	120	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Sulfotep	--	27	310	mg/kg	ND(0.037)	ND(0.04)	ND(0.035) [ND(0.036)]	ND(0.038)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.019)	ND(0.02)	ND(0.018) [ND(0.018)]	ND(0.019)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.019)	ND(0.02)	ND(0.018) [ND(0.018)]	ND(0.019)
Wet Chemistry								
Sulfide	--	350	3000	mg/kg	ND(21.7)	R	ND(20.1) [ND(19.9)]	ND(20.5)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-8 04/08/22 27-30	MW-2022-8 04/08/22 43 46	MW-2022-8 04/08/22 58-62	MW-2022-8 04/08/22 68-70	MW-2022-9 04/01/22 0-1
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.000011
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.0000025 J
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	0.000000033 JNX	0.000000066 JNX	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.00000067 JNX
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.00000045 JNX
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.00000018 J
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000057)	0.00000016 JNX	0.00000011 JNX	ND(0.0000059)	ND(0.0000065)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000057)	0.00000024 JNX	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.00000025 JNX
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.00000052 JNX
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	0.00000012 JNX	0.0000001 JNX	ND(0.0000012)	ND(0.0000013)
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000011)	0.000000048 JNX	0.000000017 JNX	ND(0.0000012)	0.0000024
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.0000025 J
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.000011
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	0.0000013 JNX
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	ND(0.000012)	ND(0.000011)	ND(0.000012)	0.0000091 J
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	ND(0.000012)	ND(0.000011)	ND(0.000012)	0.00019
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000058)	ND(0.0000056)	ND(0.0000059)	ND(0.0000065)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000057)	0.00000016 JNX	0.00000011 JNX	ND(0.0000059)	ND(0.0000065)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000011)	0.000000048 JNX	0.000000017 JNX	ND(0.0000012)	0.0000024 JNX
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	0.00000012 JNX	0.0000001 JNX	ND(0.0000012)	ND(0.0000013)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.0000062	0.000003	0.00000318	0.00000674	0.00000575
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Total PCBs	1	3.9	21	mg/kg	ND(0.22)	ND(0.27)	ND(0.23)	ND(0.26)	ND(0.32)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-8 04/08/22 27-30	MW-2022-8 04/08/22 43 46	MW-2022-8 04/08/22 58-62	MW-2022-8 04/08/22 68-70	MW-2022-9 04/01/22 0-1
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.074)	ND(0.022)	ND(0.022)	ND(0.023)	ND(0.022)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.029)	ND(0.009)	ND(0.0089)	ND(0.0094)	ND(0.0087)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.074)	ND(0.022)	ND(0.022)	ND(0.023)	ND(0.022)
Acetone	6	1400	610000	mg/kg	0.029 J	ND(0.022)	ND(0.022)	0.004 J	ND(0.022)
Acetonitrile	--	200	3700	mg/kg	ND(0.15)	ND(0.045)	ND(0.044)	ND(0.047)	ND(0.044)
Acrolein	--	0.1	0.68	mg/kg	ND(0.074)	ND(0.022)	ND(0.022)	ND(0.023)	ND(0.022)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.074)	ND(0.022)	ND(0.022)	ND(0.023)	ND(0.022)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Benzene	2	0.62	5.6	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Bromoform	0.1	56	220	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
CFC-11	--	380	3400	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
CFC-12	--	94	780	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Chlorobenzene	1	54	1500	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Chloroethane	--	1600	62000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Chloromethane	--	1.2	510	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Dibromomethane	--	550	10000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Ethylbenzene	40	230	29	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Iodomethane	--	1.2	--	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
m,p-Xylene	--	--	--	mg/kg	ND(0.029)	ND(0.009)	ND(0.0089)	ND(0.0094)	ND(0.0087)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.074)	ND(0.022)	ND(0.022)	ND(0.023)	ND(0.022)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.074)	ND(0.022)	ND(0.022)	ND(0.023)	ND(0.022)
o-Xylene	--	280	23000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Propionitrile	--	200	--	mg/kg	ND(0.15)	ND(0.045)	ND(0.044)	ND(0.047)	ND(0.044)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Toluene	30	520	46000	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)
Vinyl acetate	--	420	4200	mg/kg	ND(0.029)	ND(0.009)	ND(0.0089)	ND(0.0094)	ND(0.0087)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.015)	ND(0.0045)	ND(0.0044)	ND(0.0047)	ND(0.0044)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-8 04/08/22 27-30	MW-2022-8 04/08/22 43 46	MW-2022-8 04/08/22 58-62	MW-2022-8 04/08/22 68-70	MW-2022-9 04/01/22 0-1
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.12)	ND(0.11)	ND(0.12)	ND(6.6)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
1-Naphthylamine	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.9)	ND(1.9)	ND(1.8)	ND(2)	R
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
2-Picoline	--	55	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.74)	ND(0.78)	ND(0.72)	ND(0.79)	ND(43)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.74)	ND(0.78)	ND(0.72)	ND(0.79)	ND(43)
4-Phenylenediamine	--	10000	120000	mg/kg	R	R	R	R	ND(52)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-8 04/08/22 27-30	MW-2022-8 04/08/22 43 46	MW-2022-8 04/08/22 58-62	MW-2022-8 04/08/22 68-70	MW-2022-9 04/01/22 0-1
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	R	R	R	R	ND(22)
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Aniline	--	78	300	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Aramite	--	18	69	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.6)	ND(5.9)	ND(5.5)	ND(6)	ND(330)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	0.067 J	0.11 J	0.1 J	ND(0.2)	5.2 J
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Diallate	--	7.3	28	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Dimethoate	--	11	120	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Dinoseb	--	55	620	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Diphenylamine	--	1400	15000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Disulfoton	--	2.2	25	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Famphur	--	--	--	mg/kg	ND(0.74)	ND(0.78)	ND(0.72)	ND(0.79)	ND(43)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Hexachloropropene	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Isodrin	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Isosafrole	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-8 04/08/22 27-30	MW-2022-8 04/08/22 43 46	MW-2022-8 04/08/22 58-62	MW-2022-8 04/08/22 68-70	MW-2022-9 04/01/22 0-1
Kepone	--	0.025	0.11	mg/kg	ND(0.74)	ND(0.78)	ND(0.72)	ND(0.79)	ND(43)
Methapyrilene	--	55	--	mg/kg	ND(1.7)	ND(1.8)	ND(1.6)	ND(1.8)	ND(98)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Methyl Parathion	--	14	150	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	R
Phenacetin	--	640	780	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	R
Phorate	--	11	120	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Pronamide	--	4100	46000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Pyrene	1000	1500	17000	mg/kg	ND(0.19)	ND(0.2)	ND(0.19)	ND(0.2)	ND(11)
Pyridine	--	55	1000	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Safrole	--	--	7.8	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Sulfotep	--	27	310	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Thionazin	--	330	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.36)	ND(0.39)	ND(22)
Inorganics									
Antimony	20	30	410	mg/kg	1.8 J	1.8 J	2.1 J	2.6 J	ND(20.7)
Arsenic	20	0.38	1.6	mg/kg	**3.0**	**3.3**	**3.7**	**3.9**	**1.5 J**
Barium	1000	5200	190000	mg/kg	21.2	16.8	17.7	28.1	29.7
Beryllium	100	150	2000	mg/kg	0.23	0.21 J	0.20 J	0.23 J	0.19 J
Cadmium	2	37	800	mg/kg	0.076 J	0.069 J	0.060 J	0.078 J	0.15 J
Chromium	30	210	1400	mg/kg	5.0	5.0	4.9	4.3	5.5
Cobalt	--	3300	300	mg/kg	6.2	5.2	5.7	11.6	4.7
Copper	--	2800	41000	mg/kg	7.7	7.2	7.0	11.1	18.9
Cyanide	100	11	20000	mg/kg	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.2)
Lead	300	400	800	mg/kg	5.3	5.4	5.8	6.1	5.9
Mercury	20	22	24	mg/kg	ND(0.022)	ND(0.024)	ND(0.021)	ND(0.025)	0.012 J
Nickel	20	1500	20000	mg/kg	9.8	8.8	9.0	12.1	7.6
Selenium	400	370	5100	mg/kg	0.54 J	ND(4.9)	ND(4.7)	1.1 J	ND(5.5)
Silver	100	370	5100	mg/kg	ND(0.67)	ND(0.74)	ND(0.71)	ND(0.77)	0.36 J

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-8 04/08/22 27-30	MW-2022-8 04/08/22 43 46	MW-2022-8 04/08/22 58-62	MW-2022-8 04/08/22 68-70	MW-2022-9 04/01/22 0-1
Thallium	8	6	66	mg/kg	ND(6.7)	ND(7.4)	ND(7.1)	ND(7.7)	ND(8.3)
Tin	--	45000	610000	mg/kg	ND(2.2)	ND(2.5)	ND(2.4)	ND(2.6)	3.2
Vanadium	600	520	7200	mg/kg	6.0	6.2	6.1	5.9	6.1
Zinc	2500	22000	310000	mg/kg	26.0	27.3	28.7	29.9	54.6
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.019)	ND(0.02)	ND(0.018)	ND(0.02)	ND(0.022)
2,4,5-TP	--	440	4900	mg/kg	ND(0.019)	ND(0.02)	ND(0.018)	ND(0.02)	ND(0.022)
2,4-D	--	640	--	mg/kg	ND(0.019)	ND(0.02)	ND(0.018)	ND(0.02)	ND(0.022)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.018)	ND(0.02)	ND(0.018)	ND(0.02)	ND(0.022)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Delta-BHC	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Dimethoate	--	11	120	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Disulfoton	--	2.2	25	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Endosulfan I	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Endosulfan II	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Endrin	8	16	180	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Endrin Aldehyde	--	--	--	mg/kg	0.0011 J	0.0012 J	0.0012 J	ND(0.002)	ND(0.0022)
Endrin Ketone	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	0.0041
Ethyl Parathion	--	330	3700	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Famphur	--	--	--	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Methoxychlor	200	270	3100	mg/kg	ND(0.0018)	ND(0.002)	ND(0.0018)	ND(0.002)	ND(0.0022)
Methyl Parathion	--	14	150	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Phorate	--	11	120	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Sulfotep	--	27	310	mg/kg	ND(0.037)	ND(0.039)	ND(0.036)	ND(0.04)	ND(0.043)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.018)	ND(0.02)	ND(0.018)	ND(0.02)	ND(0.022)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.018)	ND(0.02)	ND(0.018)	ND(0.02)	ND(0.022)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(20.8)	ND(21.5)	ND(20.5)	ND(21.6)	ND(22.5)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-9 04/01/22 14-18	MW-2022-9 04/01/22 26 30	MW-2022-9 04/01/22 36-40	PZ-2022-1 04/21/22 0-1	PZ-2022-1 04/25/22 12-16
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000052)	0.0000022 J	ND(0.0000056)	ND(0.0000055)	0.0000012 J
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000052)	0.0000017 JNX	ND(0.0000056)	0.00000016 JNX	0.00000045 J
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000052)	0.00000088 J	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	0.0000001 JNX	ND(0.0000063)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000052)	0.00000009 JNX	0.000000026 JNX	0.000000068 JNX	ND(0.0000063)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	0.000000048 JNX	0.000000089 JNX	0.000000041 JNX	ND(0.0000055)	ND(0.0000063)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000052)	0.00000064 J	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	0.000000013 JNX	0.00000021 JNX	0.000000042 JNX	ND(0.0000055)	ND(0.0000063)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000052)	0.0000005 JNX	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.000001)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	0.000000068 JNX
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000035 JNX	ND(0.0000011)	0.000000097 JNX	ND(0.0000011)	ND(0.0000013)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000052)	0.0000021 JNX	ND(0.0000056)	0.00000016 JNX	ND(0.0000063)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000052)	0.0000022 J	ND(0.0000056)	ND(0.0000055)	0.0000012 J
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	0.00000053 JNX
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.00001)	0.0000035 J	ND(0.000011)	ND(0.000011)	0.00000069 J
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.00001)	0.000023	ND(0.000011)	0.0000046 JNX	0.0000067 J
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000057)	ND(0.0000056)	ND(0.0000055)	ND(0.0000063)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000035 JNX	ND(0.0000011)	0.000000097 JNX	ND(0.0000011)	ND(0.0000013)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.000001)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	0.000000068 JNX
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000535	0.00000468	0.0000055	0.00000571	0.00000658
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Total PCBs	1	3.9	21	mg/kg	ND(0.22)	ND(0.26)	ND(0.24)	ND(0.22)	ND(0.26)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-9 04/01/22 14-18	MW-2022-9 04/01/22 26 30	MW-2022-9 04/01/22 36-40	PZ-2022-1 04/21/22 0-1	PZ-2022-1 04/25/22 12-16
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.024)	ND(0.022)	ND(0.03)	ND(0.027)	ND(0.023)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0097)	ND(0.0088)	ND(0.012)	ND(0.011)	ND(0.0091)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.024)	ND(0.022)	ND(0.03)	ND(0.027)	ND(0.023)
Acetone	6	1400	610000	mg/kg	ND(0.024)	ND(0.022)	0.016 J	ND(0.027)	ND(0.023)
Acetonitrile	--	200	3700	mg/kg	ND(0.049)	ND(0.044)	ND(0.06)	ND(0.055)	ND(0.046)
Acrolein	--	0.1	0.68	mg/kg	ND(0.024)	ND(0.022)	ND(0.03)	ND(0.027)	ND(0.023)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.024)	ND(0.022)	ND(0.03)	ND(0.027)	ND(0.023)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Benzene	2	0.62	5.6	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Bromoform	0.1	56	220	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
CFC-11	--	380	3400	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
CFC-12	--	94	780	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Chloroethane	--	1600	62000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Chloromethane	--	1.2	510	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Dibromomethane	--	550	10000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Ethylbenzene	40	230	29	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Iodomethane	--	1.2	--	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
m,p-Xylene	--	--	--	mg/kg	ND(0.0097)	ND(0.0088)	ND(0.012)	ND(0.011)	ND(0.0091)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.024)	ND(0.022)	ND(0.03)	ND(0.027)	ND(0.023)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.024)	ND(0.022)	ND(0.03)	ND(0.027)	ND(0.023)
o-Xylene	--	280	23000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Propionitrile	--	200	--	mg/kg	ND(0.049)	ND(0.044)	ND(0.06)	ND(0.055)	ND(0.046)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Toluene	30	520	46000	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0097)	ND(0.0088)	ND(0.012)	ND(0.011)	ND(0.0091)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0049)	ND(0.0044)	ND(0.006)	ND(0.0055)	ND(0.0046)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-9 04/01/22 14-18	MW-2022-9 04/01/22 26 30	MW-2022-9 04/01/22 36-40	PZ-2022-1 04/21/22 0-1	PZ-2022-1 04/25/22 12-16
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1,4-Dioxane	0.2	40	160	mg/kg	ND(1)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
1-Naphthylamine	--	--	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(17)	ND(1.9)	ND(1.8)	ND(1.8)	ND(2.1)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2-Methylphenol	--	2700	31000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2-Naphthylamine	--	--	0.96	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
2-Nitrophenol	--	--	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
2-Picoline	--	55	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(6.8)	ND(0.75)	ND(0.73)	ND(0.72)	ND(0.82)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
3-Methylphenol	--	2700	31000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
3-Nitroaniline	--	5.5	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
4-Methylphenol	--	270	3100	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
4-Nitroaniline	--	5.5	86	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
4-Nitrophenol	--	3400	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(6.8)	ND(0.75)	ND(0.73)	ND(0.72)	ND(0.82)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(8.2)	ND(0.91)	ND(0.89)	R	R

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-9 04/01/22 14-18	MW-2022-9 04/01/22 26 30	MW-2022-9 04/01/22 36-40	PZ-2022-1 04/21/22 0-1	PZ-2022-1 04/25/22 12-16
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	R	ND(0.41)
Acenaphthene	4	2600	33000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Acenaphthylene	1	55	20	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Acetophenone	--	0.49	100000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Aniline	--	78	300	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Anthracene	1000	14000	170000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Aramite	--	18	69	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Benzidine	--	0.0019	0.0075	mg/kg	ND(51)	R	ND(5.5)	R	ND(6.2)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	2.9	0.29	0.21	ND(0.18)	ND(0.21)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Chrysene	70	56	210	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Diallate	--	7.3	28	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Dibenzofuran	--	210	1600	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Diethyl phthalate	10	44000	490000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Dimethoate	--	11	120	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Dimethyl phthalate	30	100000	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Dinoseb	--	55	620	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Diphenylamine	--	1400	15000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Disulfoton	--	2.2	25	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Ethyl Parathion	--	330	3700	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Famphur	--	--	--	mg/kg	ND(6.8)	ND(0.75)	ND(0.73)	ND(0.72)	R
Fluoranthene	1000	2000	22000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Fluorene	1000	1800	22000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Hexachloroethane	0.7	32	120	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Hexachloropropene	--	--	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Isodrin	--	--	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Isophorone	--	470	1800	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Isosafrole	--	--	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-9 04/01/22 14-18	MW-2022-9 04/01/22 26 30	MW-2022-9 04/01/22 36-40	PZ-2022-1 04/21/22 0-1	PZ-2022-1 04/25/22 12-16
Kepone	--	0.025	0.11	mg/kg	ND(6.8)	ND(0.75)	ND(0.73)	ND(0.72)	ND(0.82)
Methapyrilene	--	55	--	mg/kg	ND(15)	ND(1.7)	ND(1.7)	ND(1.6)	ND(1.9)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Methyl Parathion	--	14	150	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Naphthalene	4	55	20	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Nitrobenzene	--	16	22	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
o-Toluidine	--	1.9	9.6	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
p-Chloroaniline	1	220	8.6	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Pentachlorobenzene	--	44	490	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Pentachlorophenol	3	2.5	9	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Phenacetin	--	640	780	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Phenanthrene	10	55	20	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Phenol	1	33000	180000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Phorate	--	11	120	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Pronamide	--	4100	46000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Pyrene	1000	1500	17000	mg/kg	ND(1.7)	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.21)
Pyridine	--	55	1000	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Safrole	--	--	7.8	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Sulfotep	--	27	310	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Thionazin	--	330	--	mg/kg	ND(3.4)	ND(0.38)	ND(0.37)	ND(0.36)	ND(0.41)
Inorganics									
Antimony	20	30	410	mg/kg	ND(16.1)	ND(17.9)	ND(16.2)	0.58 J	ND(18.0)
Arsenic	20	0.38	1.6	mg/kg	**3.6**	**3.2**	**1.8 J**	**3.8**	**4.6**
Barium	1000	5200	190000	mg/kg	14.0	18.0	14.8	21.7	21.5
Beryllium	100	150	2000	mg/kg	0.19 J	0.20 J	0.13 J	0.32	0.28
Cadmium	2	37	800	mg/kg	0.068 J	0.062 J	0.069 J	0.055 J	0.078 J
Chromium	30	210	1400	mg/kg	4.1	5.8	4.6	6.5	5.9
Cobalt	--	3300	300	mg/kg	5.8	5.8	4.0	6.6	6.8
Copper	--	2800	41000	mg/kg	6.4	6.7	4.8	8.6	10.1
Cyanide	100	11	20000	mg/kg	ND(0.98)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.2)
Lead	300	400	800	mg/kg	6.5	6.4	5.3	9.2	8.0
Mercury	20	22	24	mg/kg	0.0069 J	ND(0.022)	ND(0.023)	0.014 J	0.0082 J
Nickel	20	1500	20000	mg/kg	9.4	9.4	7.4	11.2	11.2
Selenium	400	370	5100	mg/kg	ND(4.3)	ND(4.8)	ND(4.3)	ND(4.5)	ND(4.8)
Silver	100	370	5100	mg/kg	ND(0.64)	ND(0.72)	ND(0.65)	ND(0.67)	ND(0.72)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	MW-2022-9 04/01/22 14-18	MW-2022-9 04/01/22 26 30	MW-2022-9 04/01/22 36-40	PZ-2022-1 04/21/22 0-1	PZ-2022-1 04/25/22 12-16
Thallium	8	6	66	mg/kg	ND(6.4)	ND(7.2)	ND(6.5)	ND(6.7)	ND(7.2)
Tin	--	45000	610000	mg/kg	ND(2.1)	ND(2.4)	ND(2.2)	0.59 J	ND(2.4)
Vanadium	600	520	7200	mg/kg	4.9	6.9	4.5	9.0	8.0
Zinc	2500	22000	310000	mg/kg	29.2	29.8	28.7	35.4	35.0
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.017)	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.021)
2,4,5-TP	--	440	4900	mg/kg	ND(0.017)	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.021)
2,4-D	--	640	--	mg/kg	ND(0.017)	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.021)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.017)	ND(0.019)	ND(0.018)	ND(0.018)	ND(0.021)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Delta-BHC	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Dimethoate	--	11	120	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Disulfoton	--	2.2	25	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Endosulfan I	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Endosulfan II	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Endrin	8	16	180	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	0.00083 J
Endrin Ketone	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Famphur	--	--	--	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Methoxychlor	200	270	3100	mg/kg	ND(0.0017)	ND(0.0019)	ND(0.0018)	ND(0.0018)	ND(0.0021)
Methyl Parathion	--	14	150	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Phorate	--	11	120	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Sulfotep	--	27	310	mg/kg	ND(0.034)	ND(0.037)	ND(0.037)	ND(0.036 J)	ND(0.041)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.017)	ND(0.019)	ND(0.018)	ND(0.018)	ND(0.021)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.017)	ND(0.019)	ND(0.018)	ND(0.018)	ND(0.021)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(18.7)	ND(18.4)	ND(19.8)	ND(18.8)	ND(23.4)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-1 04/25/22 28-32	PZ-2022-1 04/25/22 45 49	PZ 2022-1 04/26/22 58-62	PZ-2022-1 04/26/22 72-76	PZ-2022-2 04/27/22 0-1
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.0000024 J
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.00000056 J
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.00000018 J
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000055)	0.000000055 JNX	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	0.000000063 JNX	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.00000018 J
1,2,3,7,8-PeCDD	--	--	--	mg/kg	0.000000075 JNX	ND(0.0000054)	0.000000077 JNX	0.000000088 JNX	0.000000048 JNX
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.00000015 JNX
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	0.000000036 JNX	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.0000024 J
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	ND(0.000011)	ND(0.000011)	ND(0.000011)	ND(0.000011)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	ND(0.000011)	ND(0.000011)	ND(0.000011)	0.000018
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000055)	ND(0.0000054)	0.00000025 JNX
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.000000075 JNX	ND(0.0000054)	0.000000077 JNX	0.000000088 JNX	0.000000048 JNX
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.000000036 JNX	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000308	0.00000564	0.0000036	0.00000356	0.00000226
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Total PCBs	1	3.9	21	mg/kg	ND(0.22)	ND(0.23)	ND(0.24)	ND(0.22)	ND(0.19)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-1 04/25/22 28-32	PZ-2022-1 04/25/22 45 49	PZ 2022-1 04/26/22 58-62	PZ-2022-1 04/26/22 72-76	PZ-2022-2 04/27/22 0-1
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.023)	ND(0.026)	ND(0.019)	ND(0.019)	ND(0.031)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0094)	ND(0.01)	ND(0.0076)	ND(0.0075)	ND(0.012)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.023)	ND(0.026)	ND(0.019)	ND(0.019)	ND(0.031)
Acetone	6	1400	610000	mg/kg	ND(0.023)	ND(0.026)	0.0032 J	0.005 J	ND(0.031)
Acetonitrile	--	200	3700	mg/kg	ND(0.047)	ND(0.051)	ND(0.038)	ND(0.038)	ND(0.061)
Acrolein	--	0.1	0.68	mg/kg	ND(0.023)	ND(0.026)	ND(0.019)	ND(0.019)	ND(0.031)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.023)	ND(0.026)	ND(0.019)	ND(0.019)	ND(0.031)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Benzene	2	0.62	5.6	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Bromoform	0.1	56	220	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
CFC-11	--	380	3400	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
CFC-12	--	94	780	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Chloroethane	--	1600	62000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0047)	ND(0.0051)	0.00087 J	0.00043 J	ND(0.0061)
Chloromethane	--	1.2	510	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Dibromomethane	--	550	10000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Ethylbenzene	40	230	29	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Iodomethane	--	1.2	--	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
m,p-Xylene	--	--	--	mg/kg	ND(0.0094)	ND(0.01)	ND(0.0076)	ND(0.0075)	ND(0.012)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.023)	ND(0.026)	ND(0.019)	ND(0.019)	ND(0.031)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.023)	ND(0.026)	ND(0.019)	ND(0.019)	ND(0.031)
o-Xylene	--	280	23000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Propionitrile	--	200	--	mg/kg	ND(0.047)	ND(0.051)	ND(0.038)	ND(0.038)	ND(0.061)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Toluene	30	520	46000	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0094)	ND(0.01)	ND(0.0076)	ND(0.0075)	ND(0.012)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0047)	ND(0.0051)	ND(0.0038)	ND(0.0038)	ND(0.0061)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-1 04/25/22 28-32	PZ-2022-1 04/25/22 45 49	PZ 2022-1 04/26/22 58-62	PZ-2022-1 04/26/22 72-76	PZ-2022-2 04/27/22 0-1
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
1-Naphthylamine	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
2-Picoline	--	55	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.72)	ND(0.7)	ND(0.72)	ND(0.71)	ND(0.72)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.72)	ND(0.7)	ND(0.72)	ND(0.71)	ND(0.72)
4-Phenylenediamine	--	10000	120000	mg/kg	R	R	R	R	R

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-1 04/25/22 28-32	PZ-2022-1 04/25/22 45 49	PZ 2022-1 04/26/22 58-62	PZ-2022-1 04/26/22 72-76	PZ-2022-2 04/27/22 0-1
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Aniline	--	78	300	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Aramite	--	18	69	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.4)	R	ND(5.4)	ND(5.4)	ND(5.4)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Diallate	--	7.3	28	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Dimethoate	--	11	120	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Dinoseb	--	55	620	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Diphenylamine	--	1400	15000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Disulfoton	--	2.2	25	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Famphur	--	--	--	mg/kg	R	R	R	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Hexachloropropene	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Isodrin	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Isosafrole	--	--	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-1 04/25/22 28-32	PZ-2022-1 04/25/22 45 49	PZ 2022-1 04/26/22 58-62	PZ-2022-1 04/26/22 72-76	PZ-2022-2 04/27/22 0-1
Kepone	--	0.025	0.11	mg/kg	ND(0.72)	R	ND(0.72)	ND(0.71)	ND(0.72)
Methapyrilene	--	55	--	mg/kg	ND(1.6)	ND(1.6)	ND(1.6)	ND(1.6)	ND(1.6)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Methyl Parathion	--	14	150	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Phenacetin	--	640	780	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Phorate	--	11	120	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Pronamide	--	4100	46000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Pyrene	1000	1500	17000	mg/kg	ND(0.19)	ND(0.18)	ND(0.18)	ND(0.18)	ND(0.18)
Pyridine	--	55	1000	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Safrole	--	--	7.8	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Sulfotep	--	27	310	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Thionazin	--	330	--	mg/kg	ND(0.36)	ND(0.35)	ND(0.36)	ND(0.35)	ND(0.36)
Inorganics									
Antimony	20	30	410	mg/kg	ND(15.7)	ND(17.0)	ND(15.8)	ND(16.4)	ND(15.9)
Arsenic	20	0.38	1.6	mg/kg	**4.7**	**14.0**	**2.4**	**3.5**	**3.2**
Barium	1000	5200	190000	mg/kg	22.8	25.6	27.5	33.3	16.1
Beryllium	100	150	2000	mg/kg	0.26	0.43	0.23	0.39	0.23
Cadmium	2	37	800	mg/kg	0.064 J	0.17 J	0.036 J	ND(0.22)	0.047 J
Chromium	30	210	1400	mg/kg	5.4	5.6	5.4	9.8	4.9
Cobalt	--	3300	300	mg/kg	6.8	12.4	5.9	13.0	6.1
Copper	--	2800	41000	mg/kg	7.0	10.8	6.6	10.1	7.4
Cyanide	100	11	20000	mg/kg	ND(1.0)	ND(0.94)	ND(1.0)	ND(1.0)	ND(0.00010)
Lead	300	400	800	mg/kg	9.6	10.5	6.1	9.1	7.1
Mercury	20	22	24	mg/kg	ND(0.022)	ND(0.021)	ND(0.021)	ND(0.022)	0.0069 J
Nickel	20	1500	20000	mg/kg	11.3	18.0	9.5	21.6	10.1
Selenium	400	370	5100	mg/kg	ND(4.2)	ND(4.5)	ND(4.2)	ND(4.4)	ND(4.2)
Silver	100	370	5100	mg/kg	ND(0.63)	ND(0.68)	ND(0.63)	ND(0.66)	ND(0.63)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-1 04/25/22 28-32	PZ-2022-1 04/25/22 45 49	PZ 2022-1 04/26/22 58-62	PZ-2022-1 04/26/22 72-76	PZ-2022-2 04/27/22 0-1
Thallium	8	6	66	mg/kg	ND(6.3)	ND(6.8)	ND(6.3)	ND(6.6)	ND(6.3)
Tin	--	45000	610000	mg/kg	ND(2.1)	ND(2.3)	ND(2.1)	ND(2.2)	ND(2.1)
Vanadium	600	520	7200	mg/kg	5.6	6.8	7.3	11.8	6.8
Zinc	2500	22000	310000	mg/kg	32.5	41.6	32.2	50.2	29.6
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)
2,4-D	--	640	--	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Delta-BHC	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Dimethoate	--	11	120	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Disulfoton	--	2.2	25	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Endosulfan I	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Endosulfan II	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Endrin	8	16	180	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0018)	0.00061 J	ND(0.0018)	ND(0.0018)	ND(0.0018)
Endrin Ketone	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Famphur	--	--	--	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Methoxychlor	200	270	3100	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
Methyl Parathion	--	14	150	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Phorate	--	11	120	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Sulfotep	--	27	310	mg/kg	ND(0.036)	ND(0.035)	ND(0.036)	ND(0.035)	ND(0.036)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.018)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(19.9)	ND(19.2)	ND(19.6)	ND(19.9)	ND(21.0)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-2 04/27/22 12-16	PZ-2022-2 04/27/22 26 30	PZ-2022-2 04/28/22 43-45	PZ-2022-2 04/28/22 58-62	PZ-2022-2 04/28/22 75 78
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000055)	0.000000058 JNX	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	0.000000034 JNX	0.000000014 JNX
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	0.000000015 JNX	ND(0.0000012)	ND(0.0000012)	ND(0.0000011)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000013 JNX	0.000000034 J	ND(0.0000012)	ND(0.0000012)	ND(0.0000011)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	ND(0.000011)	ND(0.000012)	ND(0.000012)	ND(0.000011)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	ND(0.000011)	ND(0.000012)	ND(0.000012)	ND(0.000011)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000055)	ND(0.0000054)	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000055)	0.000000058 JNX	ND(0.0000061)	ND(0.0000061)	ND(0.0000055)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000013 JNX	0.000000034 JNX	ND(0.0000012)	ND(0.0000012)	ND(0.0000011)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	0.000000015 JNX	ND(0.0000012)	ND(0.0000012)	ND(0.0000011)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000622	0.00000294	0.00000695	0.00000604	0.00000545
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Total PCBs	1	3.9	21	mg/kg	ND(0.24)	ND(0.20)	ND(0.22)	ND(0.26)	ND(0.21)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-2 04/27/22 12-16	PZ-2022-2 04/27/22 26 30	PZ-2022-2 04/28/22 43-45	PZ-2022-2 04/28/22 58-62	PZ-2022-2 04/28/22 75 78
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.011)	ND(0.0094)	ND(0.011)	ND(0.012)	ND(0.0093)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
Acetone	6	1400	610000	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
Acetonitrile	--	200	3700	mg/kg	ND(0.055)	ND(0.047)	ND(0.054)	ND(0.06)	ND(0.046)
Acrolein	--	0.1	0.68	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Benzene	2	0.62	5.6	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Bromoform	0.1	56	220	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
CFC-11	--	380	3400	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
CFC-12	--	94	780	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Chloroethane	--	1600	62000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0055)	ND(0.0047)	0.0023 J	0.0014 J	0.00045 J
Chloromethane	--	1.2	510	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Dibromomethane	--	550	10000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Ethylbenzene	40	230	29	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Iodomethane	--	1.2	--	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
m,p-Xylene	--	--	--	mg/kg	ND(0.011)	ND(0.0094)	ND(0.011)	ND(0.012)	ND(0.0093)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.028)	ND(0.024)	ND(0.027)	ND(0.03)	ND(0.023)
o-Xylene	--	280	23000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Propionitrile	--	200	--	mg/kg	ND(0.055)	ND(0.047)	ND(0.054)	ND(0.06)	ND(0.046)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Toluene	30	520	46000	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)
Vinyl acetate	--	420	4200	mg/kg	ND(0.011)	ND(0.0094)	ND(0.011)	ND(0.012)	ND(0.0093)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0055)	ND(0.0047)	ND(0.0054)	ND(0.006)	ND(0.0046)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-2 04/27/22 12-16	PZ-2022-2 04/27/22 26 30	PZ-2022-2 04/28/22 43-45	PZ-2022-2 04/28/22 58-62	PZ-2022-2 04/28/22 75 78
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.11)	ND(0.12)	ND(0.12)	ND(0.11)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
1-Naphthylamine	--	--	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(1.8)	ND(2)	ND(2)	ND(1.8)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
2-Picoline	--	55	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.72)	ND(0.72)	ND(0.79)	ND(0.78)	ND(0.71)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
4-Methylphenol	--	270	3100	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.72)	ND(0.72)	ND(0.79)	ND(0.78)	ND(0.71)
4-Phenylenediamine	--	10000	120000	mg/kg	R	R	ND(0.95)	ND(0.95)	ND(0.87)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-2 04/27/22 12-16	PZ-2022-2 04/27/22 26 30	PZ-2022-2 04/28/22 43-45	PZ-2022-2 04/28/22 58-62	PZ-2022-2 04/28/22 75 78
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Aniline	--	78	300	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Aramite	--	18	69	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.4)	ND(5.5)	ND(6)	ND(5.9)	ND(5.4)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Diallate	--	7.3	28	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Dimethoate	--	11	120	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Dinoseb	--	55	620	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Diphenylamine	--	1400	15000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Disulfoton	--	2.2	25	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Famphur	--	--	--	mg/kg	R	R	R	R	R
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Hexachloropropene	--	--	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Isodrin	--	--	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Isosafrole	--	--	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-2 04/27/22 12-16	PZ-2022-2 04/27/22 26 30	PZ-2022-2 04/28/22 43-45	PZ-2022-2 04/28/22 58-62	PZ-2022-2 04/28/22 75 78
Kepone	--	0.025	0.11	mg/kg	ND(0.72)	ND(0.72)	ND(0.79)	ND(0.78)	ND(0.71)
Methapyrilene	--	55	--	mg/kg	ND(1.6)	ND(1.6)	ND(1.8)	ND(1.8)	ND(1.6)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Methyl Parathion	--	14	150	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Phenacetin	--	640	780	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Phorate	--	11	120	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Pronamide	--	4100	46000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Pyrene	1000	1500	17000	mg/kg	ND(0.19)	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.18)
Pyridine	--	55	1000	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Safrole	--	--	7.8	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Sulfotep	--	27	310	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Thionazin	--	330	--	mg/kg	ND(0.36)	ND(0.36)	ND(0.39)	ND(0.39)	ND(0.36)
Inorganics									
Antimony	20	30	410	mg/kg	ND(17.7)	ND(17.3)	ND(17.6)	ND(18.7)	ND(17.3)
Arsenic	20	0.38	1.6	mg/kg	**3.6**	**2.5**	**3.5**	**6.1**	**2.3**
Barium	1000	5200	190000	mg/kg	15.7	22.2	17.1	14.1	14.0
Beryllium	100	150	2000	mg/kg	0.21 J	0.18 J	0.18 J	0.25	0.20 J
Cadmium	2	37	800	mg/kg	0.059 J	0.053 J	0.059 J	0.051 J	0.054 J
Chromium	30	210	1400	mg/kg	4.3	4.1	3.3	3.4	4.7
Cobalt	--	3300	300	mg/kg	5.9	4.6	7.0	6.6	4.0
Copper	--	2800	41000	mg/kg	8.2	5.7	5.9	5.0	5.4
Cyanide	100	11	20000	mg/kg	ND(0.96)	ND(1.0)	0.57 J	ND(1.1)	ND(1.0)
Lead	300	400	800	mg/kg	6.4	6.1	6.7	6.8	4.8
Mercury	20	22	24	mg/kg	ND(0.022)	ND(0.023)	ND(0.024)	ND(0.025)	ND(0.023)
Nickel	20	1500	20000	mg/kg	10.2	7.5	7.7	8.6	7.6
Selenium	400	370	5100	mg/kg	ND(4.7)	ND(4.6)	ND(4.7)	ND(5.0)	ND(4.6)
Silver	100	370	5100	mg/kg	ND(0.71)	ND(0.69)	ND(0.71)	ND(0.75)	ND(0.69)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-2 04/27/22 12-16	PZ-2022-2 04/27/22 26 30	PZ-2022-2 04/28/22 43-45	PZ-2022-2 04/28/22 58-62	PZ-2022-2 04/28/22 75 78
Thallium	8	6	66	mg/kg	ND(7.1)	ND(6.9)	ND(7.1)	ND(7.5)	ND(6.9)
Tin	--	45000	610000	mg/kg	ND(2.4)	ND(2.3)	ND(2.4)	ND(2.5)	0.59 J
Vanadium	600	520	7200	mg/kg	5.3	4.8	4.4	3.9	5.5
Zinc	2500	22000	310000	mg/kg	27.0	21.9	20.5	30.4	22.0
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.018)	ND(0.02)	ND(0.02)	ND(0.018)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018)	ND(0.018)	ND(0.02)	ND(0.02)	ND(0.018)
2,4-D	--	640	--	mg/kg	ND(0.018)	ND(0.018)	ND(0.02)	ND(0.02)	ND(0.018)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
4,4'-DDT	3	1.7	7	mg/kg	0.0019	ND(0.0018)	0.0013 J	ND(0.002)	ND(0.0018)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.018)	ND(0.018)	ND(0.02)	ND(0.02)	ND(0.018)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Delta-BHC	--	--	--	mg/kg	ND(0.0018)	0.00044 J	ND(0.002)	0.00045 J	ND(0.0018)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Dimethoate	--	11	120	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Disulfoton	--	2.2	25	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Endosulfan I	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Endosulfan II	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Endrin	8	16	180	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Endrin Aldehyde	--	--	--	mg/kg	0.00062 J	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Endrin Ketone	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Famphur	--	--	--	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Methoxychlor	200	270	3100	mg/kg	ND(0.0018)	ND(0.0018)	ND(0.002)	ND(0.002)	ND(0.0018)
Methyl Parathion	--	14	150	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Phorate	--	11	120	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Sulfotep	--	27	310	mg/kg	ND(0.037)	ND(0.036)	ND(0.04)	ND(0.04)	ND(0.036)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.018)	ND(0.018)	ND(0.02)	ND(0.02)	ND(0.018)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.018)	ND(0.018)	ND(0.02)	ND(0.02)	ND(0.018)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(19.7)	ND(19.3)	ND(21.9)	ND(20.7)	ND(20.9)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/20/22 0-1	PZ-2022-3 04/20/22 13 16	PZ 2022-3 04/20/22 26-30	PZ-2022-3 04/21/22 45-47	PZ-2022-3 04/21/22 60-64
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	0.00018	0.0000012 JNX	0.0000013 J	ND(0.0000066)	ND(0.0000054)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	0.00004	ND(0.0000058)	0.00000036 JNX	0.00000029 JNX	0.000000034 JNX
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	0.0000033 J	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	0.0000011 J	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	0.0000052 J	0.000000045 JNX	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	0.0000034 J	ND(0.0000058)	0.0000002 JNX	0.00000009 JNX	ND(0.0000054)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	0.0000013 J	ND(0.0000058)	ND(0.0000054)	0.00000014 JNX	ND(0.0000054)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	0.000003 J	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	0.00000002 JNX
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	0.00000091 JNX	ND(0.0000058)	0.00000028 JNX	ND(0.0000066)	ND(0.0000054)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	0.00000062 JNX	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	0.00000036 JNX	ND(0.0000058)	0.0000003 JNX	ND(0.0000066)	ND(0.0000054)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	0.0000017 J	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	0.00000096 JNX	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	0.00000016 JNX	ND(0.0000012)	ND(0.0000011)	ND(0.0000013)	ND(0.0000011)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000078 JNX	0.000000023 JNX	0.000000082 JNX	ND(0.0000013)	ND(0.0000011)
Heptachlorodibenzofurans	--	--	--	mg/kg	0.000043	ND(0.0000058)	ND(0.0000054)	0.00000029 JNX	0.000000034 JNX
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.00018	0.0000012 JNX	0.0000013 J	ND(0.0000066)	ND(0.0000054)
Hexachlorodibenzofurans	--	--	--	mg/kg	0.0000091 JNX	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	0.0000075 JNX	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
Octachlorodibenzofuran	--	--	--	mg/kg	0.00018	0.00000034 JNX	ND(0.000011)	ND(0.000013)	ND(0.000011)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	0.0023	0.000011 J	0.0000075 JNX	0.0000046 JNX	0.0000046 J
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	0.0000013 JNX	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000062 JNX	ND(0.0000058)	ND(0.0000054)	ND(0.0000066)	ND(0.0000054)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000078 JNX	0.000000023 JNX	0.000000082 JNX	ND(0.0000013)	ND(0.0000011)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000016 JNX	ND(0.0000012)	ND(0.0000011)	ND(0.0000013)	ND(0.0000011)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000572	0.00000628	0.00000552	0.00000685	0.00000588
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Total PCBs	1	3.9	21	mg/kg	ND(0.21)	ND(0.23)	ND(0.27)	ND(0.24)	ND(0.24)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/20/22 0-1	PZ-2022-3 04/20/22 13 16	PZ 2022-3 04/20/22 26-30	PZ-2022-3 04/21/22 45-47	PZ-2022-3 04/21/22 60-64
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.024)	ND(0.27)	ND(0.029)	ND(0.015)	0.0024 J
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0097)	ND(0.11)	ND(0.012)	ND(0.0062)	ND(0.0042)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.024)	ND(0.27)	ND(0.029)	ND(0.015)	ND(0.01)
Acetone	6	1400	610000	mg/kg	ND(0.024)	ND(0.27)	ND(0.029)	0.01 J	0.014
Acetonitrile	--	200	3700	mg/kg	ND(0.048)	ND(0.55)	ND(0.059)	ND(0.031)	ND(0.021)
Acrolein	--	0.1	0.68	mg/kg	R	ND(0.27)	ND(0.029)	ND(0.015)	ND(0.01)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.024)	ND(0.27)	ND(0.029)	ND(0.015)	ND(0.01)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Benzene	2	0.62	5.6	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Bromoform	0.1	56	220	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
CFC-11	--	380	3400	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
CFC-12	--	94	780	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Chloroethane	--	1600	62000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Chloromethane	--	1.2	510	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Dibromomethane	--	550	10000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Ethylbenzene	40	230	29	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Iodomethane	--	1.2	--	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
m,p-Xylene	--	--	--	mg/kg	ND(0.0097)	ND(0.11)	ND(0.012)	ND(0.0062)	ND(0.0042)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.024)	ND(0.27)	ND(0.029)	ND(0.015)	ND(0.01)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.024)	ND(0.27)	ND(0.029)	ND(0.015)	ND(0.01)
o-Xylene	--	280	23000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Propionitrile	--	200	--	mg/kg	ND(0.048)	ND(0.55)	ND(0.059)	ND(0.031)	ND(0.021)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Toluene	30	520	46000	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)
Vinyl acetate	--	420	4200	mg/kg	R	ND(0.11)	ND(0.012)	ND(0.0062)	ND(0.0042)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0048)	ND(0.055)	ND(0.0059)	ND(0.0031)	ND(0.0021)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/20/22 0-1	PZ-2022-3 04/20/22 13 16	PZ 2022-3 04/20/22 26-30	PZ-2022-3 04/21/22 45-47	PZ-2022-3 04/21/22 60-64
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.13)	ND(0.11)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
1-Naphthylamine	--	--	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(1.9)	ND(1.8)	ND(2.1)	ND(1.8)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
2-Picoline	--	55	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.73)	ND(0.76)	ND(0.71)	ND(0.85)	ND(0.7)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.73)	ND(0.76)	ND(0.71)	ND(0.85)	ND(0.7)
4-Phenylenediamine	--	10000	120000	mg/kg	R	R	R	ND(1)	ND(0.85)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/20/22 0-1	PZ-2022-3 04/20/22 13 16	PZ 2022-3 04/20/22 26-30	PZ-2022-3 04/21/22 45-47	PZ-2022-3 04/21/22 60-64
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	R	R	R	ND(0.42)	ND(0.35)
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Aniline	--	78	300	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Aramite	--	18	69	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Benzidine	--	0.0019	0.0075	mg/kg	R	ND(5.7)	ND(5.4)	ND(6.4)	ND(5.3)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Diallate	--	7.3	28	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Dimethoate	--	11	120	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Dinoseb	--	55	620	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Diphenylamine	--	1400	15000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Disulfoton	--	2.2	25	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Famphur	--	--	--	mg/kg	R	R	R	ND(0.85)	ND(0.7)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Hexachloropropene	--	--	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Isodrin	--	--	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Isosafrole	--	--	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/20/22 0-1	PZ-2022-3 04/20/22 13 16	PZ 2022-3 04/20/22 26-30	PZ-2022-3 04/21/22 45-47	PZ-2022-3 04/21/22 60-64
Kepone	--	0.025	0.11	mg/kg	R	R	R	ND(0.85)	ND(0.7)
Methapyrilene	--	55	--	mg/kg	ND(1.7)	ND(1.7)	ND(1.6)	ND(1.9)	ND(1.6)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Methyl Parathion	--	14	150	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Phenacetin	--	640	780	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Phorate	--	11	120	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Pronamide	--	4100	46000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Pyrene	1000	1500	17000	mg/kg	ND(0.19)	ND(0.19)	ND(0.18)	ND(0.22)	ND(0.18)
Pyridine	--	55	1000	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Safrole	--	--	7.8	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Sulfotep	--	27	310	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Thionazin	--	330	--	mg/kg	ND(0.37)	ND(0.38)	ND(0.36)	ND(0.42)	ND(0.35)
Inorganics									
Antimony	20	30	410	mg/kg	0.83 J	ND(17.9)	ND(16.5)	1.1 J	ND(16.5)
Arsenic	20	0.38	1.6	mg/kg	**5.3**	**2.4**	**3.2**	**5.3**	**3.6**
Barium	1000	5200	190000	mg/kg	35.0	12.3	23.9	40.6	19.9
Beryllium	100	150	2000	mg/kg	0.38	0.19 J	0.20 J	0.44	0.23
Cadmium	2	37	800	mg/kg	0.10 J	0.082 J	0.11 J	0.056 J	0.075 J
Chromium	30	210	1400	mg/kg	6.8	3.9	3.9	11.0	5.0
Cobalt	--	3300	300	mg/kg	10.0	4.6	6.6	10.4	6.8
Copper	--	2800	41000	mg/kg	8.1	5.5	5.2	12.8	8.0
Cyanide	100	11	20000	mg/kg	R	ND(1.1)	**22.0**	ND(1.2)	ND(0.94)
Lead	300	400	800	mg/kg	11.2	5.2	5.2	10.6	5.9
Mercury	20	22	24	mg/kg	0.021 J	ND(0.023)	ND(0.021)	0.011 J	ND(0.022)
Nickel	20	1500	20000	mg/kg	14.4	8.7	8.6	18.5	9.1
Selenium	400	370	5100	mg/kg	ND(4.7)	ND(4.8)	ND(4.4)	ND(5.4)	ND(4.4)
Silver	100	370	5100	mg/kg	ND(0.70)	ND(0.72)	ND(0.66)	ND(0.81)	ND(0.66)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/20/22 0-1	PZ-2022-3 04/20/22 13 16	PZ 2022-3 04/20/22 26-30	PZ-2022-3 04/21/22 45-47	PZ-2022-3 04/21/22 60-64
Thallium	8	6	66	mg/kg	ND(7.0)	ND(7.2)	ND(6.6)	ND(8.1)	ND(6.6)
Tin	--	45000	610000	mg/kg	ND(2.3)	ND(2.4)	ND(2.2)	ND(2.7)	ND(2.2)
Vanadium	600	520	7200	mg/kg	11.0	5.0	4.6	12.8	5.4
Zinc	2500	22000	310000	mg/kg	43.9	22.5	23.6	55.6	31.2
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.022)	ND(0.018)
2,4,5-TP	--	440	4900	mg/kg	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.022)	ND(0.018)
2,4-D	--	640	--	mg/kg	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.022)	ND(0.018)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.022)	ND(0.018)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Delta-BHC	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Dimethoate	--	11	120	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Disulfoton	--	2.2	25	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Endosulfan I	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Endosulfan II	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Endrin	8	16	180	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Endrin Ketone	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Famphur	--	--	--	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Methoxychlor	200	270	3100	mg/kg	ND(0.0019)	ND(0.0019)	ND(0.0018)	ND(0.0022)	ND(0.0018)
Methyl Parathion	--	14	150	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Phorate	--	11	120	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Sulfotep	--	27	310	mg/kg	ND(0.037)	ND(0.038)	ND(0.035)	ND(0.043 J)	ND(0.035 J)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.022)	ND(0.018)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.019)	ND(0.019)	ND(0.018)	ND(0.022)	ND(0.018)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(19.6)	ND(20.4)	ND(19.1)	ND(22.2)	ND(18.2)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/21/22 82-86	PZ-2022-5 04/12/22 0-1	PZ-2022-5 04/12/22 13-16	PZ-2022-5 04/13/22 26-30	PZ-2022-5 04/14/22 45 49
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000054)	0.00006 J	0.00000078 J	ND(0.000005)	ND(0.0000056)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000054)	0.000021	0.00000088 JNX	ND(0.000005)	ND(0.0000056)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000054)	ND(0.0000057)	0.000001 J	0.00000012 JNX	ND(0.0000056)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000054)	ND(0.0000057)	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000054)	0.0000025 J	0.00000035 JNX	ND(0.000005)	ND(0.0000056)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000054)	0.0000014 J	ND(0.0000053)	0.000000091 JNX	ND(0.0000056)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000054)	0.00000064 J	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	0.000000041 JNX	0.0000013 J	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000054)	0.00000034 J	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000054)	0.0000003 JNX	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000054)	0.00000025 JNX	0.00000025 JNX	ND(0.000005)	ND(0.0000056)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000054)	ND(0.0000057)	0.00000063 JNX	ND(0.000005)	ND(0.0000056)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000054)	ND(0.0000057)	0.00000042 JNX	ND(0.000005)	ND(0.0000056)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.0000011)	0.000000034 JNX	ND(0.0000011)	0.000000063 JNX	ND(0.0000011)
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.000001)	ND(0.0000011)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000054)	0.000023	0.0000019 JNX	ND(0.000005)	ND(0.0000056)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000054)	0.00006	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000054)	0.0000043 JNX	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000054)	0.0000033 JNX	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	0.000089 J	ND(0.000011)	ND(0.00001)	ND(0.000011)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	0.0013	0.0000091 J	0.000007 J	ND(0.000011)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000054)	0.00000069 JNX	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000054)	0.0000003 JNX	ND(0.0000053)	ND(0.000005)	ND(0.0000056)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000011)	ND(0.0000011)	ND(0.0000011)	ND(0.000001)	ND(0.0000011)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000011)	0.000000034 JNX	ND(0.0000011)	0.000000063 JNX	ND(0.0000011)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.0000059	0.00000369	0.00000484	0.000005	0.00000638
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Total PCBs	1	3.9	21	mg/kg	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.19)	ND(0.21)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/21/22 82-86	PZ-2022-5 04/12/22 0-1	PZ-2022-5 04/12/22 13-16	PZ-2022-5 04/13/22 26-30	PZ-2022-5 04/14/22 45 49
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.062)	ND(0.028 J)	ND(0.026)	ND(0.025)	ND(0.027)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052 J)	ND(0.005 J)	ND(0.0053)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.025)	ND(0.011 J)	ND(0.01 J)	ND(0.0099 J)	ND(0.011)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.062)	ND(0.028 J)	ND(0.026)	ND(0.025)	ND(0.027)
Acetone	6	1400	610000	mg/kg	0.073	0.15 J	ND(0.026)	ND(0.025)	ND(0.027)
Acetonitrile	--	200	3700	mg/kg	ND(0.12)	ND(0.055 J)	ND(0.052 J)	ND(0.05 J)	ND(0.053)
Acrolein	--	0.1	0.68	mg/kg	ND(0.062)	ND(0.028 J)	ND(0.026)	ND(0.025)	ND(0.027)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.062)	ND(0.028 J)	ND(0.026)	ND(0.025)	ND(0.027)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Benzene	2	0.62	5.6	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Bromoform	0.1	56	220	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
CFC-11	--	380	3400	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
CFC-12	--	94	780	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Chlorobenzene	1	54	1500	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Chloroethane	--	1600	62000	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Chloromethane	--	1.2	510	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Dibromomethane	--	550	10000	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Ethylbenzene	40	230	29	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Iodomethane	--	1.2	--	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
m,p-Xylene	--	--	--	mg/kg	ND(0.025)	ND(0.011)	ND(0.01)	ND(0.0099)	ND(0.011)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.062)	ND(0.028 J)	ND(0.026 J)	ND(0.025 J)	ND(0.027)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052 J)	ND(0.005 J)	ND(0.0053)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.062)	ND(0.028 J)	ND(0.026)	ND(0.025)	ND(0.027)
o-Xylene	--	280	23000	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Propionitrile	--	200	--	mg/kg	ND(0.12)	ND(0.055 J)	ND(0.052 J)	ND(0.05 J)	ND(0.053)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Toluene	30	520	46000	mg/kg	ND(0.012)	0.00055 J	ND(0.0052)	ND(0.005)	ND(0.0053)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.012)	ND(0.0055)	ND(0.0052)	ND(0.005)	ND(0.0053)
Vinyl acetate	--	420	4200	mg/kg	ND(0.025)	R	ND(0.01)	ND(0.0099)	ND(0.011)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.012)	ND(0.0055 J)	ND(0.0052)	ND(0.005)	ND(0.0053)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/21/22 82-86	PZ-2022-5 04/12/22 0-1	PZ-2022-5 04/12/22 13-16	PZ-2022-5 04/13/22 26-30	PZ-2022-5 04/14/22 45 49
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.1)	ND(0.11)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
1-Naphthylamine	--	--	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34 J)	ND(0.37)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.8)	ND(1.9)	ND(1.8)	ND(1.7)	ND(1.8)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34 J)	ND(0.37)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
2-Nitrophenol	--	--	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
2-Picoline	--	55	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.7)	ND(0.76)	ND(0.7)	ND(0.67)	ND(0.74)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34 J)	ND(0.37)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
4-Methylphenol	--	270	3100	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.7)	ND(0.76)	ND(0.7)	ND(0.67)	ND(0.74)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.85)	R	R	R	R

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/21/22 82-86	PZ-2022-5 04/12/22 0-1	PZ-2022-5 04/12/22 13-16	PZ-2022-5 04/13/22 26-30	PZ-2022-5 04/14/22 45 49
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.35)	R	R	R	R
Acenaphthene	4	2600	33000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Acenaphthylene	1	55	20	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Acetophenone	--	0.49	100000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Aniline	--	78	300	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Anthracene	1000	14000	170000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Aramite	--	18	69	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.3)	R	ND(5.3 J)	ND(5.1 J)	ND(5.6)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	ND(0.18)	ND(0.19)	0.19	0.079 J	0.28
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Chrysene	70	56	210	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Diallate	--	7.3	28	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Dibenzofuran	--	210	1600	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Dimethoate	--	11	120	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Dinoseb	--	55	620	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Diphenylamine	--	1400	15000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Disulfoton	--	2.2	25	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Famphur	--	--	--	mg/kg	ND(0.7)	R	R	R	ND(0.74 J)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Fluorene	1000	1800	22000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19 J)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachloropropene	--	--	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Isodrin	--	--	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Isophorone	--	470	1800	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Isosafrole	--	--	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/21/22 82-86	PZ-2022-5 04/12/22 0-1	PZ-2022-5 04/12/22 13-16	PZ-2022-5 04/13/22 26-30	PZ-2022-5 04/14/22 45 49
Kepone	--	0.025	0.11	mg/kg	ND(0.7)	ND(0.76)	ND(0.7)	ND(0.67)	ND(0.74)
Methapyrilene	--	55	--	mg/kg	ND(1.6)	ND(1.7)	ND(1.6)	ND(1.5)	ND(1.7)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Methyl Parathion	--	14	150	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Naphthalene	4	55	20	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Nitrobenzene	--	16	22	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Phenacetin	--	640	780	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Phenanthrene	10	55	20	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Phenol	1	33000	180000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Phorate	--	11	120	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Pronamide	--	4100	46000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Pyrene	1000	1500	17000	mg/kg	ND(0.18)	ND(0.19)	ND(0.18)	ND(0.17)	ND(0.19)
Pyridine	--	55	1000	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Safrole	--	--	7.8	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Sulfotep	--	27	310	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Thionazin	--	330	--	mg/kg	ND(0.35)	ND(0.38)	ND(0.35)	ND(0.34)	ND(0.37)
Inorganics									
Antimony	20	30	410	mg/kg	ND(16.7)	3.0 J	1.6 J	ND(15.6 J)	ND(17.7)
Arsenic	20	0.38	1.6	mg/kg	**4.3**	**4.6**	**3.3**	**1.9 J**	**2.4**
Barium	1000	5200	190000	mg/kg	9.5	26.2 J	15.2 J	13.4	15.7
Beryllium	100	150	2000	mg/kg	0.18 J	0.34	0.20 J	0.18 J	0.21 J
Cadmium	2	37	800	mg/kg	0.049 J	0.082 J	0.034 J	0.099 J	0.071 J
Chromium	30	210	1400	mg/kg	3.5	7.3	3.9	3.8	4.4
Cobalt	--	3300	300	mg/kg	3.9	7.5	5.1	5.3	5.0
Copper	--	2800	41000	mg/kg	4.8	9.2	5.7	5.4	5.9
Cyanide	100	11	20000	mg/kg	ND(1.1)	R	ND(1.0)	R	ND(1.1)
Lead	300	400	800	mg/kg	8.6	9.3	5.6	4.8	5.7
Mercury	20	22	24	mg/kg	ND(0.021)	0.020 J	ND(0.022)	ND(0.020 J)	ND(0.023)
Nickel	20	1500	20000	mg/kg	6.6	11.3	8.1	7.7	8.4
Selenium	400	370	5100	mg/kg	ND(4.5)	1.9 J	ND(4.4)	ND(4.2)	ND(4.7)
Silver	100	370	5100	mg/kg	ND(0.67)	ND(0.69)	ND(0.66)	ND(0.62)	ND(0.71)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-3 04/21/22 82-86	PZ-2022-5 04/12/22 0-1	PZ-2022-5 04/12/22 13-16	PZ-2022-5 04/13/22 26-30	PZ-2022-5 04/14/22 45 49
Thallium	8	6	66	mg/kg	ND(6.7)	ND(6.9)	ND(6.6)	ND(6.2)	ND(7.1)
Tin	--	45000	610000	mg/kg	ND(2.2)	ND(2.3)	1.8 J	ND(2.1)	ND(2.4)
Vanadium	600	520	7200	mg/kg	4.0	9.6	4.8	5.0	5.8
Zinc	2500	22000	310000	mg/kg	18.6	38.0 J	26.5	24.2	24.7
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.018)	ND(0.019)	ND(0.018)	ND(0.017)	ND(0.019)
2,4,5-TP	--	440	4900	mg/kg	ND(0.018)	ND(0.019)	ND(0.018)	ND(0.017)	ND(0.019)
2,4-D	--	640	--	mg/kg	ND(0.018)	ND(0.019)	ND(0.018)	ND(0.017)	ND(0.019)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.018)	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.019)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Delta-BHC	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Dimethoate	--	11	120	mg/kg	ND(0.035 J)	ND(0.038)	ND(0.034)	ND(0.034)	ND(0.038)
Disulfoton	--	2.2	25	mg/kg	ND(0.035 J)	R	ND(0.034)	ND(0.034)	ND(0.038)
Endosulfan I	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endosulfan II	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin	8	16	180	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	0.00044 J	ND(0.0019)
Endrin Ketone	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.035 J)	ND(0.038)	ND(0.034)	ND(0.034)	ND(0.038)
Famphur	--	--	--	mg/kg	ND(0.035 J)	ND(0.038)	ND(0.034)	ND(0.034)	ND(0.038)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0018)	ND(0.0019)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Methoxychlor	200	270	3100	mg/kg	ND(0.0018)	0.0013 J	ND(0.0017)	ND(0.0017)	ND(0.0019)
Methyl Parathion	--	14	150	mg/kg	ND(0.035 J)	ND(0.038)	ND(0.034)	ND(0.034)	ND(0.038)
Phorate	--	11	120	mg/kg	ND(0.035 J)	ND(0.038)	ND(0.034)	ND(0.034)	ND(0.038)
Sulfotep	--	27	310	mg/kg	ND(0.035 J)	ND(0.038)	ND(0.034)	ND(0.034)	ND(0.038)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.018)	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.019)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.018)	ND(0.019)	ND(0.017)	ND(0.017)	ND(0.019)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(17.2)	ND(21.0)	ND(18.4)	ND(17.9)	ND(20.5)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-5 04/14/22 58-62	PZ-2022-5 04/18/22 72 76	PZ 2022-8 03/22/22 0-1	PZ-2022-8 03/22/22 12-16	PZ-2022-8 03/22/22 26-30
Dioxins									
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.00012	ND(0.0000052)	0.0000014 J
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.000045	ND(0.0000052)	ND(0.0000058)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.0000033 J	ND(0.0000052)	ND(0.0000058)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.00000096 J	ND(0.0000052)	ND(0.0000058)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000057)	0.00000006 JNX	0.0000043 J	ND(0.0000052)	ND(0.0000058)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.000003 J	0.000000022 JNX	0.00000007 JNX
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.0000012 J	ND(0.0000052)	ND(0.0000058)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.0000019 J	ND(0.0000052)	ND(0.0000058)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.00000074 J	ND(0.0000052)	ND(0.0000058)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.00000044 JNX	ND(0.0000052)	ND(0.0000058)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	ND(0.0000053)	ND(0.0000052)	ND(0.0000058)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.0000015 JNX	ND(0.0000052)	ND(0.0000058)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	0.000000089 J	ND(0.0000059)	0.00000074 J	ND(0.0000052)	ND(0.0000058)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	0.000000028 JNX	0.000000012 JNX	0.000000064 JNX	ND(0.000001)	ND(0.0000012)
2,3,7,8-TCDF	--	--	--	mg/kg	0.000000018 JNX	ND(0.0000012)	ND(0.0000011)	ND(0.000001)	ND(0.0000012)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.00015	ND(0.0000052)	0.0000013 JNX
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.00012	ND(0.0000052)	ND(0.0000058)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.000047 JNX	ND(0.0000052)	ND(0.0000058)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.000016 JNX	ND(0.0000052)	ND(0.0000058)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.000011)	ND(0.000012)	0.00018	ND(0.00001)	0.0000014 J
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.000011)	ND(0.000012)	0.0029	0.0000094 J	0.00003
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.0000062 JNX	ND(0.0000052)	ND(0.0000058)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000057)	ND(0.0000059)	0.0000017 JNX	ND(0.0000052)	ND(0.0000058)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	0.000000018 JNX	ND(0.0000012)	0.0000015 JNX	ND(0.000001)	ND(0.0000012)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.000000028 JNX	0.000000012 JNX	0.00000026 JNX	0.000000058 JNX	0.000000026 J
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000508	0.00000586	0.00000483	0.00000565	0.00000635
PCBs			--						
Aroclor 1016	--	--	21	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Total PCBs	1	3.9	21	mg/kg	ND(0.21)	ND(0.22)	ND(0.22)	ND(0.19)	ND(0.21)
Volatile Organics			--						
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-5 04/14/22 58-62	PZ-2022-5 04/18/22 72 76	PZ 2022-8 03/22/22 0-1	PZ-2022-8 03/22/22 12-16	PZ-2022-8 03/22/22 26-30
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.024)	ND(0.029)	ND(0.025)	ND(0.028)	ND(0.026)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051 J)	ND(0.0057 J)	ND(0.0051 J)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0096)	ND(0.011)	ND(0.01 J)	ND(0.011 J)	ND(0.01 J)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.024)	ND(0.029)	ND(0.025)	ND(0.028)	ND(0.026)
Acetone	6	1400	610000	mg/kg	ND(0.024)	ND(0.029)	ND(0.025)	ND(0.028)	ND(0.026)
Acetonitrile	--	200	3700	mg/kg	ND(0.048)	ND(0.057)	ND(0.051 J)	ND(0.057 J)	ND(0.051 J)
Acrolein	--	0.1	0.68	mg/kg	ND(0.024)	ND(0.029)	ND(0.025)	ND(0.028)	ND(0.026)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.024)	ND(0.029)	ND(0.025)	ND(0.028)	ND(0.026)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Benzene	2	0.62	5.6	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Bromoform	0.1	56	220	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
CFC-11	--	380	3400	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
CFC-12	--	94	780	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Chloroethane	--	1600	62000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0048)	0.0012 J	ND(0.0051)	ND(0.0057)	ND(0.0051)
Chloromethane	--	1.2	510	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Dibromomethane	--	550	10000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Ethylbenzene	40	230	29	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Iodomethane	--	1.2	--	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
m,p-Xylene	--	--	--	mg/kg	ND(0.0096)	ND(0.011)	ND(0.01)	ND(0.011)	ND(0.01)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.024)	ND(0.029)	ND(0.025 J)	ND(0.028 J)	ND(0.026 J)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051 J)	ND(0.0057 J)	ND(0.0051 J)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.024)	ND(0.029)	ND(0.025)	ND(0.028)	ND(0.026)
o-Xylene	--	280	23000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Propionitrile	--	200	--	mg/kg	ND(0.048)	ND(0.057)	ND(0.051 J)	ND(0.057 J)	ND(0.051 J)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Toluene	30	520	46000	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0096)	ND(0.011)	ND(0.01)	ND(0.011)	ND(0.01)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0048)	ND(0.0057)	ND(0.0051)	ND(0.0057)	ND(0.0051)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-5 04/14/22 58-62	PZ-2022-5 04/18/22 72 76	PZ 2022-8 03/22/22 0-1	PZ-2022-8 03/22/22 12-16	PZ-2022-8 03/22/22 26-30
Semivolatile Organics									
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.11)	ND(0.12)	ND(0.1)	ND(0.1)	ND(0.11)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
1-Naphthylamine	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.9)	ND(2)	ND(1.7)	ND(1.7)	ND(1.9)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
2-Nitrophenol	--	--	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
2-Picoline	--	55	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.74)	ND(0.78)	ND(0.69)	ND(0.68)	ND(0.74)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
4-Methylphenol	--	270	3100	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.74)	ND(0.78)	ND(0.69)	ND(0.68)	ND(0.74)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.89)	R	ND(0.83)	ND(0.82)	ND(0.9)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-5 04/14/22 58-62	PZ-2022-5 04/18/22 72 76	PZ 2022-8 03/22/22 0-1	PZ-2022-8 03/22/22 12-16	PZ-2022-8 03/22/22 26-30
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	R	R	ND(0.34)	ND(0.34)	ND(0.37)
Acenaphthene	4	2600	33000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Acenaphthylene	1	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Acetophenone	--	0.49	100000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Aniline	--	78	300	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Anthracene	1000	14000	170000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Aramite	--	18	69	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.6)	ND(5.9)	ND(5.2)	ND(5.1 J)	R
Benzo(a)anthracene	7	0.56	2.1	mg/kg	0.026 J	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	0.49	ND(0.2)	ND(0.18)	0.43	0.66
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Chrysene	70	56	210	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Diallate	--	7.3	28	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Dibenzofuran	--	210	1600	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Dimethoate	--	11	120	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Dinoseb	--	55	620	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Diphenylamine	--	1400	15000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Disulfoton	--	2.2	25	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Famphur	--	--	--	mg/kg	ND(0.74)	R	ND(0.69)	ND(0.68)	ND(0.74)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Fluorene	1000	1800	22000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Hexachloropropene	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Isodrin	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Isophorone	--	470	1800	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Isosafrole	--	--	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-5 04/14/22 58-62	PZ-2022-5 04/18/22 72 76	PZ 2022-8 03/22/22 0-1	PZ-2022-8 03/22/22 12-16	PZ-2022-8 03/22/22 26-30
Kepone	--	0.025	0.11	mg/kg	ND(0.74)	R	ND(0.69)	ND(0.68)	ND(0.74)
Methapyrilene	--	55	--	mg/kg	ND(1.7)	ND(1.8)	ND(1.6)	ND(1.5)	ND(1.7)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Methyl Parathion	--	14	150	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Naphthalene	4	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Nitrobenzene	--	16	22	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Phenacetin	--	640	780	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Phenanthrene	10	55	20	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Phenol	1	33000	180000	mg/kg	ND(0.19)	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Phorate	--	11	120	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Pronamide	--	4100	46000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Pyrene	1000	1500	17000	mg/kg	0.11 J	ND(0.2)	ND(0.18)	ND(0.17)	ND(0.19)
Pyridine	--	55	1000	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Safrole	--	--	7.8	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Sulfotep	--	27	310	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Thionazin	--	330	--	mg/kg	ND(0.37)	ND(0.39)	ND(0.34)	ND(0.34)	ND(0.37)
Inorganics									
Antimony	20	30	410	mg/kg	ND(17.8)	ND(17.2)	1.0 J	0.54 J	0.76 J
Arsenic	20	0.38	1.6	mg/kg	**2.4**	**2.7**	**8.5**	**3.4**	**3.7**
Barium	1000	5200	190000	mg/kg	19.9	16.1	38.0	13.4	16.4
Beryllium	100	150	2000	mg/kg	0.22 J	0.23	0.30	0.17 J	0.18 J
Cadmium	2	37	800	mg/kg	0.096 J	0.081 J	0.18 J	0.083 J	0.10 J
Chromium	30	210	1400	mg/kg	4.9	4.4	5.3	7.3	6.5
Cobalt	--	3300	300	mg/kg	4.7	4.6	9.1	4.4	5.0
Copper	--	2800	41000	mg/kg	5.9	5.5	11.8	6.6	7.4
Cyanide	100	11	20000	mg/kg	ND(0.98)	ND(1.2)	ND(0.96)	ND(0.94)	ND(0.98)
Lead	300	400	800	mg/kg	5.5	5.8	9.9	4.6	5.4
Mercury	20	22	24	mg/kg	ND(0.023)	ND(0.022)	0.0079 J	ND(0.021)	ND(0.022)
Nickel	20	1500	20000	mg/kg	8.3	8.1	16.4	7.6	9.6
Selenium	400	370	5100	mg/kg	ND(4.8)	ND(4.6)	1.8 J	1.2 J	0.71 J
Silver	100	370	5100	mg/kg	ND(0.71)	ND(0.69)	ND(0.67)	ND(0.63)	ND(0.69)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-5 04/14/22 58-62	PZ-2022-5 04/18/22 72 76	PZ 2022-8 03/22/22 0-1	PZ-2022-8 03/22/22 12-16	PZ-2022-8 03/22/22 26-30
Thallium	8	6	66	mg/kg	ND(7.1)	ND(6.9)	ND(6.7)	ND(6.3)	ND(6.9)
Tin	--	45000	610000	mg/kg	ND(2.4)	ND(2.3)	ND(2.2)	ND(2.1)	ND(2.3)
Vanadium	600	520	7200	mg/kg	6.1	5.7	8.5	5.2	5.9
Zinc	2500	22000	310000	mg/kg	26.2	25.8	40.0 J	24.5	31.0 J
Pesticides									
2,4,5-T	--	550	6200	mg/kg	ND(0.019)	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
2,4,5-TP	--	440	4900	mg/kg	ND(0.019)	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
2,4-D	--	640	--	mg/kg	ND(0.019)	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.019)	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Delta-BHC	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Dimethoate	--	11	120	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Disulfoton	--	2.2	25	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Endosulfan I	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endosulfan II	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin	8	16	180	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Endrin Ketone	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Famphur	--	--	--	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Methoxychlor	200	270	3100	mg/kg	ND(0.0019)	ND(0.002)	ND(0.0017)	ND(0.0017)	ND(0.0019)
Methyl Parathion	--	14	150	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Phorate	--	11	120	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Sulfotep	--	27	310	mg/kg	ND(0.037)	ND(0.04)	ND(0.035)	ND(0.033)	ND(0.037)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.019)	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.019)	ND(0.02)	ND(0.017)	ND(0.017)	ND(0.019)
Wet Chemistry									
Sulfide	--	350	3000	mg/kg	ND(20.3)	ND(22.6)	ND(19.8)	ND(19.3)	ND(19.2)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-8 03/22/22 40-44	PZ 2022-8 03/22/22 60-64	PZ-2022-8 03/24/22 80-84
Dioxins							
1,2,3,4,6,7,8-HpCDD	--	--	--	mg/kg	ND(0.0000052)	0.0000022 J	ND(0.0000058)
1,2,3,4,6,7,8-HpCDF	--	--	--	mg/kg	ND(0.0000052)	0.00000081 J	ND(0.0000058)
1,2,3,4,7,8,9-HpCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,4,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,4,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,6,7,8-HxCDD	--	--	--	mg/kg	ND(0.0000052)	0.00000017 JNX	ND(0.0000058)
1,2,3,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,7,8,9-HxCDD	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,7,8,9-HxCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,7,8-PeCDD	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
1,2,3,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
2,3,4,6,7,8-HxCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
2,3,4,7,8-PeCDF	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
2,3,7,8-TCDD	0.00002	--	0.000018	mg/kg	ND(0.000001)	0.000000054 JNX	ND(0.0000012)
2,3,7,8-TCDF	--	--	--	mg/kg	ND(0.000001)	ND(0.0000011)	ND(0.0000012)
Heptachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
Heptachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
Hexachlorodibenzofurans	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
Hexachlorodibenzo-p-dioxins	--	--	--	mg/kg	ND(0.0000052)	0.0000014 JNX	ND(0.0000058)
Octachlorodibenzofuran	--	--	--	mg/kg	ND(0.00001)	0.0000021 J	ND(0.000012)
Octachlorodibenzo-p-dioxin	--	--	--	mg/kg	ND(0.00001)	0.000024	ND(0.000012)
Pentachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
Pentachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	ND(0.0000052)	ND(0.0000053)	ND(0.0000058)
Tetrachlorodibenzofurans, Total	--	--	--	mg/kg	ND(0.000001)	0.0000012 JNX	ND(0.0000012)
Tetrachlorodibenzo-p-dioxins, Total	--	--	--	mg/kg	0.00000033 JNX	0.00000068 JNX	ND(0.0000012)
WHO Dioxin TEQ(Human/Mammal-NDs used at 1/2 DL)	--	--	--	mg/kg	0.00000591	0.0000053	0.00000664
PCBs			--				
Aroclor 1016	--	--	21	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Aroclor 1221	--	--	0.62	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Aroclor 1232	--	--	0.62	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Aroclor 1242	--	--	0.74	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Aroclor 1248	--	--	0.74	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Aroclor 1254	--	--	0.74	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Aroclor 1260	--	--	0.74	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Total PCBs	1	3.9	21	mg/kg	ND(0.19)	ND(0.20)	ND(0.22)
Volatile Organics			--				
1,1,1,2-Tetrachloroethane	0.1	2.8	9.8	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,1,1-Trichloroethane	30	680	39000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,1,2,2-Tetrachloroethane	0.005	0.36	2.9	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,1,2-Trichloroethane	0.1	0.82	5.5	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,1-Dichloroethane	0.4	570	17	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,1-Dichloroethene	3	0.052	1100	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,2,3-Trichloropropane	--	0.0014	0.41	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,2-Dibromo-3-chloropropane	--	0.32	0.073	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,2-Dibromoethane	0.1	0.0049	0.17	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-8 03/22/22 40-44	PZ 2022-8 03/22/22 60-64	PZ-2022-8 03/24/22 80-84
1,2-Dichloroethane	0.1	0.34	2.2	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
1,2-Dichloropropane	0.1	0.34	4.7	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
2-Butanone (MEK)	4	6900	190000	mg/kg	ND(0.022)	ND(0.021)	ND(0.025)
2-Chloro-1,3-butadiene	--	3.6	36	mg/kg	ND(0.0043 J)	ND(0.0042 J)	ND(0.005)
2-Chloroethyl vinyl ether	--	0.18	--	mg/kg	ND(0.0086 J)	ND(0.0084 J)	ND(0.0099)
4-Methyl-2-Pentanone	0.4	750	52000	mg/kg	ND(0.022)	ND(0.021)	ND(0.025)
Acetone	6	1400	610000	mg/kg	ND(0.022)	0.016 J	ND(0.025)
Acetonitrile	--	200	3700	mg/kg	ND(0.043 J)	ND(0.042 J)	ND(0.05)
Acrolein	--	0.1	0.68	mg/kg	ND(0.022)	ND(0.021)	ND(0.025)
Acrylonitrile	--	0.19	1.2	mg/kg	ND(0.022)	ND(0.021)	ND(0.025)
Allyl chloride	--	2700	3.5	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Benzene	2	0.62	5.6	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Bromodichloromethane	0.1	0.98	1.4	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Bromoform	0.1	56	220	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Bromomethane	0.5	3.8	35	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Carbon Disulfide	--	350	3000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Carbon Tetrachloride	10	0.23	1.3	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
CFC-11	--	380	3400	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
CFC-12	--	94	780	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Chlorobenzene	1	54	1500	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Chlorodibromomethane	0.005	5.3	3.4	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Chloroethane	--	1600	62000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Chloroform	0.4	0.24	1.5	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Chloromethane	--	1.2	510	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
cis-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Dibromomethane	--	550	10000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Dichloromethane	0.1	8.5	54	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Ethyl Methacrylate	--	140	92000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Ethylbenzene	40	230	29	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Iodomethane	--	1.2	--	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
m,p-Xylene	--	--	--	mg/kg	ND(0.0086)	ND(0.0084)	ND(0.0099)
Methacrylonitrile	--	1.8	18	mg/kg	ND(0.022 J)	ND(0.021 J)	ND(0.025)
Methyl Methacrylate	--	2200	20000	mg/kg	ND(0.0043 J)	ND(0.0042 J)	ND(0.005)
Methyl N-Butyl Ketone (2-Hexanone)	--	750	--	mg/kg	ND(0.022)	ND(0.021)	ND(0.025)
o-Xylene	--	280	23000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Propionitrile	--	200	--	mg/kg	ND(0.043 J)	ND(0.042 J)	ND(0.05)
Styrene (Monomer)	3	1700	38000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Tetrachloroethene	1	4.7	2.7	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Toluene	30	520	46000	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
trans-1,2-Dichloroethene	1	62	500	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
trans-1,3-Dichloropropene	--	--	--	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
trans-1,4-Dichloro-2-butene	--	--	0.037	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Trichloroethene	0.3	2.7	14	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)
Vinyl acetate	--	420	4200	mg/kg	ND(0.0086)	ND(0.0084)	ND(0.0099)
Vinyl chloride	0.6	0.021	1.7	mg/kg	ND(0.0043)	ND(0.0042)	ND(0.005)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-8 03/22/22 40-44	PZ 2022-8 03/22/22 60-64	PZ-2022-8 03/24/22 80-84
Semivolatile Organics							
1,2,4,5-Tetrachlorobenzene	--	16	180	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
1,2,4-Trichlorobenzene	2	480	400	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,2-Dichlorobenzene	9	370	10000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,2-Diphenylhydrazine	--	0.56	2.2	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,3,5-Trinitrobenzene	--	1600	27000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,3-Dichlorobenzene	1	41	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,3-Dinitrobenzene	--	5.5	62	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,4-Dichlorobenzene	0.7	3	13	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1,4-Dioxane	0.2	40	160	mg/kg	ND(0.1)	ND(0.1)	ND(0.12)
1,4-Naphthoquinone	--	55	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
1-Naphthylamine	--	--	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2,3,4,6-Tetrachlorophenol	--	1600	18000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2,4,5-Trichlorophenol	4	5500	62000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2,4,6-Trichlorophenol	0.7	40	160	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2,4-Dichlorophenol	0.7	160	1800	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2,4-Dimethylphenol	0.7	1100	12000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2,4-Dinitrophenol	3	110	1200	mg/kg	ND(1.7)	ND(1.7)	ND(2)
2,4-Dinitrotoluene	0.7	110	5.5	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2,6-Dichlorophenol	--	160	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2,6-Dinitrotoluene	--	55	620	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2-Acetylaminofluorene	--	0.56	0.45	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2-Chloronaphthalene	--	3700	82000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2-Chlorophenol	0.7	59	5100	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2-Methyl-4,6-dinitrophenol	--	55	62	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2-Methylnaphthalene	0.7	55	4100	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2-Methylphenol	--	2700	31000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2-Naphthylamine	--	--	0.96	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2-Nitroaniline	--	3.3	1800	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
2-Nitrophenol	--	--	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
2-Picoline	--	55	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
3,3-Dichlorobenzidine	1	0.99	3.8	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
3,3'-Dimethylbenzidine	--	0.048	0.16	mg/kg	ND(0.67)	ND(0.69)	ND(0.79)
3-Methylcholanthrene	--	0.056	0.078	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
3-Methylphenol	--	2700	31000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
3-Methylphenol, 4-Methylphenol	--	270	3100	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
3-Nitroaniline	--	5.5	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
4-Aminobiphenyl	--	1400	0.082	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
4-Bromophenyl phenyl ether	--	160	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
4-Chloro-3-Methylphenol	--	2700	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
4-Chlorophenyl phenyl ether	--	--	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
4-Methylphenol	--	270	3100	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
4-Nitroaniline	--	5.5	86	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
4-Nitrophenol	--	3400	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
4-Nitroquinoline-1-oxide	--	110	--	mg/kg	ND(0.67)	ND(0.69)	ND(0.79)
4-Phenylenediamine	--	10000	120000	mg/kg	ND(0.81)	ND(0.84)	ND(0.96)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-8 03/22/22 40-44	PZ 2022-8 03/22/22 60-64	PZ-2022-8 03/24/22 80-84
5-Nitro-o-toluidine	--	13	52	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
7,12-Dimethylbenz(a)anthracene	--	0.056	0.0062	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
a,a'-Dimethylphenethylamine	--	55	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Acenaphthene	4	2600	33000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Acenaphthylene	1	55	20	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Acetophenone	--	0.49	100000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Aniline	--	78	300	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Anthracene	1000	14000	170000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Aramite	--	18	69	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Benzidine	--	0.0019	0.0075	mg/kg	ND(5.1)	ND(5.2)	ND(6)
Benzo(a)anthracene	7	0.56	2.1	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Benzo(a)pyrene	2	0.056	0.21	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Benzo(b)fluoranthene	7	0.56	2.1	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Benzo(g,h,i)perylene	1000	55	20	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Benzo(k)fluoranthene	70	5.6	21	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Benzyl Alcohol	--	16000	310000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
bis(2-Chloroethoxy)methane	--	--	1800	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
bis(2-Chloroethyl)ether	0.7	0.18	0.9	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
bis(2-Chloroisopropyl)ether	0.7	2.5	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
bis(2-Ethylhexyl)phthalate	200	32	120	mg/kg	0.45	1.2	0.35
Butyl benzyl phthalate	--	930	910	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Chrysene	70	56	210	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Diallate	--	7.3	28	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Dibenzo(a,h)anthracene	0.7	0.056	0.21	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Dibenzofuran	--	210	1600	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Diethyl phthalate	10	44000	490000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Dimethoate	--	11	120	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Dimethyl phthalate	30	100000	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Di-n-butyl phthalate	--	5500	62000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Di-n-octyl phthalate	--	1100	--	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Dinoseb	--	55	620	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Diphenylamine	--	1400	15000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Disulfoton	--	2.2	25	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Ethyl Methanesulfonate	--	--	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Famphur	--	--	--	mg/kg	ND(0.67)	ND(0.69)	ND(0.79)
Fluoranthene	1000	2000	22000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Fluorene	1000	1800	22000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Hexachloro-1,3-butadiene	6	5.7	22	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Hexachlorobenzene	0.7	0.28	1.1	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Hexachlorocyclopentadiene	--	380	3700	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Hexachloroethane	0.7	32	120	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Hexachloropropene	--	--	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Indeno(1,2,3-cd)pyrene	7	0.56	2.1	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Isodrin	--	--	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Isophorone	--	470	1800	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Isosafrole	--	--	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-8 03/22/22 40-44	PZ 2022-8 03/22/22 60-64	PZ-2022-8 03/24/22 80-84
Kepone	--	0.025	0.11	mg/kg	ND(0.67)	ND(0.69)	ND(0.79)
Methapyrilene	--	55	--	mg/kg	ND(1.5)	ND(1.6)	ND(1.8)
Methyl Methanesulfonate	--	--	17	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Methyl Parathion	--	14	150	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Naphthalene	4	55	20	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Nitrobenzene	--	16	22	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
N-Nitrosodiethylamine	--	0.003	0.011	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
N-Nitrosodimethylamine	--	0.0087	0.034	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
N-Nitroso-di-n-butylamine	--	0.022	0.43	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
n-Nitrosodi-n-propylamine	--	0.063	0.25	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
N-nitrosodiphenylamine	--	91	350	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
N-Nitrosomethylethylamine	--	0.02	0.078	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
N-Nitrosomorpholine	--	0.21	0.26	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
N-Nitrosopiperidine	--	0.21	0.18	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
N-Nitrosopyrrolidine	--	0.21	0.82	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
o,o,o-Triethylphosphorothioate	--	11	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
o-Toluidine	--	1.9	9.6	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
p-Chloroaniline	1	220	8.6	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
p-Dimethylaminoazobenzene	--	0.99	0.37	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Pentachlorobenzene	--	44	490	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Pentachloronitrobenzene	--	1.7	6.6	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Pentachlorophenol	3	2.5	9	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Phenacetin	--	640	780	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Phenanthrene	10	55	20	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Phenol	1	33000	180000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Phorate	--	11	120	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Pronamide	--	4100	46000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Pyrene	1000	1500	17000	mg/kg	ND(0.17)	ND(0.18)	ND(0.2)
Pyridine	--	55	1000	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Safrole	--	--	7.8	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Sulfotep	--	27	310	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Thionazin	--	330	--	mg/kg	ND(0.34)	ND(0.34)	ND(0.4)
Inorganics							
Antimony	20	30	410	mg/kg	0.71 J	0.70 J	ND(18.0)
Arsenic	20	0.38	1.6	mg/kg	**3.1**	**3.5**	**2.4**
Barium	1000	5200	190000	mg/kg	16.7	21.5	19.1
Beryllium	100	150	2000	mg/kg	0.15 J	0.18 J	0.18 J
Cadmium	2	37	800	mg/kg	0.092 J	0.096 J	0.064 J
Chromium	30	210	1400	mg/kg	9.0	5.6	5.2
Cobalt	--	3300	300	mg/kg	4.6	5.3	4.8
Copper	--	2800	41000	mg/kg	7.7	8.5	8.0
Cyanide	100	11	20000	mg/kg	ND(0.94)	ND(1.0)	ND(1.1)
Lead	300	400	800	mg/kg	4.8	6.6	5.5
Mercury	20	22	24	mg/kg	ND(0.020)	ND(0.020)	ND(0.024)
Nickel	20	1500	20000	mg/kg	9.0	9.3	6.9
Selenium	400	370	5100	mg/kg	0.53 J	0.91 J	ND(4.8)
Silver	100	370	5100	mg/kg	ND(0.65)	ND(0.65)	ND(0.72)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: Date Collected: Depth (feet):	MCP Method 1 S-1/GW-1 Soil Standards	EPA Region 9 Residential Soil PRGs	EPA Region 9 Industrial Soil PRGs	Units	PZ-2022-8 03/22/22 40-44	PZ 2022-8 03/22/22 60-64	PZ-2022-8 03/24/22 80-84
Thallium	8	6	66	mg/kg	ND(6.5)	ND(6.5)	ND(7.2)
Tin	--	45000	610000	mg/kg	ND(2.2)	ND(2.2)	ND(2.4)
Vanadium	600	520	7200	mg/kg	5.3	5.7	4.6
Zinc	2500	22000	310000	mg/kg	28.1 J	29.6 J	31.9 B
Pesticides							
2,4,5-T	--	550	6200	mg/kg	ND(0.017)	ND(0.017)	ND(0.02)
2,4,5-TP	--	440	4900	mg/kg	ND(0.017)	ND(0.017)	ND(0.02)
2,4-D	--	640	--	mg/kg	ND(0.017)	ND(0.017)	ND(0.02)
4,4'-DDD	4	2.4	7.2	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
4,4'-DDE	3	1.7	5.1	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
4,4'-DDT	3	1.7	7	mg/kg	ND(0.0017)	0.00074 J	ND(0.002)
4-Chlorobenzilate	--	1.6	16	mg/kg	ND(0.017)	ND(0.017)	ND(0.02)
Aldrin	0.04	0.026	0.1	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Alpha-BHC	--	0.086	0.27	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Alpha-Chlordane	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Beta-BHC	--	0.3	0.96	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Delta-BHC	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Dieldrin	0.05	0.028	0.11	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Dimethoate	--	11	120	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Disulfoton	--	2.2	25	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Endosulfan I	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Endosulfan II	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Endosulfan Sulfate	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Endrin	8	16	180	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Endrin Aldehyde	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Endrin Ketone	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Ethyl Parathion	--	330	3700	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Famphur	--	--	--	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Gamma-BHC (Lindane)	0.003	0.42	2.1	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Gamma-Chlordane	--	--	--	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Heptachlor	0.2	0.099	0.38	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Heptachlor Epoxide	0.09	0.049	0.19	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Methoxychlor	200	270	3100	mg/kg	ND(0.0017)	ND(0.0017)	ND(0.002)
Methyl Parathion	--	14	150	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Phorate	--	11	120	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Sulfotep	--	27	310	mg/kg	ND(0.034)	ND(0.034)	ND(0.039)
Technical Chlordane	--	1.6	--	mg/kg	ND(0.017)	ND(0.017)	ND(0.02)
Toxaphene	--	0.4	1.6	mg/kg	ND(0.017)	ND(0.017)	ND(0.02)
Wet Chemistry							
Sulfide	--	350	3000	mg/kg	ND(19.1)	ND(19.0)	ND(21.7)

Table 4A
Summary of Soil Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Notes:
1. Data is validated.
2. Duplicate samples presented in brackets.
3. NA = not analyzed.
4. Sample test results that exceed EPA Region 9 residential soil PRGs are indicated by bolded values; and those that that exceed EPA Region 9 industrial soil PRGs are indicated by shaded values. There were no exceedances of the MCP Method 1 S-1/GW-1 sol standards.

Qualifiers
B = Indicates an estimated value between the instrument detection limit and the Reporting Limit.
D = Compound quantitated using a secondary dilution.
J = Indicates an estimated value.
JNX = The compound is an estimated maximum possible concentration and is tentatively identified.
R = Rejected.
ND = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
ND J = The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

ARCADIS

Location ID:		B-2022-1		B-2022-2		MW-2022-2	
Depth (ft):		0 1		0 1		0 1	
Date Collected:		05/16/22		05/12/22		05/24/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA
PCBs							
Aroclor 1016	mg/kg	ND(0.26)	ND(0.035)	ND(0.21) [ND(0.21)]	ND(0.035)	ND(0.32) [ND(0.33)]	ND(0.051)
Aroclor 1221	mg/kg	ND(0.26)	ND(0.035)	ND(0.21) [ND(0.21)]	ND(0.035)	ND(0.32) [ND(0.33)]	ND(0.051)
Aroclor 1232	mg/kg	ND(0.26)	ND(0.035)	ND(0.21) [ND(0.21)]	ND(0.035)	ND(0.32) [ND(0.33)]	ND(0.051)
Aroclor 1242	mg/kg	ND(0.26)	ND(0.035)	ND(0.21) [ND(0.21)]	ND(0.035)	ND(0.32) [ND(0.33)]	ND(0.051)
Aroclor 1248	mg/kg	ND(0.26)	ND(0.035 J)	ND(0.21) [ND(0.21)]	ND(0.035)	ND(0.32) [ND(0.33)]	ND(0.051 J)
Aroclor 1254	mg/kg	ND(0.26)	ND(0.035)	ND(0.21) [ND(0.21)]	ND(0.035)	ND(0.32) [ND(0.33)]	ND(0.051)
Aroclor 1260	mg/kg	ND(0.26)	ND(0.035)	ND(0.21) [ND(0.21)]	ND(0.035 J)	ND(0.32) [ND(0.33)]	ND(0.051)
Aroclor 1262	mg/kg	NA	ND(0.035)	NA	ND(0.035 J)	NA	ND(0.051)
Aroclor 1268	mg/kg	NA	ND(0.035)	NA	ND(0.035 J)	NA	ND(0.051)
Volatile Organics							
1,1,1,2-Tetrachloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072) [ND(0.0076)]	NA
1,1,1-Trichloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,1,2,2-Tetrachloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076 J)]	NA
1,1,2-trichloro-1,2,2-trifluoroethane	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,1,2-Trichloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,1-Dichloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,1-Dichloroethene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,2,3-Trichlorobenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,2,3-Trichloropropane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076 J)]	NA
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,2,4-Trimethylbenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,2-Dibromo-3-chloropropane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076 J)]	NA
1,2-Dibromoethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,2-Dichloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,2-Dichloropropane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
1,3,5-Trimethylbenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
2-Butanone (MEK)	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	ND(0.0091)	ND(0.036) [ND(0.038)]	NA
2-Chloro-1,3-butadiene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072 J) [ND(0.0076 J)]	NA
2-Chloroethyl vinyl ether	mg/kg	ND(0.0088)	NA	ND(0.011) [ND(0.012)]	NA	ND(0.014 J) [ND(0.015 J)]	NA
4-Methyl-2-Pentanone	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	ND(0.0091)	ND(0.036) [ND(0.038)]	NA
Acetone	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	ND(0.0091)	ND(0.036) [ND(0.038)]	NA
Acetonitrile	mg/kg	ND(0.044)	NA	ND(0.054) [ND(0.061)]	NA	ND(0.072 J) [ND(0.076 J)]	NA
Acrolein	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	NA	ND(0.036 J) [ND(0.038 J)]	NA
Acrylonitrile	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	NA	ND(0.036) [ND(0.038)]	NA
Allyl chloride	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072) [ND(0.0076)]	NA
Benzene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Bromochloromethane	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
Bromodichloromethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Bromoform	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Bromomethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Carbon Disulfide	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Carbon Tetrachloride	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
CFC-11	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		B-2022-1		B-2022-2		MW-2022-2	
Depth (ft):		0 1		0 1		0 1	
Date Collected:		05/16/22		05/12/22		05/24/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA
CFC-12	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Chlorobenzene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Chlorodibromomethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Chloroethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Chloroform	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Chloromethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
cis-1,3-Dichloropropene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Cyclohexane	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
Dibromomethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072) [ND(0.0076)]	NA
Dichloromethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Ethyl Methacrylate	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072) [ND(0.0076)]	NA
Ethylbenzene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Iodomethane	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072) [ND(0.0076)]	NA
Isopropylbenzene	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
m,p-Xylene	mg/kg	ND(0.0088)	NA	ND(0.011) [ND(0.012)]	ND(0.0046)	ND(0.014) [ND(0.015)]	NA
Methacrylonitrile	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	NA	ND(0.036 J) [ND(0.038 J)]	NA
Methyl Acetate	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
Methyl Methacrylate	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072 J) [ND(0.0076 J)]	NA
Methyl N-Butyl Ketone (2-Hexanone)	mg/kg	ND(0.022)	NA	ND(0.027) [ND(0.03)]	ND(0.0091)	ND(0.036) [ND(0.038)]	NA
Methylcyclohexane	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
Methyl-tert-butylether	mg/kg	NA	NA	NA	ND(0.0046)	NA	NA
o-Xylene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Propionitrile	mg/kg	ND(0.044)	NA	ND(0.054) [ND(0.061)]	NA	ND(0.072 J) [ND(0.076 J)]	NA
Styrene (Monomer)	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Tetrachloroethene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Toluene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
trans-1,2-Dichloroethene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
trans-1,3-Dichloropropene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
trans-1,4-Dichloro-2-butene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	NA	ND(0.0072) [ND(0.0076 J)]	NA
Trichloroethene	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Vinyl acetate	mg/kg	R	NA	ND(0.011) [ND(0.012)]	NA	ND(0.014) [ND(0.015)]	NA
Vinyl chloride	mg/kg	ND(0.0044)	NA	ND(0.0054) [ND(0.0061)]	ND(0.0046)	ND(0.0072) [ND(0.0076)]	NA
Inorganics							
Aluminum	mg/kg	NA	5600	NA	3700 J	NA	15000 J
Antimony	mg/kg	4.4 J	ND(6.5 J)	1.5 J [2.5 J]	ND(6.3 J)	ND(21.2 J) [ND(23.6 J)]	R
Arsenic	mg/kg	6.0	4.9 J	3.1 [3.6]	3.7	5.8 J [6.4 J]	8.3 J-
Barium	mg/kg	21.0	20 J	13.5 [19.4]	14 J	74.5 J [82.7 J]	83
Beryllium	mg/kg	0.44	ND(0.54)	0.16 J [0.21]	0.13 J	0.81 J [0.92 J]	0.91
Cadmium	mg/kg	0.054 J	ND(0.54)	0.11 J [0.063 J]	ND(0.53)	0.27 J [0.32 J]	ND(0.74 J)
Calcium	mg/kg	NA	52000 D	NA	64000 D	NA	5900 J
Chromium	mg/kg	6.2	6	3.9 [5.2]	4.4	13.2 [14.8]	15 J
Cobalt	mg/kg	8.6	7.4	4.3 [5.6]	4.6 J	10.5 [11.9]	9.1 J
Copper	mg/kg	9.0	11	6.5 [7.1]	6.8	12.7 [15.2]	13 J-
Cyanide	mg/kg	R	NA	ND(0.99) [ND(0.090)]	NA	ND(0.12) [ND(0.13)]	NA
Iron	mg/kg	NA	22000	NA	12000	NA	27000 J
Lead	mg/kg	9.4	6.3	4.7 [6.0]	4.5	26.5 [29.4]	27

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		B-2022-1		B-2022-2		MW-2022-2	
Depth (ft):		0 1		0 1		0 1	
Date Collected:		05/16/22		05/12/22		05/24/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA
Magnesium	mg/kg	NA	21000 J	NA	28000 J	NA	6000 J
Manganese	mg/kg	NA	480	NA	270	NA	1000 J
Mercury	mg/kg	0.014 J	NA	0.0094 J [0.0077 J]	NA	0.099 [0.11]	NA
Nickel	mg/kg	14.4	12	7.7 [9.5]	7 J	17.5 [19.5]	14
Potassium	mg/kg	NA	360 J	NA	350 J	NA	1500
Selenium	mg/kg	2.2 J	2.8 J	0.65 J [0.85 J]	1.8 J	ND(5.6 J) [ND(6.3 J)]	ND(5.2 J)
Silver	mg/kg	ND(0.66)	0.24 J	ND(0.67) [ND(0.63)]	ND(1.1)	ND(0.85 J) [ND(0.94 J)]	ND(1.5)
Sodium	mg/kg	NA	30 J	NA	28 J	NA	ND(740)
Thallium	mg/kg	ND(6.6)	ND(2.7)	ND(6.7) [ND(6.3)]	ND(2.6)	ND(8.5) [ND(9.4)]	ND(3.7)
Tin	mg/kg	ND(2.2)	NA	ND(2.2) [ND(2.1)]	NA	1.5 J [1.5 J]	NA
Vanadium	mg/kg	9.3	7.6	5.3 [6.7]	5.9	20.2 J [22.3 J]	22 J
Zinc	mg/kg	54.1	54 J	22.8 [31.4]	30	67.0 J [76.1 J]	110

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		MW-2022-3		MW-2022-4		MW-2022-4		MW-2022-7	
Depth (ft):		0 1		0 1		74 78		0 1	
Date Collected:		05/31/22		04/12/22		04/14/22		05/03/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA	GE	EPA
PCBs									
Aroclor 1016	mg/kg	ND(0.21)	ND(0.036 J)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035)
Aroclor 1221	mg/kg	ND(0.21)	ND(0.036 J)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035)
Aroclor 1232	mg/kg	ND(0.21)	ND(0.036 J)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035)
Aroclor 1242	mg/kg	ND(0.21)	ND(0.036 J)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035 J)
Aroclor 1248	mg/kg	ND(0.21)	ND(0.036)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035 J)
Aroclor 1254	mg/kg	ND(0.21)	ND(0.036)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035 J)
Aroclor 1260	mg/kg	ND(0.21)	ND(0.036 J)	ND(0.24)	ND(0.035)	ND(0.22)	ND(0.04)	ND(0.30)	ND(0.035)
Aroclor 1262	mg/kg	NA	ND(0.036 J)	NA	ND(0.035)	NA	ND(0.04)	NA	ND(0.035)
Aroclor 1268	mg/kg	NA	ND(0.036 J)	NA	ND(0.035)	NA	ND(0.04)	NA	ND(0.035)
Volatile Organics									
1,1,1,2-Tetrachloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	NA	NA	NA
1,1,1-Trichloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,1,2,2-Tetrachloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,1,2-Trichloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,1-Dichloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,1-Dichloroethene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,2,3-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,2,3-Trichloropropane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,2,4-Trimethylbenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,2-Dibromo-3-chloropropane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,2-Dibromoethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,2-Dichloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,2-Dichloropropane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
1,3,5-Trimethylbenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
2-Butanone (MEK)	mg/kg	ND(0.024)	NA	ND(0.025)	NA	ND(0.023)	ND(0.011)	NA	NA
2-Chloro-1,3-butadiene	mg/kg	ND(0.0049 J)	NA	ND(0.0049 J)	NA	ND(0.0046)	NA	NA	NA
2-Chloroethyl vinyl ether	mg/kg	ND(0.0098 J)	NA	ND(0.0099 J)	NA	ND(0.0092)	NA	NA	NA
4-Methyl-2-Pentanone	mg/kg	ND(0.024)	NA	ND(0.025)	NA	ND(0.023)	ND(0.011)	NA	NA
Acetone	mg/kg	ND(0.024)	NA	0.0095 J	NA	0.0054 J	0.1 J+	NA	NA
Acetonitrile	mg/kg	ND(0.049 J)	NA	ND(0.049 J)	NA	ND(0.046)	NA	NA	NA
Acrolein	mg/kg	ND(0.024 J)	NA	ND(0.025)	NA	ND(0.023)	NA	NA	NA
Acrylonitrile	mg/kg	ND(0.024)	NA	ND(0.025)	NA	ND(0.023)	NA	NA	NA
Allyl chloride	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	NA	NA	NA
Benzene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Bromochloromethane	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
Bromodichloromethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Bromoform	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Bromomethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Carbon Disulfide	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Carbon Tetrachloride	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
CFC-11	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		MW-2022-3		MW-2022-4		MW-2022-4		MW-2022-7	
Depth (ft):		0 1		0 1		74 78		0 1	
Date Collected:		05/31/22		04/12/22		04/14/22		05/03/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA	GE	EPA
CFC-12	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Chlorobenzene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Chlorodibromomethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Chloroethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Chloroform	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	0.00059 J	ND(0.0054)	NA	NA
Chloromethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054 J)	NA	NA
cis-1,3-Dichloropropene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Cyclohexane	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
Dibromomethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	NA	NA	NA
Dichloromethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	0.013 J+	NA	NA
Ethyl Methacrylate	mg/kg	ND(0.0049 J)	NA	ND(0.0049)	NA	ND(0.0046)	NA	NA	NA
Ethylbenzene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Iodomethane	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	NA	NA	NA
Isopropylbenzene	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
m,p-Xylene	mg/kg	ND(0.0098)	NA	ND(0.0099)	NA	ND(0.0092)	ND(0.0054)	NA	NA
Methacrylonitrile	mg/kg	ND(0.024 J)	NA	ND(0.025 J)	NA	ND(0.023)	NA	NA	NA
Methyl Acetate	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
Methyl Methacrylate	mg/kg	ND(0.0049 J)	NA	ND(0.0049 J)	NA	ND(0.0046)	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	mg/kg	ND(0.024)	NA	ND(0.025)	NA	ND(0.023)	ND(0.011)	NA	NA
Methylcyclohexane	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
Methyl-tert-butylether	mg/kg	NA	NA	NA	NA	NA	ND(0.0054)	NA	NA
o-Xylene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Propionitrile	mg/kg	ND(0.049 J)	NA	ND(0.049 J)	NA	ND(0.046)	NA	NA	NA
Styrene (Monomer)	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Tetrachloroethene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	0.0018 J	NA	NA
Toluene	mg/kg	ND(0.0049)	NA	0.00049 J	NA	ND(0.0046)	ND(0.0054)	NA	NA
trans-1,2-Dichloroethene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
trans-1,3-Dichloropropene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
trans-1,4-Dichloro-2-butene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	NA	NA	NA
Trichloroethene	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Vinyl acetate	mg/kg	ND(0.0098 J)	NA	ND(0.0099)	NA	ND(0.0092)	NA	NA	NA
Vinyl chloride	mg/kg	ND(0.0049)	NA	ND(0.0049)	NA	ND(0.0046)	ND(0.0054)	NA	NA
Inorganics									
Aluminum	mg/kg	NA	NA	NA	3400	NA	4400	NA	6300 J
Antimony	mg/kg	3.1 J	NA	2.4 J	ND(6.4 J)	ND(18.3)	ND(7.2 J)	0.85 J	R
Arsenic	mg/kg	5.8	NA	3.9	3.4	3.2	3.5	6.0	4.2 J
Barium	mg/kg	25.9	NA	18.8 J	25	22.4	20 J	37.2	23
Beryllium	mg/kg	0.42	NA	0.24	0.092 J-	0.25	0.091 J-	0.47	0.18 J
Cadmium	mg/kg	ND(0.23)	NA	0.074 J	ND(0.53)	0.11 J	ND(0.6)	0.13 J	ND(0.57)
Calcium	mg/kg	NA	NA	NA	79000 D	NA	100000 D	NA	2800 J
Chromium	mg/kg	8.0	NA	4.5	3.8	5.5	5.7	9.6	6.4 J
Cobalt	mg/kg	8.0	NA	8.2	4.6 J	5.7	4.5 J	9.3	5.7
Copper	mg/kg	11.1	NA	6.6	6.5	6.8	7.7	11.2	7.3
Cyanide	mg/kg	ND(0.095)	NA	ND(1.0)	NA	ND(1.1)	NA	ND(1.2)	NA
Iron	mg/kg	NA	NA	NA	12000	NA	13000	NA	15000 J
Lead	mg/kg	12.3	NA	6.5	3.2 J	6.2	2.9 J	16.6	9.6 J+

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		MW-2022-3		MW-2022-4		MW-2022-4		MW-2022-7	
Depth (ft):		0 1		0 1		74 78		0 1	
Date Collected:		05/31/22		04/12/22		04/14/22		05/03/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA	GE	EPA
Magnesium	mg/kg	NA	NA	NA	28000	NA	45000	NA	3400
Manganese	mg/kg	NA	NA	NA	350 J	NA	320 J	NA	400 J
Mercury	mg/kg	0.0076 J	NA	ND(0.022)	NA	ND(0.024)	NA	0.048	NA
Nickel	mg/kg	15.0	NA	11.7	6.4	9.7	7.1	18.5	9.2
Potassium	mg/kg	NA	NA	NA	360 J	NA	620	NA	230 J
Selenium	mg/kg	1.7 J	NA	1.1 J	2.1 J	ND(4.9)	2.1 J	ND(5.1)	2.1 J
Silver	mg/kg	ND(0.68)	NA	ND(0.67)	ND(1.1)	ND(0.73)	ND(1.2)	ND(0.76)	ND(1.1)
Sodium	mg/kg	NA	NA	NA	27 J	NA	81 J	NA	13 J
Thallium	mg/kg	ND(6.8)	NA	ND(6.7)	ND(2.7 J)	ND(7.3)	ND(3 J)	ND(7.6)	ND(2.9)
Tin	mg/kg	ND(2.3)	NA	ND(2.2)	NA	ND(2.4)	NA	ND(2.5)	NA
Vanadium	mg/kg	9.5	NA	5.7	5 J	6.4	5.6 J	14.9	9.1
Zinc	mg/kg	40.5 J	NA	31.3	29	30.1	33	61.9	45 J

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		MW-2022-7		PZ-2022-1		PZ-2022-2	
Depth (ft):		80 84		0 1		0 1	
Date Collected:		05/05/22		04/21/22		04/27/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA
PCBs							
Aroclor 1016	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036)	ND(0.19)	ND(0.036) [ND(0.036)]
Aroclor 1221	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036)	ND(0.19)	ND(0.036) [ND(0.036)]
Aroclor 1232	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036)	ND(0.19)	ND(0.036) [ND(0.036)]
Aroclor 1242	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036)	ND(0.19)	ND(0.036) [ND(0.036)]
Aroclor 1248	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036 J)	ND(0.19)	ND(0.036 J) [ND(0.036 J)]
Aroclor 1254	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036)	ND(0.19)	ND(0.036) [ND(0.036)]
Aroclor 1260	mg/kg	ND(0.30)	NA	ND(0.22)	ND(0.036 J)	ND(0.19)	ND(0.036 J) [ND(0.036 J)]
Aroclor 1262	mg/kg	NA	NA	NA	ND(0.036)	NA	ND(0.036) [ND(0.036)]
Aroclor 1268	mg/kg	NA	NA	NA	ND(0.036)	NA	ND(0.036 J) [ND(0.036 J)]
Volatile Organics							
1,1,1,2-Tetrachloroethane	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
1,1,1-Trichloroethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,1,2,2-Tetrachloroethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,1,2-trichloro-1,2,2-trifluoroethane	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,1,2-Trichloroethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,1-Dichloroethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,1-Dichloroethene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,2,3-Trichlorobenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,2,3-Trichloropropane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,2,4-Trichlorobenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,2,4-Trimethylbenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,2-Dibromo-3-chloropropane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,2-Dibromoethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,2-Dichlorobenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,2-Dichloroethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,2-Dichloropropane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
1,3,5-Trimethylbenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
2-Butanone (MEK)	mg/kg	ND(0.026)	ND(0.011)	ND(0.027)	ND(0.015)	ND(0.031)	NA
2-Chloro-1,3-butadiene	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
2-Chloroethyl vinyl ether	mg/kg	ND(0.01)	NA	ND(0.011)	NA	ND(0.012)	NA
4-Methyl-2-Pentanone	mg/kg	ND(0.026)	ND(0.011)	ND(0.027)	ND(0.015)	ND(0.031)	NA
Acetone	mg/kg	ND(0.026)	ND(0.011)	ND(0.027)	0.13 J+	ND(0.031)	NA
Acetonitrile	mg/kg	ND(0.052)	NA	ND(0.055)	NA	ND(0.061)	NA
Acrolein	mg/kg	ND(0.026)	NA	ND(0.027)	NA	ND(0.031)	NA
Acrylonitrile	mg/kg	ND(0.026)	NA	ND(0.027)	NA	ND(0.031)	NA
Allyl chloride	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
Benzene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Bromochloromethane	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
Bromodichloromethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Bromoform	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Bromomethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Carbon Disulfide	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Carbon Tetrachloride	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
CFC-11	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		MW-2022-7		PZ-2022-1		PZ-2022-2	
Depth (ft):		80 84		0 1		0 1	
Date Collected:		05/05/22		04/21/22		04/27/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA
CFC-12	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Chlorobenzene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Chlorodibromomethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Chloroethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Chloroform	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Chloromethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
cis-1,2-Dichloroethene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076 J)	NA	NA
cis-1,3-Dichloropropene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Cyclohexane	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
Dibromomethane	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
Dichloromethane	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Ethyl Methacrylate	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
Ethylbenzene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Iodomethane	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
Isopropylbenzene	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
m,p-Xylene	mg/kg	ND(0.01)	ND(0.0053)	ND(0.011)	ND(0.0076)	ND(0.012)	NA
Methacrylonitrile	mg/kg	ND(0.026)	NA	ND(0.027)	NA	ND(0.031)	NA
Methyl Acetate	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
Methyl Methacrylate	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
Methyl N-Butyl Ketone (2-Hexanone)	mg/kg	ND(0.026)	ND(0.011)	ND(0.027)	ND(0.015)	ND(0.031)	NA
Methylcyclohexane	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
Methyl-tert-butylether	mg/kg	NA	ND(0.0053)	NA	ND(0.0076)	NA	NA
o-Xylene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Propionitrile	mg/kg	ND(0.052)	NA	ND(0.055)	NA	ND(0.061)	NA
Styrene (Monomer)	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Tetrachloroethene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Toluene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
trans-1,2-Dichloroethene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
trans-1,3-Dichloropropene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
trans-1,4-Dichloro-2-butene	mg/kg	ND(0.0052)	NA	ND(0.0055)	NA	ND(0.0061)	NA
Trichloroethene	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Vinyl acetate	mg/kg	ND(0.01)	NA	ND(0.011)	NA	ND(0.012)	NA
Vinyl chloride	mg/kg	ND(0.0052)	ND(0.0053)	ND(0.0055)	ND(0.0076)	ND(0.0061)	NA
Inorganics							
Aluminum	mg/kg	NA	NA	NA	4800	NA	3900 [3400]
Antimony	mg/kg	1.7 J	NA	0.58 J	ND(6.4 J)	ND(15.9)	0.5 J- [ND(6.3 J)]
Arsenic	mg/kg	4.1	NA	3.8	4.8	3.2	3.9 [3.2]
Barium	mg/kg	17.4	NA	21.7	26	16.1	14 J [16 J]
Beryllium	mg/kg	0.20 J	NA	0.32	0.18 J	0.23	0.13 J [0.11 J]
Cadmium	mg/kg	0.054 J	NA	0.055 J	0.075 J	0.047 J	ND(0.54) [ND(0.52)]
Calcium	mg/kg	NA	NA	NA	34000	NA	75000 JD [61000 JD]
Chromium	mg/kg	5.1	NA	6.5	5.6	4.9	4.3 [4.1]
Cobalt	mg/kg	5.0	NA	6.6	12 J	6.1	5.1 J [4.4 J]
Copper	mg/kg	7.7	NA	8.6	9.3	7.4	7.4 [7.1]
Cyanide	mg/kg	R	NA	ND(1.1)	NA	ND(0.00010)	NA
Iron	mg/kg	NA	NA	NA	15000	NA	13000 J [11000 J]
Lead	mg/kg	5.5	NA	9.2	7.7 J	7.1	3.9 J+ [3.5 J+]

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		MW-2022-7		PZ-2022-1		PZ-2022-2	
Depth (ft):		80 84		0 1		0 1	
Date Collected:		05/05/22		04/21/22		04/27/22	
Sampler:	Units	GE	EPA	GE	EPA	GE	EPA
Magnesium	mg/kg	NA	NA	NA	20000	NA	29000 [29000]
Manganese	mg/kg	NA	NA	NA	430 J	NA	300 [290]
Mercury	mg/kg	ND(0.025 J)	NA	0.014 J	NA	0.0069 J	NA
Nickel	mg/kg	9.3	NA	11.2	9.5	10.1	7.2 [6.8]
Potassium	mg/kg	NA	NA	NA	350 J	NA	380 J [330 J]
Selenium	mg/kg	ND(4.8)	NA	ND(4.5)	1.8 J	ND(4.2)	2 J [1.8 J]
Silver	mg/kg	ND(0.71)	NA	ND(0.67)	ND(1.1)	ND(0.63)	ND(1.1) [ND(1)]
Sodium	mg/kg	NA	NA	NA	ND(530)	NA	24 J [21 J]
Thallium	mg/kg	ND(7.1)	NA	ND(6.7)	ND(2.7)	ND(6.3)	ND(2.7) [ND(2.6)]
Tin	mg/kg	0.53 J	NA	0.59 J	NA	ND(2.1)	NA
Vanadium	mg/kg	6.3	NA	9.0	7.6	6.8	5.5 [5.2]
Zinc	mg/kg	28.2	NA	35.4	42	29.6	32 [31]

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		PZ-2022-3		PZ-2022-5	
Depth (ft):		82 86		45 49	
Date Collected:		04/21/22		04/14/22	
Sampler:	Units	GE	EPA	GE	EPA
PCBs					
Aroclor 1016	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1221	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1232	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1242	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1248	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1254	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1260	mg/kg	ND(0.21)	NA	ND(0.21)	ND(0.038)
Aroclor 1262	mg/kg	NA	NA	NA	ND(0.038)
Aroclor 1268	mg/kg	NA	NA	NA	ND(0.038)
Volatile Organics					
1,1,1,2-Tetrachloroethane	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
1,1,1-Trichloroethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,1,2,2-Tetrachloroethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,1,2-trichloro-1,2,2-trifluoroethane	mg/kg	NA	ND(0.0046)	NA	NA
1,1,2-Trichloroethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,1-Dichloroethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,1-Dichloroethene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,2,3-Trichlorobenzene	mg/kg	NA	ND(0.0046)	NA	NA
1,2,3-Trichloropropane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,2,4-Trichlorobenzene	mg/kg	NA	ND(0.0046)	NA	NA
1,2,4-Trimethylbenzene	mg/kg	NA	ND(0.0046)	NA	NA
1,2-Dibromo-3-chloropropane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,2-Dibromoethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,2-Dichlorobenzene	mg/kg	NA	ND(0.0046)	NA	NA
1,2-Dichloroethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,2-Dichloropropane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
1,3,5-Trimethylbenzene	mg/kg	NA	ND(0.0046)	NA	NA
1,3-Dichlorobenzene	mg/kg	NA	ND(0.0046)	NA	NA
1,4-Dichlorobenzene	mg/kg	NA	ND(0.0046)	NA	NA
2-Butanone (MEK)	mg/kg	ND(0.062)	ND(0.0093)	ND(0.027)	NA
2-Chloro-1,3-butadiene	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
2-Chloroethyl vinyl ether	mg/kg	ND(0.025)	NA	ND(0.011)	NA
4-Methyl-2-Pentanone	mg/kg	ND(0.062)	ND(0.0093)	ND(0.027)	NA
Acetone	mg/kg	0.073	ND(0.0093)	ND(0.027)	NA
Acetonitrile	mg/kg	ND(0.12)	NA	ND(0.053)	NA
Acrolein	mg/kg	ND(0.062)	NA	ND(0.027)	NA
Acrylonitrile	mg/kg	ND(0.062)	NA	ND(0.027)	NA
Allyl chloride	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
Benzene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Bromochloromethane	mg/kg	NA	ND(0.0046)	NA	NA
Bromodichloromethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Bromoform	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Bromomethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Carbon Disulfide	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Carbon Tetrachloride	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
CFC-11	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		PZ-2022-3		PZ-2022-5	
Depth (ft):		82 86		45 49	
Date Collected:		04/21/22		04/14/22	
Sampler:	Units	GE	EPA	GE	EPA
CFC-12	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Chlorobenzene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Chlorodibromomethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Chloroethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Chloroform	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Chloromethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
cis-1,2-Dichloroethene	mg/kg	NA	ND(0.0046 J)	NA	NA
cis-1,3-Dichloropropene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Cyclohexane	mg/kg	NA	ND(0.0046)	NA	NA
Dibromomethane	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
Dichloromethane	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Ethyl Methacrylate	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
Ethylbenzene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Iodomethane	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
Isopropylbenzene	mg/kg	NA	ND(0.0046)	NA	NA
m,p-Xylene	mg/kg	ND(0.025)	ND(0.0046)	ND(0.011)	NA
Methacrylonitrile	mg/kg	ND(0.062)	NA	ND(0.027)	NA
Methyl Acetate	mg/kg	NA	ND(0.0046)	NA	NA
Methyl Methacrylate	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
Methyl N-Butyl Ketone (2-Hexanone)	mg/kg	ND(0.062)	ND(0.0093)	ND(0.027)	NA
Methylcyclohexane	mg/kg	NA	ND(0.0046)	NA	NA
Methyl-tert-butylether	mg/kg	NA	ND(0.0046)	NA	NA
o-Xylene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Propionitrile	mg/kg	ND(0.12)	NA	ND(0.053)	NA
Styrene (Monomer)	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Tetrachloroethene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Toluene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
trans-1,2-Dichloroethene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
trans-1,3-Dichloropropene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
trans-1,4-Dichloro-2-butene	mg/kg	ND(0.012)	NA	ND(0.0053)	NA
Trichloroethene	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Vinyl acetate	mg/kg	ND(0.025)	NA	ND(0.011)	NA
Vinyl chloride	mg/kg	ND(0.012)	ND(0.0046)	ND(0.0053)	NA
Inorganics					
Aluminum	mg/kg	NA	NA	NA	3900
Antimony	mg/kg	ND(16.7)	NA	ND(17.7)	ND(6.8 J)
Arsenic	mg/kg	4.3	NA	2.4	3.5
Barium	mg/kg	9.5	NA	15.7	14 J
Beryllium	mg/kg	0.18 J	NA	0.21 J	0.072 J-
Cadmium	mg/kg	0.049 J	NA	0.071 J	ND(0.56)
Calcium	mg/kg	NA	NA	NA	110000 D
Chromium	mg/kg	3.5	NA	4.4	4.4
Cobalt	mg/kg	3.9	NA	5.0	4.3 J
Copper	mg/kg	4.8	NA	5.9	6.8
Cyanide	mg/kg	ND(1.1)	NA	ND(1.1)	NA
Iron	mg/kg	NA	NA	NA	12000
Lead	mg/kg	8.6	NA	5.7	2.2 J

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID:		PZ-2022-3		PZ-2022-5	
Depth (ft):		82 86		45 49	
Date Collected:		04/21/22		04/14/22	
Sampler:	Units	GE	EPA	GE	EPA
Magnesium	mg/kg	NA	NA	NA	54000 D
Manganese	mg/kg	NA	NA	NA	310 J
Mercury	mg/kg	ND(0.021)	NA	ND(0.023)	NA
Nickel	mg/kg	6.6	NA	8.4	6.5
Potassium	mg/kg	NA	NA	NA	450 J
Selenium	mg/kg	ND(4.5)	NA	ND(4.7)	2.1 J
Silver	mg/kg	ND(0.67)	NA	ND(0.71)	ND(1.1)
Sodium	mg/kg	NA	NA	NA	33 J
Thallium	mg/kg	ND(6.7)	NA	ND(7.1)	ND(2.8 J)
Tin	mg/kg	ND(2.2)	NA	ND(2.4)	NA
Vanadium	mg/kg	4.0	NA	5.8	5 J
Zinc	mg/kg	18.6	NA	24.7	29

Table 4B
Summary of EPA Soil Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Notes:
1. Data is validated.
2. Duplicate samples presented in brackets.
3. NA = not analyzed.

Qualifiers
D = Compound quantitated using a secondary dilution.
J = Indicates an estimated value. For EPA data, - indicates estimate with low bias and + indicates estimate with high bias.
JNX = The compound is an estimated maximum possible concentration and is tentatively identified.
R = Rejected.
ND = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
ND J = The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

Table 5
Summary of Piezometer and Groundwater Monitoring Well Installation
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Boring ID	Surveyed Coordinates		Surveyed Ground Elevation (ft)	Surveyed Riser Pipe Stickup Elevation (ft)	Top of Screen Depth (Ft BToR)	Bottom of Screen (Ft BToR)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)
	North	East						
MW 2022-1S[1]	2,954,356.02	187,012.01	1,030.2	1032.89	56.6	66.6	976.20	966.31
MW 2022-1D	2,954,349.56	187,021.61	1,029.6	1,032.38	73.0	83.0	959.10	949.10
MW 2022-2	2,955,207.16	186,249.63	981.7	985.13	31.2	41.2	953.70	943.70
MW 2022-3	2,954,896.01	186,066.00	953.7	956.71	10.3	20.3	946.19	936.19
MW 2022-4S	2,954,313.76	185,914.75	1,025.6	1,028.13	74.4	84.4	953.60	943.60
MW 2022-4D	2,954,329.39	185,922.20	1,026.5	1,029.27	111.6	121.6	917.50	907.50
MW 2022-5	2,953,973.090	186,009.95	1,012.8	1,015.92	62.0	72.0	953.78	943.78
MW 2022-6[2]	2,953,510.76	186,122.87	994.3	997.05	42.7	52.7	954.40	944.40
MW 2022-7[2]	2,953,337.69	186,393.69	1,036.1	1,039.16	83.2	93.2	955.96	945.96
MW 2022-8[2] (formerly PZ 2022-4)	2,954,165.56	186,348.98	1,018.5	1,021.79	66.2	76.2	955.55	945.55
MW 2022-9[2] (formerly PZ 2022-6)	2,953,747.74	186,492.60	987.8	991.03	34.7	44.7	956.33	946.33
PZ 2022-1 (formerly B 2022-4)	2,954,815.02	186,513.66	1,021.9	1,024.76	67.5	77.5	957.26	947.26
PZ 2022-2	2,954,515.04	186,585.28	1,030.2	1,032.86	78.6	88.6	954.20	944.20
PZ 2022-3	2,954,524.46	186,758.36	1,034.0	1,036.69	82.5	92.5	954.04	944.04
PZ 2022-5	2,954,171.39	186,698.24	1,031.9	1,034.59	74.0	84.0	960.43	950.43
PZ 2022-7	2,953,877.05	186,894.09	1,024.7	1,028.29	66.8	76.8	961.22	951.22
PZ 2022-8	2,953,540.14	186,868.86	1,035.4	1,039.06	78.5	88.5	960.25	950.25

Notes:

1. Coordinates are referenced to NAD 83 MA State Plane.
2. Elevations are referenced to NAVD 88.
3. Coordinates and ground elevations are based on field survey at installed locations.
4. Measurement datum for piezometers and monitoring wells is top of riser pipe stickup.
5. Depth to screen interval is feet below top of riser pipe stickup.

Footnotes:

[1] Screen depth and corresponding elevation updated based on revised ground elevation and screen bottom depth measurement.

[2] Screen depth and corresponding elevation updated based on revised screen bottom depth measurement following sediment removal activities completed on December 13, 2022.

Abbreviations

ft = feet

(Ft BToR) = feet below top of riser

Table 6A
Summary of Groundwater Elevation Monitoring
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Location ID	Gauging Elevations (ft)												
	6/6/2022	7/8/2022	8/10/2022	9/8/2022	10/7/2022	11/8/2022	12/7/2022	1/11/2023	2/7/2023	3/24/2023	4/12/2023	5/9/2023	6/8/2023
MW 2022-1S	na	971.08	969.51	968.52	967.64	966.80	966.57	966.41	967.72	970.31	971.69	973.15	971.84
MW 2022-1D	972.75	971.16	969.80	968.73	967.89	967.04	966.67	966.47	968.11	970.60	971.86	972.89	972.02
MW 2022-2	956.25	954.55	951.41	953.10	954.56	954.82	958.83	959.23	957.79	961.22	957.53	957.35	955.44
MW 2022-3	949.58	948.57	947.70	947.34	946.99	946.90	947.12	948.37	948.09	949.26	949.76	948.90	947.87
MW 2022-4S	950.55	949.46	948.42	947.77	947.29	947.22	947.37	948.56	949.65	949.65	950.42	950.11	949.19
MW 2022-4D	951.78	950.47	949.04	948.19	947.64	947.73	947.93	949.68	951.12	950.66	952.29	951.80	950.44
MW 2022-5	955.29	954.60	953.69	952.74	951.68	950.97	951.30	952.59	953.99	954.71	955.02	955.57	955.25
MW 2022-6	951.54	950.13	948.74	947.89	947.18	947.26	947.46	949.07	950.63	950.23	951.70	951.56	950.35
MW 2022-7	954.55	952.70	950.91	949.67	948.88	949.16	949.52	951.93	954.03	952.98	955.44	955.06	953.33
MW 2022-8	954.39	952.29	950.94	949.92	949.17	948.87	949.02	950.06	951.44	951.73	952.41	952.81	952.07
MW 2022-9	953.40	951.57	949.96	948.84	948.26	948.44	948.72	950.90	952.78	951.85	954.33	953.71	951.90
Lee LF MW-84-1	959.77	957.47	955.35	953.97	953.36	954.97	955.79	961.00	962.38	959.17	965.16	962.65	958.98
Lee LF MW-84-2	954.46	953.24	951.80	950.75	950.10	949.52	948.75	950.00	951.45	951.36	952.48	952.74	944.05
PZ 2022-1	951.54	950.85	950.06	949.58	949.17	949.28	949.41	950.54	951.15	951.11	951.75	951.20	950.78
PZ 2022-2	952.61	951.35	950.28	949.47	948.85	948.70	948.81	950.05	951.24	951.25	952.17	952.00	951.21
PZ 2022-3	963.79	962.71	961.38	960.13	959.04	958.40	958.16	959.06	960.47	961.62	962.81	963.47	963.08
PZ 2022-5	954.13	952.30	951.37	951.38	951.34	951.30	951.31	951.75	953.61	952.64	955.26	954.52	952.70
PZ 2022-7	957.62	955.49	953.59	952.37	952.17	952.86	953.59	957.88	959.17	957.00	961.20	959.60	956.69
PZ 2022-8	956.90	954.52	952.52	952.18	Dry	Dry	Dry	956.23	957.98	955.75	960.64	958.77	955.66
Gravel Pond (MP-1)	949.58	948.54	na	947.56	947.21	947.16	947.04	948.10	948.88	948.91	949.49	948.41	947.40
Housatonic (MP-2)	936.52	936.34	936.10	936.93	936.84	936.80	937.90	937.45	937.18	937.92	937.58	937.14	936.49

Notes:

1. Elevations are referenced to NAVD 88.
2. Measurement datum for monitoring wells and piezometers is top of PVC riser pipe stickup except for MW 84-1 and MW 84-2 which is to top of protective steel casing. Measurement datum for Bridge is top of handrail on marked location at SE corner of bridge.
3. "Dry" indicates no water was detected in well.
4. "Gravel Pond" represents on-site pond at location identified as MP-1 on Figure 6 - Groundwater Depth Investigation.
5. "Housatonic" represents Housatonic River measured from Schweitzer bridge at location identified as MP-2 on Figure 6 - Groundwater Depth Investigation.

Abbreviations

ft = feet

na = not applicable (measurement not available).

Table 6B
Summary Calculations of Seasonally High Groundwater Elevation
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Monitoring Well ID	Max Transducer Measured GW Elevation (ft)	Frimpter Method SHGW Elevation (ft)	Max Transducer Measured vs. Frimpter Method (ft)
MW 2022-1S	973.87	975.85	1.98
MW 2022-1D	973.29	975.66	2.37
MW 2022-2	962.61	965.20	2.59
MW 2022-3	949.84	953.53	3.69
MW 2022-4S	950.51	953.90	3.39
MW 2022-4D	952.31	954.43	2.12
MW 2022-5	955.90	959.12	3.21
MW 2022-6	952.00	954.28	2.28
MW 2022-7	955.63	957.50	1.87
MW 2022-8	953.94	958.35	4.40
MW 2022-9	954.41	956.24	1.83
PZ 2022-1	951.77	956.44	4.67
PZ 2022-2	952.54	955.73	3.18
PZ 2022-3	963.80	966.61	2.81
PZ 2022-5	955.28	958.45	3.17
PZ 2022-7	961.26	963.09	1.83
PZ 2022-8	960.69	962.52	1.83
MW-84-1	965.32	967.15	1.83
MW-84-2	952.91	957.15	4.24

Notes:

1. Elevations are referenced to NAVD 88.
2. Max Transducer Measured GW Elevation is based on Pre-Design Investigation (PDI) transducer GW elevation gauging conducted from June 2022 through June 2023.
3. Frimpter Method references the methodolgy described for estimating the probable high ground-water levels in Massachusetts (Micheal H. Frimpter, U.S. Geological

Abbreviations:

ft = feet

MW = Monitoring Well

PZ = Piezometer

GW = Groundwater

SHGW = Seasonal High Groundwater

Max = Maximum

Table 6C
Frimpter Method for Calculation of Seasonally High Groundwater Elevation
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Monitoring Well ID	Maximum Adjusted GW Elevation	June 2022			July 2022			August 2022			September 2022		
		Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)
MW 2022-1S	975.85	966.61	967.67	969.14	971.88	973.39	975.49	970.06	972.06	974.81	968.83	971.39	974.92
MW 2022-1D	975.66	973.13	974.19	975.66	971.57	973.08	975.17	970.25	972.24	975.00	969.05	971.60	975.14
MW 2022-2	965.20	956.93	957.99	959.46	954.96	956.47	958.56	952.43	954.43	957.19	955.68	958.24	961.77
MW 2022-3	953.53	949.74	950.80	952.26	948.91	950.42	952.51	948.02	950.01	952.77	947.44	949.99	953.53
MW 2022-4S	953.90	950.50	951.56	953.02	949.75	951.26	953.35	948.78	950.78	953.54	947.81	950.36	953.90
MW 2022-4D	954.43	951.86	952.92	954.39	950.83	952.34	954.43	949.47	951.47	954.22	948.29	950.84	954.38
MW 2022-5	959.12	955.58	956.64	958.10	955.12	956.64	958.73	954.22	956.22	958.97	953.03	955.59	959.12
MW 2022-6	954.28	951.54	952.60	954.07	950.49	952.00	954.09	949.16	951.16	953.92	948.19	950.75	954.28
MW 2022-7	957.50	954.97	956.03	957.50	953.68	955.19	957.28	951.44	953.43	956.19	950.85	953.40	956.93
MW 2022-8	958.35	953.94	955.00	956.47	953.21	954.72	956.81	952.25	954.25	957.01	952.26	954.81	958.35
MW 2022-9	956.24	953.36	954.42	955.89	952.06	953.58	955.67	950.40	952.39	955.15	949.86	952.42	955.95
PZ 2022-1	956.44	951.43	952.49	953.95	950.98	952.50	954.59	950.37	952.36	955.12	950.35	952.91	956.44
PZ 2022-2	955.73	952.54	953.60	955.07	951.64	953.16	955.25	950.64	952.64	955.39	949.64	952.19	955.73
PZ 2022-3	966.61	963.80	964.86	966.33	963.00	964.52	966.61	961.84	963.84	966.60	960.50	963.06	966.59
PZ 2022-5	958.45	954.14	955.20	956.67	952.77	954.29	956.38	952.35	954.34	957.10	952.37	954.92	958.45
PZ 2022-7	963.09	957.56	958.62	960.08	956.01	957.52	959.61	954.10	956.10	958.85	953.48	956.04	959.57
PZ 2022-8	962.52	956.67	957.73	959.20	955.08	956.59	958.69	954.18	956.18	958.93	954.16	956.72	960.25
MW-84-1	967.15	959.76	960.82	962.28	958.06	959.58	961.67	955.93	957.92	960.68	954.37	956.93	960.46
MW-84-2	957.15	954.46	955.52	956.98	953.24	954.75	956.85	951.80	953.80	956.55	951.06	953.61	957.15
Range between measured and adjusted GW elevation:		—	1.06	2.52	—	1.51	3.61	—	2.00	4.75	—	2.56	6.09

Notes:

1. Elevations are referenced to NGVD 29.
2. Transducer Measured GW Elevation is the monthly maximum measurement based on Pre-Design Investigation (PDI) transducer GW elevation gauging conducted from June 2022 through June 2023.
3. Frimpter Method references the methodolgy described for estimating the probable high ground-water levels in Massachusetts (Micheal H. Frimpter, U.S. Geological Survey, Water Resources Investigations 80-1205, March, 1981).
4. The Frimpter Method for calculating SHGW elevation within sand and gravel can be based on either Valleys or Terraces as an expected geomorphologic condition. The SHGW elevation calculation based on a Valley will typically be lower due to a smaller range of groundwater level fluctuation. The SHGW elevation calculation based on a Terrace will typically be higher due to a greater range of groundwater level fluctuation.

Abbreviations

ft = feet

MW = Monitoring Well

PZ = Piezometer

GW = Groundwater

SHGW = Seasonal High Groundwater

Table 6C
Frimpter Method for Calculation of Seasonally High Groundwater Elevation
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Monitoring Well ID	Maximum Adjusted GW Elevation	October 2022			November 2022			December 2022			January 2023		
		Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)
MW 2022-1S	975.85	967.79	970.32	973.82	967.71	969.56	972.12	967.76	969.16	971.10	967.70	968.89	970.53
MW 2022-1D	975.66	968.16	970.69	974.18	967.18	969.04	971.60	966.78	968.19	970.13	967.35	968.54	970.18
MW 2022-2	965.20	957.22	959.75	963.24	957.41	959.26	961.82	960.46	961.87	963.80	960.63	961.82	963.46
MW 2022-3	953.53	947.07	949.60	953.10	947.11	948.96	951.52	948.05	949.46	951.39	949.22	950.41	952.05
MW 2022-4S	953.90	947.44	949.97	953.46	947.44	949.29	951.85	948.14	949.55	951.48	949.52	950.70	952.35
MW 2022-4D	954.43	947.76	950.29	953.78	947.90	949.75	952.31	948.95	950.35	952.29	950.92	952.11	953.75
MW 2022-5	959.12	952.02	954.55	958.04	951.56	953.42	955.98	952.33	953.74	955.67	953.74	954.93	956.57
MW 2022-6	954.28	948.20	950.73	954.23	948.25	950.10	952.66	948.40	949.81	951.75	950.38	951.57	953.21
MW 2022-7	957.50	950.90	953.43	956.92	950.95	952.80	955.36	950.91	952.31	954.25	953.55	954.74	956.38
MW 2022-8	958.35	950.14	952.67	956.17	950.16	952.02	954.58	950.27	951.67	953.61	951.74	952.93	954.57
MW 2022-9	956.24	949.89	952.42	955.91	949.94	951.79	954.35	949.91	951.31	953.25	952.43	953.62	955.26
PZ 2022-1	956.44	949.32	951.85	955.35	949.47	951.33	953.89	950.11	951.52	953.45	951.15	952.34	953.98
PZ 2022-2	955.73	948.98	951.51	955.01	948.87	950.73	953.29	949.64	951.05	952.98	951.05	952.24	953.88
PZ 2022-3	966.61	959.29	961.82	965.31	958.54	960.39	962.95	958.62	960.02	961.96	960.15	961.34	962.98
PZ 2022-5	958.45	952.40	954.93	958.42	952.43	954.29	956.85	952.41	953.81	955.75	953.28	954.47	956.11
PZ 2022-7	963.09	953.49	956.02	959.51	953.59	955.44	958.00	956.24	957.64	959.58	959.31	960.50	962.14
PZ 2022-8	962.52	952.71	955.24	958.74	952.86	954.72	957.28	954.44	955.85	957.79	958.03	959.22	960.86
MW-84-1	967.15	954.84	957.36	960.86	955.62	957.47	960.03	959.15	960.55	962.49	962.36	963.55	965.19
MW-84-2	956.46	950.44	952.97	956.46	949.54	951.40	953.96	949.39	950.79	952.73	951.10	952.29	953.93
Range between measured and adjusted GW elevation:		—	2.53	6.02	—	1.85	4.41	—	1.40	3.34	—	1.19	2.83

Notes:

1. Elevations are referenced to NGVD 29.
2. Transducer Measured GW Elevation is the monthly maximum measurement based on Pre-Design Investigation (PDI) transducer GW elevation gauging conducted from June 2022 through June 2023.
3. Frimpter Method references the methodolgy described for estimating the probable high ground-water levels in Massachusetts (Micheal H. Frimpter, U.S. Geological Survey, Water Resources Investigations 80-1205, March, 1981).
4. The Frimpter Method for calculating SHGW elevation within sand and gravel can be based on either Valleys or Terraces as an expected geomorphologic condition. The SHGW elevation calculation based on a Valley will typically be lower due to a smaller range of groundwater level fluctuation. The SHGW elevation calculation based on a Terrace will typically be higher due to a greater range of groundwater level fluctuation.

Abbreviations

ft = feet

MW = Monitoring Well

PZ = Piezometer

GW = Groundwater

SHGW = Seasonal High Groundwater

Table 6C
Frimpter Method for Calculation of Seasonally High Groundwater Elevation
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Monitoring Well ID	Maximum Adjusted GW Elevation	February 2023			March 2023			April 2023			May 2023		
		Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)	Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)
MW 2022-1S	975.85	969.74	970.88	972.46	970.61	971.70	973.20	973.78	974.55	975.61	973.87	974.70	975.85
MW 2022-1D	975.66	970.31	971.45	973.02	971.02	972.10	973.61	973.23	974.00	975.07	973.29	974.12	975.27
MW 2022-2	965.20	960.09	961.23	962.80	962.61	963.70	965.20	959.44	960.21	961.27	957.98	958.82	959.96
MW 2022-3	953.53	949.24	950.38	951.95	949.79	950.88	952.38	949.84	950.60	951.67	949.25	950.08	951.23
MW 2022-4S	953.90	949.85	950.99	952.57	950.02	951.11	952.61	950.51	951.28	952.34	950.49	951.33	952.47
MW 2022-4D	954.43	951.20	952.34	953.91	951.22	952.31	953.81	952.31	953.08	954.15	951.95	952.78	953.93
MW 2022-5	959.12	954.78	955.92	957.49	955.07	956.16	957.66	955.75	956.52	957.59	955.90	956.74	957.88
MW 2022-6	954.28	950.79	951.93	953.50	950.70	951.79	953.29	952.00	952.77	953.83	951.72	952.55	953.70
MW 2022-7	957.50	954.21	955.35	956.92	953.77	954.86	956.36	955.63	956.40	957.46	955.26	956.10	957.24
MW 2022-8	958.35	952.59	953.73	955.30	952.67	953.76	955.26	953.58	954.35	955.41	953.63	954.46	955.61
MW 2022-9	956.24	952.85	953.99	955.56	952.61	953.69	955.20	954.41	955.17	956.24	953.84	954.67	955.82
PZ 2022-1	956.44	951.30	952.44	954.02	951.35	952.44	953.94	951.77	952.54	953.60	951.31	952.15	953.29
PZ 2022-2	955.73	951.47	952.61	954.19	951.59	952.68	954.18	952.32	953.09	954.15	952.17	953.00	954.15
PZ 2022-3	966.61	961.32	962.46	964.04	962.01	963.10	964.60	963.56	964.33	965.40	963.70	964.53	965.68
PZ 2022-5	958.45	953.67	954.81	956.39	953.52	954.60	956.11	955.28	956.05	957.12	954.54	955.37	956.52
PZ 2022-7	963.09	959.55	960.69	962.26	959.20	960.28	961.79	961.26	962.03	963.09	959.65	960.48	961.63
PZ 2022-8	962.52	958.35	959.49	961.06	958.04	959.12	960.63	960.69	961.46	962.52	958.82	959.66	960.80
MW-84-1	967.15	962.64	963.79	965.36	961.94	963.03	964.53	965.32	966.09	967.15	962.71	963.54	964.69
MW-84-2	954.88	951.88	953.02	954.60	951.83	952.92	954.43	952.91	953.68	954.74	952.90	953.73	954.88
Range between measured and adjusted GW elevation:		—	1.14	2.71	—	1.09	2.59	—	0.77	1.83	—	0.83	1.98

Notes:

1. Elevations are referenced to NGVD 29.
2. Transducer Measured GW Elevation is the monthly maximum measurement based on Pre-Design Investigation (PDI) transducer GW elevation gauging conducted from June 2022 through June 2023.
3. Frimpter Method references the methodolgy described for estimating the probable high ground-water levels in Massachusetts (Micheal H. Frimpter, U.S. Geological Survey, Water Resources Investigations 80-1205, March, 1981).
4. The Frimpter Method for calculating SHGW elevation within sand and gravel can be based on either Valleys or Terraces as an expected geomorphologic condition. The SHGW elevation calculation based on a Valley will typically be lower due to a smaller range of groundwater level fluctuation. The SHGW elevation calculation based on a Terrace will typically be higher due to a greater range of groundwater level fluctuation.

Abbreviations

ft = feet

MW = Monitoring Well

PZ = Piezometer

GW = Groundwater

SHGW = Seasonal High Groundwater

Table 6C
Frimpter Method for Calculation of Seasonally High Groundwater Elevation
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Monitoring Well ID	Maximum Adjusted GW Elevation	June 2023		
		Transducer Measured GW Elevation	Calculated GW Elevation (Valley)	Calculated GW Elevation (Terrace)
MW 2022-1S	975.85	972.14	973.20	974.67
MW 2022-1D	975.66	972.48	973.54	975.01
MW 2022-2	965.20	956.12	957.18	958.64
MW 2022-3	953.53	948.52	949.58	951.05
MW 2022-4S	953.90	949.67	950.73	952.19
MW 2022-4D	954.43	950.98	952.05	953.51
MW 2022-5	959.12	955.58	956.64	958.10
MW 2022-6	954.28	950.86	951.92	953.38
MW 2022-7	957.50	954.05	955.11	956.58
MW 2022-8	958.35	953.04	954.10	955.57
MW 2022-9	956.24	952.64	953.70	955.16
PZ 2022-1	956.44	951.05	952.11	953.57
PZ 2022-2	955.73	951.59	952.65	954.11
PZ 2022-3	966.61	963.37	964.43	965.89
PZ 2022-5	958.45	953.31	954.37	955.84
PZ 2022-7	963.09	957.46	958.52	959.98
PZ 2022-8	962.52	956.45	957.51	958.97
MW-84-1	962.46	959.94	961.00	962.46
MW-84-2	954.86	952.34	953.40	954.86
Range between measured and adjusted GW elevation:		—	1.06	2.52

Notes:

1. Elevations are referenced to NGVD 29.
2. Transducer Measured GW Elevation is the monthly maximum measurement based on Pre-Design Investigation (PDI) transducer GW elevation gauging conducted from June 2022 through June 2023.
3. Frimpter Method references the methodolgy described for estimating the probable high ground-water levels in Massachusetts (Micheal H. Frimpter, U.S. Geological Survey, Water Resources Investigations 80-1205, March, 1981).
4. The Frimpter Method for calculating SHGW elevation within sand and gravel can be based on either Valleys or Terraces as an expected geomorphologic condition. The SHGW elevation calculation based on a Valley will typically be lower due to a smaller range of groundwater level fluctuation. The SHGW elevation calculation based on a Terrace will typically be higher due to a greater range of groundwater level fluctuation.

Abbreviations

ft = feet

MW = Monitoring Well

PZ = Piezometer

GW = Groundwater

SHGW = Seasonal High Groundwater

Table 6D
Summary of Lee Municipal Landfill Groundwater Elevations
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Measured Groundwater Elevation (ft)	Measurement Date	Source
Monitoring Well MW-84-1		
965.32	4/11/2023	PDI gauging transducer monthly maximum
959.77	6/6/2022	PDI gauging transducer monthly maximum
963.84	4/1/2021	Figure No. 1 (T&B 2021)
962.62	4/2020	Figure No. 1 (T&B 2020)
959.78	4/18/1995	Table 4-2 of CSA report (CDM 1995)
960.16	1/30/1995	CDM Figure No. ? (May 1995)
959.20	1/24/1995	Figure No. 4-2 of CSA report (CDM 1995)
959.91	12/5/1988	Figure No. 3 (T&B 1988)
955.40	10/31/1984	Table 4-1 of CSA report (CDM 1995)
957.50	10/2/1984	Table 4-1 of CSA report (CDM 1995)
960.50	8/21/1984	Table 4-1 of CSA report (CDM 1995)
963.05	7/25/1984	Table 4-1 of CSA report (CDM 1995)
964.30	7/9/1984	Table 4-1 of CSA report (CDM 1995)
970.25	6/6/1984	Table 4-1 of CSA report (CDM 1995)
965.70	5/18/1984	Table 4-1 of CSA report (CDM 1995)
Monitoring Well MW-84-2		
952.91	4/26/2023	PDI gauging transducer monthly maximum
954.46	6/6/2022	PDI gauging manual maximum
NA	4/1/2021	Figure No. 1 (T&B 2021)
NA	4/2020	Figure No. 1 (T&B 2020)
950.17	4/18/1995	Table 4-2 of CSA report (CDM 1995)
949.94	1/30/1995	CDM Figure No. ? (May 1995)
948.85	1/24/1995	Figure No. 4-2 of CSA report (CWM 1995)
951.14	12/5/1988	Figure No. 3 (T&B 1988)
952.59	10/31/1984	Table 4-1 of CSA report (CDM 1995)
954.14	10/2/1984	Table 4-1 of CSA report (CDM 1995)
955.49	8/21/1984	Table 4-1 of CSA report (CDM 1995)
957.04	7/25/1984	Table 4-1 of CSA report (CDM 1995)
957.99	7/9/1984	Table 4-1 of CSA report (CDM 1995)
957.79	6/6/1984	Table 4-1 of CSA report (CDM 1995)
955.99	5/18/1984	Table 4-1 of CSA report (CDM 1995)

Abbreviations
NA = No gauging elevation shown

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	0.0000000019 JNX	ND(0.000000024)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	0.00000000031 JNX	ND(0.000000024)
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	0.00000000028 JNX	ND(0.000000024)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000007 J
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	0.00000000055 JNX	ND(0.000000024)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000099 JNX
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000046 JNX
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000047)	ND(0.0000000048)	ND(0.0000000048)
2,3,7,8-TCDF	- -	- -	mg/L	0.00000000028 JNX	ND(0.0000000048)	ND(0.0000000048)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	0.0000000019 JNX	ND(0.000000024)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	0.00000000028 JNX	ND(0.000000024)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000047)	0.00000000064 JNX	ND(0.000000048)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.0000001)	ND(0.00000011)	ND(0.00000011)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	0.00000000055 JNX	ND(0.000000024)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000028 JNX	ND(0.0000000048)	ND(0.0000000048)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000047)	ND(0.0000000048)	0.00000000028 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000271	0.0000000145	0.0000000225
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.000004)	ND(0.000004)	ND(0.0000042)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.000004)	ND(0.000004)	ND(0.0000042)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.000004)	ND(0.000004)	ND(0.0000042)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	0.0000011 J	0.0000011 J	0.00000083 J
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.0000014 J	0.0000018 J	ND(0.0000042)
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016)	0.00000033 J	ND(0.0000017)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	0.000013	0.000018	0.0000096
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.0000012 J	0.0000018	ND(0.0000017)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	0.000069	0.000093	0.000023
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	0.00000073 J	0.00000081 J	ND(0.0000017)

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.0000023	0.0000025	0.0000015 J
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000017)
Total PFAS	0.00002	- -	mg/L	*0.00008273 J*	*0.00011181 J*	*0.0000326*
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005 J)	ND(0.0005)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	0.0006 J	0.00064 J	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001 J)	ND(0.001)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
Chloroform	0.07	20	mg/L	0.0011	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04 J)	ND(0.04)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	R	R
4-Phenylenediamine	- -	- -	mg/L	R	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	ND(0.1)	R	ND(0.1)
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08 J)	ND(0.08 J)	ND(0.08)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	0.041	0.018	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	R	ND(0.04 J)	ND(0.04)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05 J)	ND(0.05)	ND(0.05)
Methapyrilene	- -	- -	mg/L	ND(0.05 J)	ND(0.05)	ND(0.05)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	0.00035 J	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.017	0.016	0.015
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	0.00078 J	ND(0.0040)	0.00090 J
Copper	- -	- -	mg/L	0.0018 J	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	0.0090 J	ND(0.010)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	0.011	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00048)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00048)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00048)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	0.000013 J	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005 J)	0.000011 J	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00094)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	R

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyized
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-1
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1D 06/23/22	MW-2022-1D 11/11/22	MW-2022-1D 05/03/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
Dioxins					
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000025)	0.00000000097 J
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	0.00000000027 JNX	ND(0.000000025)
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	0.00000000045 J	ND(0.000000025)
1,2,3,7,8-PeCDD	- -	- -	mg/L	0.00000000033 JNX	ND(0.000000025)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000025)	0.0000000012 J
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
2,3,4,7,8-PeCDF	- -	- -	mg/L	0.00000000059 JNX	0.00000000045 JNX
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000049)	ND(0.000000005)
2,3,7,8-TCDF	- -	- -	mg/L	0.00000000052 J	ND(0.000000005)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000049)	ND(0.00000005)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011)	ND(0.00000011)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000025)	ND(0.000000025)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	0.00000000033 JNX	ND(0.000000025)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000052 JNX	ND(0.000000005)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000049)	0.0000000002 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000101	0.0000000234
PFAS					
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000042)	ND(0.0000042)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000042)	ND(0.0000042)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000042)	ND(0.0000042)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	0.000003	ND(0.0000017)
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.0000041 J	ND(0.0000042)
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	0.00000037 J	0.00000052 J
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	0.00000068 J	ND(0.0000017)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	0.000019	0.000021
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.0000051	ND(0.0000017)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	0.00016	0.00018
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	0.00000065 J	ND(0.0000017)
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.000012	ND(0.0000017)

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000017)
Total PFAS	0.00002	- -	mg/L	*0.00018033 J*	*0.000201*
PCBs					
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.00052)
Volatile Organics					
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	0.00039 J	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)
Semivolatile Organics					
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Phenylenediamine	- -	- -	mg/L	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	R	ND(0.1)
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	R	ND(0.08)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	ND(0.04)	ND(0.04)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05)	ND(0.05)
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)
Inorganics					
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.017	0.0085
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	0.0010 J	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	0.0022 J	ND(0.010)
Cyanide	0.2	0.03	mg/L	ND(0.010)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	0.0016 J	ND(0.010)
Pesticides					
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00053)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00053)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00053)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Endosulfan I	- -	- -	mg/L	0.000012 J	ND(0.00005)

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23
Endosulfan II	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00098)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Wet Chemistry					
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)

Notes:
1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-2
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-1S 07/05/22	MW-2022-1S 05/03/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000011 J
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	0.0000000015 JNX	0.00000000098 JNX
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	0.000000001 JNX	ND(0.000000026)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000002 J
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	0.0000000019 JNX	ND(0.000000026)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024 J)	ND(0.000000026)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	0.0000000024 JNX	ND(0.000000026)
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000053)
2,3,7,8-TCDF	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048 J)	ND(0.0000000053)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)	ND(0.000000053 B)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011)	ND(0.00000011)	ND(0.00000012 B)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026 B)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	0.0000000019 JNX	ND(0.000000026 B)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000053 B)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	0.00000000015 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000274	0.0000000123	0.0000000271
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000041)	ND(0.000004)	ND(0.0000045)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000041)	ND(0.000004)	ND(0.0000045)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000041)	ND(0.000004)	ND(0.0000045)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	ND(0.0000041)	ND(0.000004)	ND(0.0000045)
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
Total PFAS	0.00002	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000018)
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001 J)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015 J)	ND(0.015 J)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02 J)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005 J)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001 J)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01 J)	ND(0.01 J)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08 J)	ND(0.08 J)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04)	ND(0.04 J)	R
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	R	R
4-Phenylenediamine	- -	- -	mg/L	R	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	ND(0.1)	R	R
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02 J)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08)	R	ND(0.08 J)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	0.00049 J
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	ND(0.04)	ND(0.04)	ND(0.04 J)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005 J)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05)	ND(0.05 J)	R
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05 J)	ND(0.05 J)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	R	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)	ND(0.005 J)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)	ND(0.025 J)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01 J)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.0082	0.013	0.0065
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	ND(0.010)	ND(0.010 J)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	0.0018 J	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048 J)	ND(0.00048)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048 J)	ND(0.00048)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048 J)	ND(0.00048)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005)	ND(0.00005 J)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00095)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	ND(1.0)

Notes:
1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-3
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-2 07/07/22	MW-2022-2 11/17/22	MW-2022-2 05/04/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000045 JNX
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000015 JNX
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000098 JNX
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027)
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	0.00000000051 JNX	ND(0.000000027)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000039 JNX
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	0.00000000072 J	0.00000000056 J
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000054)
2,3,7,8-TCDF	- -	- -	mg/L	0.00000000018 JNX	ND(0.0000000048)	ND(0.0000000054)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)	ND(0.000000054 B)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011)	ND(0.00000011)	ND(0.00000012 B)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000027 B)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	0.00000000051 JNX	ND(0.000000027 B)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000018 JNX	ND(0.0000000048)	ND(0.0000000054 B)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000054)
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000272	0.0000000125	0.0000000238
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000042)	ND(0.0000044)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000042)	ND(0.0000044)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000042)	ND(0.0000044)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000042)	ND(0.0000044)
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
Total PFAS	0.00002	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000018)
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001 J)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015 J)	ND(0.015 J)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02 J)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005 J)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001 J)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01 J)	ND(0.01 J)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08 J)	ND(0.08 J)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04)	ND(0.04 J)	R
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	R	R
4-Phenylenediamine	- -	- -	mg/L	R	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	ND(0.1)	R	R
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02 J)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08)	R	ND(0.08 J)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	0.00045 J
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	ND(0.04)	ND(0.04)	ND(0.04 J)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005 J)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05)	ND(0.05 J)	R
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05 J)	ND(0.05 J)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	R	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01 J)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)	ND(0.005 J)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)	ND(0.025 J)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.0079	0.012	0.0065
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	ND(0.010)	ND(0.010 J)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	ND(0.010)	ND(0.010 B)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048 J)	ND(0.00051)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048 J)	ND(0.00051)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048 J)	ND(0.00051)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005)	ND(0.00005 J)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	0.000043 J	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.00098)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers

*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-4
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-3 07/06/22	MW-2022-3 11/17/22	MW-2022-3 05/04/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000082 JNX
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000038 JNX
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	0.00000000049 JNX	ND(0.000000025)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	0.00000000052 JNX	ND(0.000000025)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.000000000068 JNX
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	0.00000000097 JNX	0.00000000023 JNX
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000016 JNX
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.0000000002 JNX
2,3,4,7,8-PeCDF	- -	- -	mg/L	0.00000000056 JNX [0.00000000024 J]	ND(0.000000024)	0.00000000019 JNX
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000047) [ND(0.0000000048)]	ND(0.0000000048)	ND(0.0000000049)
2,3,7,8-TCDF	- -	- -	mg/L	ND(0.0000000047) [ND(0.0000000048)]	ND(0.0000000048)	0.00000000013 JNX
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000047) [ND(0.000000048)]	ND(0.000000048)	0.0000000018 J
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.0000001) [ND(0.0000001)]	ND(0.00000011)	ND(0.00000011)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000025)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000064 JNX
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.0000000047) [ND(0.0000000048)]	ND(0.0000000048)	0.00000000056 JNX
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000047) [ND(0.0000000048)]	ND(0.0000000048)	ND(0.0000000049)
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000239 [0.0000000239]	0.000000024	0.0000000202
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000039) [ND(0.000004)]	ND(0.0000043)	ND(0.0000045)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000039) [ND(0.000004)]	ND(0.0000043)	ND(0.0000045)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000039) [ND(0.000004)]	ND(0.0000043)	ND(0.0000045)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	ND(0.0000039) [ND(0.000004)]	ND(0.0000043)	ND(0.0000045)
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	0.00000049 J [0.00000047 J]	0.0000015 J	ND(0.0000018)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	0.0000014 J [0.0000012 J]	0.0000024	0.0000012 J
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000017)	ND(0.0000018)
Total PFAS	0.00002	- -	mg/L	0.00000189 J [0.00000167 J]	0.0000039 J	0.0000012 J
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Aroclor 1221	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Aroclor 1232	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Aroclor 1242	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Aroclor 1248	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Aroclor 1254	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Aroclor 1260	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Total PCBs	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.00052)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001 J)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001 J)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R [R]	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005 J)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015) [ND(0.015)]	ND(0.015 J)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001 J)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
Chloroform	0.07	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002) [ND(0.002)]	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005 J)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001 J)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005 J)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01 J)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08) [ND(0.08)]	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04) [ND(0.04)]	ND(0.04)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01) [ND(0.01)]	R	R
4-Phenylenediamine	- -	- -	mg/L	R [R]	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	ND(0.1) [ND(0.1)]	R	ND(0.1)
Acenaphthene	0.02	10	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Anthracene	0.06	0.03	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08) [ND(0.08)]	ND(0.08)	ND(0.08)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005) [0.00037 J]	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
Diallate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	ND(0.04) [ND(0.04)]	ND(0.04 J)	ND(0.04)
Fluoranthene	0.09	0.2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05) [ND(0.05)]	ND(0.05 J)	R
Methapyrilene	- -	- -	mg/L	ND(0.05) [ND(0.05)]	ND(0.05)	ND(0.05)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015) [ND(0.015)]	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.0072 [0.0072]	0.0076	0.0071
Beryllium	0.004	0.2	mg/L	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040) [ND(0.0040)]	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040) [ND(0.0040)]	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020) [ND(0.00020)]	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060) [ND(0.0060)]	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048) [ND(0.00048)]	ND(0.00048)	ND(0.00048)
2,4,5-TP	- -	- -	mg/L	ND(0.00048) [ND(0.00048)]	ND(0.00048)	ND(0.00048)
2,4-D	- -	- -	mg/L	ND(0.00048) [ND(0.00048)]	ND(0.00048)	ND(0.00048)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	0.00018
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	0.000087
Delta-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)
Disulfoton	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23
Endosulfan I	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)
Famphur	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	0.00011
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)
Phorate	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)
Sulfotep	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00096 J)
Technical Chlordane	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)

Notes:

1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers

*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-5
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2022-4D 06/30/22	MW-2022-4D 11/15/22	MW 2022-4D 04/28/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.0000000009 JNX
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000017 J
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000036 JNX
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.000000000063 JNX
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.00000000033 JNX
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	0.00000000037 J	0.00000000013 JNX
2,3,7,8-TCDD	- -	- -	mg/L	0.00000000044 JNX [0.00000000015 JNX]	ND(0.0000000048)	0.0000000002 JNX
2,3,7,8-TCDF	- -	- -	mg/L	0.0000000014 JNX [0.00000000013 JNX]	ND(0.0000000048)	0.000000000098 JNX
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000049) [ND(0.000000048)]	ND(0.000000048)	0.0000000023 JNX
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011) [ND(0.00000011)]	ND(0.00000011)	ND(0.0000001)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	ND(0.000000024)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024) [ND(0.000000024)]	ND(0.000000024)	0.0000000012 JNX
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.0000000014 JNX [0.00000000013 JNX]	ND(0.0000000048)	0.0000000005 JNX
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	0.00000000044 JNX [0.00000000015 JNX]	ND(0.0000000048)	0.00000000092 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000253 [0.0000000249]	0.0000000239	0.0000000077
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000041) [ND(0.0000041)]	ND(0.0000041)	ND(0.0000041)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016 J) [ND(0.0000016 J)]	ND(0.0000016)	ND(0.0000016)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000041) [ND(0.0000041)]	ND(0.0000041)	ND(0.0000041)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000041) [ND(0.0000041)]	ND(0.0000041)	ND(0.0000041)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	0.00000069 J [0.00000068 J]	0.00000055 J	ND(0.0000016)
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.0000054 [0.0000056]	0.0000054	0.000005
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	0.00000084 J [0.00000077 J]	0.0000012 J	0.00000086 J
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.000001 J [0.00000099 J]	0.0000013 J	0.00000094 J
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	0.0000018 [0.0000019]	0.0000016	0.00000096 J

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.0000012 J [0.0000012 J]	0.0000011 J	0.00000088 J
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016) [ND(0.0000016)]	ND(0.0000016)	ND(0.0000016)
Total PFAS	0.00002	- -	mg/L	0.00000264 J [0.00000267 J]	0.0000028 J	0.00000182 J
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001 J) [ND(0.001 J)]	ND(0.001)	ND(0.001 J)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R [R]	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01 J) [ND(0.01 J)]	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015 J) [ND(0.015 J)]	ND(0.015)	ND(0.015 J)
Acrolein	- -	- -	mg/L	ND(0.02 J) [ND(0.02 J)]	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
Chloroform	0.07	20	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002) [ND(0.002)]	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005 J) [ND(0.005 J)]	ND(0.005)	ND(0.005 J)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001 J) [ND(0.001 J)]	ND(0.001)	ND(0.001 J)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01 J) [ND(0.01 J)]	ND(0.01)	ND(0.01 J)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001) [ND(0.001)]	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08) [ND(0.08)]	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04 J) [ND(0.04 J)]	ND(0.04)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	R [R]	ND(0.01)	R
4-Phenylenediamine	- -	- -	mg/L	R [R]	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	R [R]	ND(0.1)	ND(0.1)
Acenaphthene	0.02	10	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Anthracene	0.06	0.03	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08) [ND(0.08)]	ND(0.08)	ND(0.08)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02) [ND(0.02)]	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005 J) [ND(0.005)]	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005 J) [ND(0.005 J)]	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005) [ND(0.005 J)]	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
Diallate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	ND(0.04) [ND(0.04)]	ND(0.04)	ND(0.04 J)
Fluoranthene	0.09	0.2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005 J) [ND(0.005 J)]	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05 J) [ND(0.05 J)]	ND(0.05)	R
Methapyrilene	- -	- -	mg/L	ND(0.05 J) [ND(0.05 J)]	ND(0.05)	ND(0.05)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025 J) [ND(0.025)]	ND(0.025)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015) [ND(0.015)]	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.013 [0.012]	0.014	0.018
Beryllium	0.004	0.2	mg/L	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020) [ND(0.0020)]	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040) [ND(0.0040)]	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040) [ND(0.0040)]	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	ND(0.010) [ND(0.010)]	0.0069 J	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020) [ND(0.00020)]	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025) [ND(0.025)]	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060) [ND(0.0060)]	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010) [ND(0.010)]	ND(0.010)	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048) [ND(0.00048)]	ND(0.00048)	ND(0.00051)
2,4,5-TP	- -	- -	mg/L	ND(0.00048) [ND(0.00048)]	ND(0.00048)	ND(0.00051)
2,4-D	- -	- -	mg/L	ND(0.00048) [ND(0.00048)]	ND(0.00048)	ND(0.00051)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005) [ND(0.00005)]	0.000017 J	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005) [ND(0.005)]	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005) [0.000009 J]	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	0.000015 J [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095 J)
Disulfoton	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095 J)

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23
Endosulfan I	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095)
Famphur	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095 J)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005) [0.000009 J]	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005) [ND(0.00005)]	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095 J)
Phorate	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095 J)
Sulfotep	- -	- -	mg/L	ND(0.00094 J) [ND(0.00094 J)]	ND(0.00094 J)	ND(0.00095)
Technical Chlordane	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]	ND(0.0005)	ND(0.0005)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)

Notes:
1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-6
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW-2002-4S 11/09/22	MW-2022-4S 06/29/22	MW-2022-4S 05/01/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.000000001 JIB
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000003 JB
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000031 JIB
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000034 JIB
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000053)
2,3,7,8-TCDF	- -	- -	mg/L	0.00000000016 J	ND(0.0000000048)	ND(0.0000000053)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000003 JB
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.000000001 JIB
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000024 JIB
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)	0.00000000038 JIB
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011)	ND(0.00000011)	0.0000000043 JIB
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000019 JIB
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000016 JNX	ND(0.0000000048)	ND(0.0000000053)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000053)
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000272	0.0000000274	0.0000000269
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000039)	ND(0.0000039)	ND(0.0000041)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000039)	ND(0.0000039)	ND(0.0000041)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000039)	ND(0.0000039)	ND(0.0000041)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000015)	0.00000054 J	0.00000069 J
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.0000036 J	0.0000025 J	0.0000035 J
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	0.0000011 J	0.00000048 J	0.00000088 J
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	0.00000095 J	0.0000017	0.0000048
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.0000009 J	ND(0.0000016)	0.0000006 J
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	0.0000032	0.0000012 J	0.0000022
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	0.0000034	0.0000011 J	0.0000023

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.00000068 J	ND(0.0000016)	0.00000094 J
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000015)	ND(0.0000016)	ND(0.0000017)
Total PFAS	0.00002	- -	mg/L	0.00000865 J	0.00000448 J	0.00001018 J
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001 J)	ND(0.001)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	ND(0.005)
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1-Naphthylamine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.011)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Naphthylamine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.011)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)	ND(0.087)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04 J)	ND(0.04)	ND(0.043 *1*-)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	R	ND(0.011)
4-Phenylenediamine	- -	- -	mg/L	R	R	ND(0.87 *-)
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	ND(0.1)	R	ND(0.11 *-)
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
Benzidine	- -	- -	mg/L	ND(0.08 J)	ND(0.08)	ND(0.087 *1)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Diethyl phthalate	2	9	mg/L	0.0024 J	ND(0.005)	ND(0.0054)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	0.00044 J
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Famphur	- -	- -	mg/L	R	ND(0.04)	ND(0.043 *-*1)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Kepone	- -	- -	mg/L	ND(0.05 J)	ND(0.05)	ND(0.054)
Methapyrilene	- -	- -	mg/L	ND(0.05 J)	ND(0.05)	ND(0.054 *1)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)	ND(0.027)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.0060	0.0065	0.0051
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	0.096	ND(0.010)	ND(0.010 H*-*1F1)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00053)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00053)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00053)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0056)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	0.00003 J	ND(0.000056)
Delta-BHC	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Endosulfan II	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Endrin	0.002	0.005	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
Endrin Ketone	- -	- -	mg/L	ND(0.00005 J)	0.000031 J	ND(0.000056)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.000056)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000056)
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00094 J)	ND(0.001)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00056)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers

*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-7
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-5 06/24/22	MW-2022-5 11/10/22	MW-2022-5 04/25/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	0.00000000016 JNX	ND(0.000000024)	0.00000000029 JNX
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDD	- -	- -	mg/L	0.00000000027 JNX	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000048 J
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000052 JNX
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000052)
2,3,7,8-TCDF	- -	- -	mg/L	0.00000000011 JNX	ND(0.0000000048)	ND(0.0000000052)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)	ND(0.000000052)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.0000001)	ND(0.00000011)	ND(0.00000011)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	0.00000000027 JNX	ND(0.000000024)	ND(0.000000026)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000011 JNX	ND(0.0000000048)	ND(0.0000000052)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000052)
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000142	0.0000000274	0.0000000268
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000042)	ND(0.0000041)	ND(0.0000042)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000042)	ND(0.0000041)	ND(0.0000042)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000042)	ND(0.0000041)	ND(0.0000042)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000017)	0.0000028	0.0000016 J
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.000002 J	0.00001	0.0000064
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	0.0000006 J	0.000011	0.0000076
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	ND(0.0000017)	0.00000057 J	ND(0.0000017)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.0000019	0.000019	0.00001
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	ND(0.0000017)	0.000001 J	0.00000087 J

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.0000015 J	0.000011	0.0000068
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000017)	ND(0.0000016)	ND(0.0000017)
Total PFAS	0.00002	- -	mg/L	0.0000006 J	0.00001257 J	0.00000847 J
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04)	ND(0.04)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	R	R
4-Phenylenediamine	- -	- -	mg/L	ND(0.8)	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	R	R	R
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08)	R	ND(0.08)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	R	ND(0.04)	ND(0.04)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	R	R	R
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05)	ND(0.05)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.018	0.018	0.016
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	0.0029 J	ND(0.010)	0.0018 J
Cyanide	0.2	0.03	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00054)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00054)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00054)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Delta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Dimethoate	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)
Disulfoton	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Endosulfan II	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Endrin	0.002	0.005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Endrin Ketone	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)
Famphur	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	ND(0.000054)
Methyl Parathion	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)
Phorate	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)
Sulfotep	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)	ND(0.00095)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.00054)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers

*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-8
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-6 07/01/22	MW-2022-6 12/15/22	MW-2022-6 05/05/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000046 JNX
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	ND(0.0000000052)
2,3,7,8-TCDF	- -	- -	mg/L	0.00000000029 JNX	ND(0.0000000048)	ND(0.0000000052)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)	ND(0.000000052)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011)	ND(0.00000011)	ND(0.00000011)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000026)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000029 JNX	ND(0.0000000048)	ND(0.0000000052)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	0.0000000015 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000272	0.0000000274	0.0000000293
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000043)	ND(0.0000043)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000043)	ND(0.0000043)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000043)	ND(0.0000043)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	ND(0.0000041)	ND(0.0000043)	ND(0.0000043)
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
Total PFAS	0.00002	- -	mg/L	ND(0.0000016)	ND(0.0000017)	ND(0.0000017)
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015 J)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01 J)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
1-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)	ND(0.087)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04)	ND(0.04 J)	ND(0.043)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	ND(0.01)	R
4-Phenylenediamine	- -	- -	mg/L	R	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	R	R	ND(0.11)
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
Benzidine	- -	- -	mg/L	R	ND(0.08 J)	ND(0.087)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.022)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.0054)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005 J)	ND(0.0054)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Famphur	- -	- -	mg/L	ND(0.04)	ND(0.04 J)	ND(0.043)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Kepone	- -	- -	mg/L	ND(0.05)	R	ND(0.054)
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05)	ND(0.054)

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.0054)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025 J)	ND(0.027)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.011)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.11	0.094	0.083
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	0.0028 J	ND(0.0040)
Cobalt	- -	- -	mg/L	0.0054	0.0045	0.0026 J
Copper	- -	- -	mg/L	0.0018 J	0.0025 J	0.0017 J
Cyanide	0.2	0.03	mg/L	0.0073 J	ND(0.010)	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	0.0045 J	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Nickel	0.1	0.2	mg/L	0.0059 J	ND(0.011)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	0.0066 J	0.0015 J
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00051)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00051)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00051)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	0.000014 J	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005)	0.000021 J	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005)	0.000019 J	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	0.000019 J
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00098)	ND(0.0011)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Wet Chemistry						

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	ND(1.0)

Notes:
1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-9
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 7 07/05/22	MW-2022-7 12/19/22	MW-2022-7 05/02/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
Dioxins						
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000084 JNX
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000031 J
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000037 JNX
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000024 JNX
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000022 J
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.00000000034 JNX
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	0.0000000037 J
2,3,7,8-TCDF	- -	- -	mg/L	0.0000000002 JNX	ND(0.0000000048)	ND(0.0000000048)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)	0.000000002 J
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	0.0000000079 J	ND(0.00000011)	ND(0.00000011)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	ND(0.000000024)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)	0.0000000013 JNX
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.0000000002 JNX	ND(0.0000000048)	0.0000000012 JNX
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)	0.000000004 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000271	0.0000000274	0.000000014
PFAS						
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000039)	ND(0.0000041)	ND(0.0000041)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000039)	ND(0.0000041)	ND(0.0000041)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000039)	ND(0.0000041)	ND(0.0000041)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	0.00000052 J
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.0000015 J	0.0000022 J	0.0000014 J
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
Total PFAS	0.00002	- -	mg/L	ND(0.0000016)	ND(0.0000016)	ND(0.0000016)
PCBs						
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.00046)	ND(0.0005)
Volatile Organics						
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001 J)	ND(0.001 J)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015 J)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001 J)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01 J)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)	ND(0.001)
Semivolatile Organics						
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005 J)	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005 J)	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04 J)	ND(0.04 J)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
4-Phenylenediamine	- -	- -	mg/L	R	R	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	ND(0.1)	R	R
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08 J)	ND(0.08 J)	ND(0.08)
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)	ND(0.005)

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005 J)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	ND(0.04 J)	ND(0.04 J)	ND(0.04)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	ND(0.05)	R	ND(0.05)
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05)	ND(0.05)
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01 J)	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005 J)	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025 J)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)	ND(0.01)
Inorganics						
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.021	0.017	0.014
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	0.0012 J	0.0014 J	0.0011 J
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	0.0069 J	ND(0.010)	0.0042 J
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)	ND(0.00020)
Nickel	0.1	0.2	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	ND(0.010)	0.0019 J	ND(0.010)
Pesticides						
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00048)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00048)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048)	ND(0.00048)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	0.000014 J	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	0.0000084 J	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	0.000027 J	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	0.000013 J
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)
Disulfoton	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)
Famphur	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005 J)	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)
Phorate	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)
Sulfotep	- -	- -	mg/L	ND(0.00094)	ND(0.00095)	ND(0.001)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)	ND(0.0005)
Wet Chemistry						
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers

*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-10
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW-1	GW-3	Units	MW 2022-8 06/27/22	MW-2022-8 12/19/22	MW-2022-8 04/26/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Dioxins					
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	0.00000000012 JNX	ND(0.000000024)
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
1,2,3,7,8-PeCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
2,3,4,7,8-PeCDF	- -	- -	mg/L	0.00000000032 JNX	ND(0.000000024)
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000048)	0.000000000099 JNX
2,3,7,8-TCDF	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
Octachlorodibenzofuran	- -	- -	mg/L	ND(0.000000048)	ND(0.000000048)
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000011)	ND(0.0000001)
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.000000024)	ND(0.000000024)
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.0000000048)	ND(0.0000000048)
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	ND(0.0000000048)	0.000000000099 JNX
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	0.0000000227	0.0000000251
PFAS					
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.000004)	ND(0.000004)
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.000004)	ND(0.000004)
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.000004)	ND(0.000004)
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	0.0000029	0.0000084
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.000013	0.000035
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	0.00008	0.00019
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	0.00000049 J	0.0000018
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.00003	0.000069
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	0.00000064 J	ND(0.0000016)

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	0.00000099 J	ND(0.0000016)
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	0.000014	0.000011
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.00002	0.000054
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000016)	ND(0.0000016)
Total PFAS	0.00002	- -	mg/L	*0.00009612 J*	*0.0002028*
PCBs					
Aroclor 1016	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Aroclor 1221	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Aroclor 1232	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Aroclor 1242	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Aroclor 1248	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Aroclor 1254	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Aroclor 1260	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Total PCBs	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Volatile Organics					
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001)	ND(0.001)
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001)	ND(0.001)
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001)	ND(0.001)
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001)	ND(0.001)
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001)	ND(0.001)
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001)	ND(0.001)
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001)	ND(0.001)
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001)	ND(0.001)
2-Butanone (MEK)	4	50	mg/L	ND(0.01)	ND(0.01)
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001)	ND(0.001)
2-Chloroethyl vinyl ether	- -	- -	mg/L	R	R
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005)	ND(0.005)
Acetone	6.3	50	mg/L	ND(0.01)	ND(0.01)
Acetonitrile	- -	- -	mg/L	ND(0.015)	ND(0.015)
Acrolein	- -	- -	mg/L	ND(0.02)	ND(0.02)
Acrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)
Allyl chloride	- -	- -	mg/L	ND(0.001)	ND(0.001)
Benzene	0.005	10	mg/L	ND(0.001)	ND(0.001)
Bromodichloromethane	0.003	50	mg/L	ND(0.001)	ND(0.001)
Bromoform	0.004	50	mg/L	ND(0.001)	ND(0.001)
Bromomethane	0.01	0.8	mg/L	ND(0.001)	ND(0.001)

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Carbon Disulfide	- -	- -	mg/L	ND(0.001)	ND(0.001)
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001)	ND(0.001)
CFC-11	- -	- -	mg/L	ND(0.001)	ND(0.001)
CFC-12	- -	- -	mg/L	ND(0.001)	ND(0.001)
Chlorobenzene	0.1	1	mg/L	ND(0.001)	ND(0.001)
Chlorodibromomethane	0.002	50	mg/L	ND(0.001)	ND(0.001)
Chloroethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
Chloroform	0.07	20	mg/L	ND(0.001)	ND(0.001)
Chloromethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)
Dibromomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
Dichloromethane	0.005	50	mg/L	ND(0.001)	ND(0.001)
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)
Ethylbenzene	0.7	5	mg/L	ND(0.001)	ND(0.001)
Iodomethane	- -	- -	mg/L	ND(0.001)	ND(0.001)
m,p-Xylene	- -	- -	mg/L	ND(0.002)	ND(0.002)
Methacrylonitrile	- -	- -	mg/L	ND(0.005)	ND(0.005)
Methyl Methacrylate	- -	- -	mg/L	ND(0.001)	ND(0.001)
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005)	ND(0.005)
o-Xylene	- -	- -	mg/L	ND(0.001)	ND(0.001)
Propionitrile	- -	- -	mg/L	ND(0.01)	ND(0.01)
Styrene (Monomer)	0.1	6	mg/L	ND(0.001)	ND(0.001)
Tetrachloroethene	0.005	30	mg/L	ND(0.001)	ND(0.001)
Toluene	1	40	mg/L	ND(0.001)	ND(0.001)
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001)	ND(0.001)
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001)	ND(0.001)
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001)	ND(0.001)
Trichloroethene	0.005	5	mg/L	ND(0.001)	ND(0.001)
Vinyl acetate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Vinyl chloride	0.002	50	mg/L	ND(0.001)	ND(0.001)
Semivolatile Organics					
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)
1,2,4-Trichlorobenzene	0.07	50	mg/L	ND(0.01)	ND(0.01)
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01)	ND(0.01)
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01)	ND(0.01)
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01)	ND(0.01)
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02)	ND(0.02)
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01)	ND(0.01)
1,4-Dioxane	0.0003	50	mg/L	ND(0.01)	ND(0.01)
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01)	ND(0.01)
1-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005)	ND(0.005)
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005)	ND(0.005)
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005)	ND(0.005)
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005)	ND(0.005)
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Chlorophenol	0.01	7	mg/L	ND(0.005)	ND(0.005)
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005)	ND(0.005)
2-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Naphthylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
2-Nitrophenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
2-Picoline	- -	- -	mg/L	ND(0.08)	ND(0.08)
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005)	ND(0.005)
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04)	ND(0.04)
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01)	ND(0.01)
3-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
3-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005)	ND(0.005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02)	ND(0.02)
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005)	ND(0.005)
4-Methylphenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Nitroaniline	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Nitrophenol	- -	- -	mg/L	ND(0.01)	ND(0.01)
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01)	R
4-Phenylenediamine	- -	- -	mg/L	ND(0.8)	R
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01)	ND(0.01)
a,a'-Dimethylphenethylamine	- -	- -	mg/L	R	R
Acenaphthene	0.02	10	mg/L	ND(0.005)	ND(0.005)
Acenaphthylene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)
Acetophenone	- -	- -	mg/L	ND(0.005)	ND(0.005)
Aniline	- -	- -	mg/L	ND(0.01)	ND(0.01)

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Anthracene	0.06	0.03	mg/L	ND(0.005)	ND(0.005)
Aramite	- -	- -	mg/L	ND(0.02)	ND(0.02)
Benzidine	- -	- -	mg/L	ND(0.08)	R
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005)	ND(0.005)
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005)	ND(0.005)
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005)	ND(0.005)
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005)	ND(0.005)
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005)	ND(0.005)
Benzyl Alcohol	- -	- -	mg/L	ND(0.02)	ND(0.02)
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005)	ND(0.005)
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005)	ND(0.005)
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005)	ND(0.005)
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Chrysene	0.002	0.07	mg/L	ND(0.005)	ND(0.005)
Diallate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005)	ND(0.005)
Dibenzofuran	- -	- -	mg/L	ND(0.01)	ND(0.01)
Diethyl phthalate	2	9	mg/L	ND(0.005)	ND(0.005)
Dimethoate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Dimethyl phthalate	0.3	50	mg/L	ND(0.005)	ND(0.005)
Di-n-butyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Dinoseb	- -	- -	mg/L	ND(0.01)	ND(0.01)
Diphenylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
Disulfoton	- -	- -	mg/L	ND(0.01)	ND(0.01)
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Ethyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)
Famphur	- -	- -	mg/L	R	ND(0.04)
Fluoranthene	0.09	0.2	mg/L	ND(0.005)	ND(0.005)
Fluorene	0.03	0.04	mg/L	ND(0.005)	ND(0.005)
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005)	ND(0.005)
Hexachlorobenzene	0.001	6	mg/L	ND(0.005)	ND(0.005)
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005)	ND(0.005)
Hexachloroethane	0.008	50	mg/L	ND(0.005)	ND(0.005)
Hexachloropropene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005)	ND(0.005)
Isodrin	- -	- -	mg/L	ND(0.01)	ND(0.01)
Isophorone	- -	- -	mg/L	ND(0.005)	ND(0.005)
Isosafrole	- -	- -	mg/L	ND(0.01)	ND(0.01)
Kepone	- -	- -	mg/L	R	R
Methapyrilene	- -	- -	mg/L	ND(0.05)	ND(0.05)

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Methyl Parathion	- -	- -	mg/L	ND(0.01)	ND(0.01)
Naphthalene	0.14	20	mg/L	ND(0.005)	ND(0.005)
Nitrobenzene	- -	- -	mg/L	ND(0.005)	ND(0.005)
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005)	ND(0.005)
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01)	ND(0.01)
o-Toluidine	- -	- -	mg/L	ND(0.01)	ND(0.01)
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005)	ND(0.005)
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pentachlorobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01)	ND(0.01)
Phenacetin	- -	- -	mg/L	ND(0.01)	ND(0.01)
Phenanthrene	0.04	10	mg/L	ND(0.005)	ND(0.005)
Phenol	1	2	mg/L	ND(0.005)	ND(0.005)
Phorate	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pronamide	- -	- -	mg/L	ND(0.01)	ND(0.01)
Pyrene	0.06	0.02	mg/L	ND(0.005)	ND(0.005)
Pyridine	- -	- -	mg/L	ND(0.025)	ND(0.025)
Safrole	- -	- -	mg/L	ND(0.01)	ND(0.01)
Sulfotep	- -	- -	mg/L	ND(0.01)	ND(0.01)
Thionazin	- -	- -	mg/L	ND(0.01)	ND(0.01)
Inorganics					
Antimony	0.006	8	mg/L	ND(0.020)	ND(0.020)
Arsenic	0.01	0.9	mg/L	ND(0.015)	ND(0.015)
Barium	2	50	mg/L	0.014	0.018
Beryllium	0.004	0.2	mg/L	ND(0.0020)	ND(0.0020)
Cadmium	0.005	0.004	mg/L	ND(0.0020)	ND(0.0020)
Chromium	0.1	0.3	mg/L	ND(0.0040)	ND(0.0040)
Cobalt	- -	- -	mg/L	ND(0.0040)	ND(0.0040)
Copper	- -	- -	mg/L	ND(0.010)	ND(0.010)
Cyanide	0.2	0.03	mg/L	0.0057 J	ND(0.010)
Lead	0.015	0.01	mg/L	ND(0.010)	ND(0.010)
Mercury	0.002	0.02	mg/L	ND(0.00020)	ND(0.00020)

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Nickel	0.1	0.2	mg/L	0.0013 J	ND(0.010)
Selenium	0.05	0.1	mg/L	ND(0.025)	ND(0.025)
Silver	0.1	0.007	mg/L	ND(0.0060)	ND(0.0060)
Thallium	0.002	3	mg/L	ND(0.020)	ND(0.020)
Tin	- -	- -	mg/L	ND(0.010)	ND(0.010)
Vanadium	0.03	4	mg/L	ND(0.0050)	ND(0.0050)
Zinc	5	0.9	mg/L	0.0035 J	ND(0.010)
Pesticides					
2,4,5-T	- -	- -	mg/L	ND(0.00048)	ND(0.00048)
2,4,5-TP	- -	- -	mg/L	ND(0.00048)	ND(0.00048)
2,4-D	- -	- -	mg/L	ND(0.00048)	ND(0.00048)
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005)	ND(0.00005)
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005)	ND(0.00005)
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005)	ND(0.00005)
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005)	ND(0.005)
Aldrin	0.0005	0.03	mg/L	ND(0.00005)	ND(0.00005)
Alpha-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Beta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Delta-BHC	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005)	ND(0.00005)
Dimethoate	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Disulfoton	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Endosulfan I	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Endosulfan II	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Endrin	0.002	0.005	mg/L	ND(0.00005)	ND(0.00005)
Endrin Aldehyde	- -	- -	mg/L	0.000016 J	ND(0.00005)
Endrin Ketone	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Ethyl Parathion	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Famphur	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005)	ND(0.00005)
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005)	ND(0.00005)
Heptachlor	0.0004	0.001	mg/L	ND(0.00005)	ND(0.00005)
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005)	ND(0.00005)
Methoxychlor	0.04	0.01	mg/L	ND(0.00005)	ND(0.00005)
Methyl Parathion	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Phorate	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Sulfotep	- -	- -	mg/L	ND(0.00094 J)	ND(0.00094)
Technical Chlordane	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Toxaphene	- -	- -	mg/L	ND(0.0005)	ND(0.0005)
Wet Chemistry					

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22
Sulfide	- -	- -	mg/L	ND(1.0)	ND(1.0)

Notes:
1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW 2022 9 07/01/22	MW-2022-9 12/15/22

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Dioxins				
1,2,3,4,6,7,8-HpCDD	- -	- -	mg/L	0.00000000068 JNX [0.00000000077 J]
1,2,3,4,6,7,8-HpCDF	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
1,2,3,4,7,8,9-HpCDF	- -	- -	mg/L	0.00000000051 JNX [0.00000000023 JNX]
1,2,3,4,7,8-HxCDD	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
1,2,3,4,7,8-HxCDF	- -	- -	mg/L	ND(0.000000027) [0.00000000054 JNX]
1,2,3,6,7,8-HxCDD	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
1,2,3,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000027) [0.00000000026 JNX]
1,2,3,7,8,9-HxCDD	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
1,2,3,7,8,9-HxCDF	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
1,2,3,7,8-PeCDD	- -	- -	mg/L	ND(0.000000027) [0.00000000011 J]
1,2,3,7,8-PeCDF	- -	- -	mg/L	0.00000000016 J [0.00000000058 J]
2,3,4,6,7,8-HxCDF	- -	- -	mg/L	ND(0.000000027) [0.00000000032 JNX]
2,3,4,7,8-PeCDF	- -	- -	mg/L	ND(0.000000027) [0.00000000013 JNX]
2,3,7,8-TCDD	- -	- -	mg/L	ND(0.0000000054) [0.00000000011 JNX]
2,3,7,8-TCDF	- -	- -	mg/L	ND(0.0000000054) [0.00000000024 JNX]
Heptachlorodibenzofurans	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
Heptachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
Hexachlorodibenzofurans	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
Hexachlorodibenzo-p-dioxins	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
Octachlorodibenzofuran	- -	- -	mg/L	0.0000000028 JNX [0.0000000023 J]
Octachlorodibenzo-p-dioxin	- -	- -	mg/L	ND(0.00000012) [ND(0.00000011)]
Pentachlorodibenzofurans, Total	- -	- -	mg/L	ND(0.000000027) [ND(0.000000025)]
Pentachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	0.00000000055 JNX [0.00000000064 JNX]
Tetrachlorodibenzofurans, Total	- -	- -	mg/L	0.00000000087 JNX [0.00000000035 JNX]
Tetrachlorodibenzo-p-dioxins, Total	- -	- -	mg/L	0.00000000032 JNX [0.00000000024 JNX]
WHO Dioxin TEQ	0.00000003	0.00004	mg/L	*0.0000000301* [0.00000000556]
PFAS				
6:2 Fluorotelomer sulfonic acid (6:2 FTSA)	- -	- -	mg/L	ND(0.0000042) [ND(0.0000042)]
8:2 Fluorotelomer sulfonic acid (8:2 FTSA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	- -	- -	mg/L	ND(0.0000042) [ND(0.0000042)]
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	- -	- -	mg/L	ND(0.0000042) [ND(0.0000042)]
Perfluorobutane sulfonic acid (PFBS)	- -	- -	mg/L	0.0000028 [0.0000029]
Perfluorobutanoic acid (PFBA)	- -	- -	mg/L	0.0000097 [0.000011]
Perfluorodecane sulfonic acid (PFDS)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluorodecanoic acid (PFDA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluorododecanoic acid (PFDoA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluoroheptane sulfonic acid (PFHpS)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluoroheptanoic acid (PFHpA)	- -	- -	mg/L	0.000088 [0.000097]
Perfluorohexane sulfonic acid (PFHxS)	- -	- -	mg/L	0.00000061 J [0.00000064 J]
Perfluorohexanoic acid (PFHxA)	- -	- -	mg/L	0.000026 [0.000024]
Perfluorononanoic acid (PFNA)	- -	- -	mg/L	0.00000088 J [0.00000092 J]

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Perfluorooctane sulfonamide (PFOSA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluorooctane sulfonic acid (PFOS)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluorooctanoic acid (PFOA)	- -	- -	mg/L	0.000065 [0.000064]
Perfluoropentanoic acid (PFPeA)	- -	- -	mg/L	0.000015 [0.000016]
Perfluorotetradecanoic acid (PFTeDA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluorotridecanoic acid (PFTrDA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Perfluoroundecanoic acid (PFUdA)	- -	- -	mg/L	ND(0.0000017) [ND(0.0000017)]
Total PFAS	0.00002	- -	mg/L	*0.00015449 J [0.00016256 J]*
PCBs				
Aroclor 1016	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Aroclor 1221	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Aroclor 1232	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Aroclor 1242	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Aroclor 1248	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Aroclor 1254	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Aroclor 1260	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Total PCBs	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Volatile Organics				
1,1,1,2-Tetrachloroethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]
1,1,1-Trichloroethane	0.2	20	mg/L	ND(0.001) [ND(0.001)]
1,1,2,2-Tetrachloroethane	0.002	50	mg/L	ND(0.001) [ND(0.001)]
1,1,2-Trichloroethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]
1,1-Dichloroethane	0.07	20	mg/L	ND(0.001) [ND(0.001)]
1,1-Dichloroethene	0.007	30	mg/L	ND(0.001) [ND(0.001)]
1,2,3-Trichloropropane	- -	- -	mg/L	ND(0.001) [ND(0.001)]
1,2-Dibromo-3-chloropropane	- -	- -	mg/L	ND(0.001) [ND(0.001)]
1,2-Dibromoethane	0.00002	50	mg/L	ND(0.001) [ND(0.001)]
1,2-Dichloroethane	0.005	20	mg/L	ND(0.001) [ND(0.001)]
1,2-Dichloropropane	0.005	50	mg/L	ND(0.001) [ND(0.001)]
2-Butanone (MEK)	4	50	mg/L	ND(0.01) [ND(0.01)]
2-Chloro-1,3-butadiene	- -	- -	mg/L	ND(0.001) [ND(0.001)]
2-Chloroethyl vinyl ether	- -	- -	mg/L	R [R]
4-Methyl-2-Pentanone	0.35	50	mg/L	ND(0.005) [ND(0.005)]
Acetone	6.3	50	mg/L	ND(0.01) [ND(0.01)]
Acetonitrile	- -	- -	mg/L	ND(0.015) [ND(0.015)]
Acrolein	- -	- -	mg/L	ND(0.02) [ND(0.02)]
Acrylonitrile	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Allyl chloride	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Benzene	0.005	10	mg/L	ND(0.001) [ND(0.001)]
Bromodichloromethane	0.003	50	mg/L	ND(0.001) [ND(0.001)]
Bromoform	0.004	50	mg/L	ND(0.001) [ND(0.001)]
Bromomethane	0.01	0.8	mg/L	ND(0.001) [ND(0.001)]

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Carbon Disulfide	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Carbon Tetrachloride	0.005	5	mg/L	ND(0.001) [ND(0.001)]
CFC-11	- -	- -	mg/L	ND(0.001) [ND(0.001)]
CFC-12	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Chlorobenzene	0.1	1	mg/L	ND(0.001) [ND(0.001)]
Chlorodibromomethane	0.002	50	mg/L	ND(0.001) [ND(0.001)]
Chloroethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Chloroform	0.07	20	mg/L	ND(0.001) [ND(0.001)]
Chloromethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]
cis-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Dibromomethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Dichloromethane	0.005	50	mg/L	ND(0.001) [ND(0.001)]
Ethyl Methacrylate	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Ethylbenzene	0.7	5	mg/L	ND(0.001) [ND(0.001)]
Iodomethane	- -	- -	mg/L	ND(0.001) [ND(0.001)]
m,p-Xylene	- -	- -	mg/L	ND(0.002) [ND(0.002)]
Methacrylonitrile	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Methyl Methacrylate	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Methyl N-Butyl Ketone (2-Hexanone)	- -	- -	mg/L	ND(0.005) [ND(0.005)]
o-Xylene	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Propionitrile	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Styrene (Monomer)	0.1	6	mg/L	ND(0.001) [ND(0.001)]
Tetrachloroethene	0.005	30	mg/L	ND(0.001) [ND(0.001)]
Toluene	1	40	mg/L	ND(0.001) [ND(0.001)]
trans-1,2-Dichloroethene	0.1	50	mg/L	ND(0.001) [ND(0.001)]
trans-1,3-Dichloropropene	- -	- -	mg/L	ND(0.001) [ND(0.001)]
trans-1,4-Dichloro-2-butene	- -	- -	mg/L	ND(0.001) [ND(0.001)]
Trichloroethene	0.005	5	mg/L	ND(0.001) [ND(0.001)]
Vinyl acetate	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Vinyl chloride	0.002	50	mg/L	ND(0.001) [ND(0.001)]
Semivolatile Organics				
1,2,4,5-Tetrachlorobenzene	- -	- -	mg/L	ND(0.005) [ND(0.005)]
1,2,4-Trichlorobenzene	0.07	50	mg/L	0.0006 J [ND(0.01)]
1,2-Dichlorobenzene	0.6	2	mg/L	ND(0.01) [ND(0.01)]
1,2-Diphenylhydrazine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
1,3,5-Trinitrobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
1,3-Dichlorobenzene	0.1	50	mg/L	ND(0.01) [ND(0.01)]
1,3-Dinitrobenzene	- -	- -	mg/L	ND(0.02) [ND(0.02)]
1,4-Dichlorobenzene	0.005	8	mg/L	ND(0.01) [ND(0.01)]
1,4-Dioxane	0.0003	50	mg/L	ND(0.01) [ND(0.01)]
1,4-Naphthoquinone	- -	- -	mg/L	ND(0.01) [ND(0.01)]
1-Naphthylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
2,3,4,6-Tetrachlorophenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]
2,4,5-Trichlorophenol	0.2	3	mg/L	ND(0.005) [ND(0.005)]
2,4,6-Trichlorophenol	0.01	0.5	mg/L	ND(0.005) [ND(0.005)]
2,4-Dichlorophenol	0.01	2	mg/L	ND(0.005) [ND(0.005)]
2,4-Dimethylphenol	0.06	50	mg/L	ND(0.005) [ND(0.005)]
2,4-Dinitrophenol	0.2	20	mg/L	ND(0.01) [ND(0.01)]
2,4-Dinitrotoluene	0.03	50	mg/L	ND(0.005) [ND(0.005)]
2,6-Dichlorophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]
2,6-Dinitrotoluene	- -	- -	mg/L	ND(0.005) [ND(0.005)]
2-Acetylaminofluorene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
2-Chloronaphthalene	- -	- -	mg/L	ND(0.005) [ND(0.005)]
2-Chlorophenol	0.01	7	mg/L	ND(0.005) [ND(0.005)]
2-Methyl-4,6-dinitrophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]
2-Methylnaphthalene	0.01	20	mg/L	ND(0.005) [ND(0.005)]
2-Methylphenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]
2-Naphthylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
2-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]
2-Nitrophenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]
2-Picoline	- -	- -	mg/L	ND(0.08) [ND(0.08)]
3,3-Dichlorobenzidine	0.08	2	mg/L	ND(0.005) [ND(0.005)]
3,3'-Dimethylbenzidine	- -	- -	mg/L	ND(0.04) [ND(0.04)]
3-Methylcholanthrene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
3-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]
3-Methylphenol, 4-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]
3-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]
4-Aminobiphenyl	- -	- -	mg/L	ND(0.01) [ND(0.01)]
4-Bromophenyl phenyl ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]
4-Chloro-3-Methylphenol	- -	- -	mg/L	ND(0.005) [ND(0.005)]
4-Chlorobenzilate	- -	- -	mg/L	ND(0.02) [ND(0.02)]
4-Chlorophenyl phenyl ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]
4-Methylphenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]
4-Nitroaniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]
4-Nitrophenol	- -	- -	mg/L	ND(0.01) [ND(0.01)]
4-Nitroquinoline-1-oxide	- -	- -	mg/L	ND(0.01) [ND(0.01)]
4-Phenylenediamine	- -	- -	mg/L	R [R]
5-Nitro-o-toluidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
7,12-Dimethylbenz(a)anthracene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
a,a'-Dimethylphenethylamine	- -	- -	mg/L	R [R]
Acenaphthene	0.02	10	mg/L	ND(0.005) [ND(0.005)]
Acenaphthylene	0.03	0.04	mg/L	ND(0.005) [ND(0.005)]
Acetophenone	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Aniline	- -	- -	mg/L	ND(0.01) [ND(0.01)]

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Anthracene	0.06	0.03	mg/L	ND(0.005) [ND(0.005)]
Aramite	- -	- -	mg/L	ND(0.02) [ND(0.02)]
Benzidine	- -	- -	mg/L	ND(0.08) [ND(0.08)]
Benzo(a)anthracene	0.001	1	mg/L	ND(0.005) [ND(0.005)]
Benzo(a)pyrene	0.0002	0.5	mg/L	ND(0.005) [ND(0.005)]
Benzo(b)fluoranthene	0.001	0.4	mg/L	ND(0.005) [ND(0.005)]
Benzo(g,h,i)perylene	0.05	0.02	mg/L	ND(0.005) [ND(0.005)]
Benzo(k)fluoranthene	0.001	0.1	mg/L	ND(0.005) [ND(0.005)]
Benzyl Alcohol	- -	- -	mg/L	ND(0.02) [ND(0.02)]
bis(2-Chloroethoxy)methane	- -	- -	mg/L	ND(0.005) [ND(0.005)]
bis(2-Chloroethyl)ether	0.03	50	mg/L	ND(0.005) [ND(0.005)]
bis(2-Chloroisopropyl)ether	- -	- -	mg/L	ND(0.005) [ND(0.005)]
bis(2-Ethylhexyl)phthalate	0.006	50	mg/L	ND(0.005) [ND(0.005)]
Butyl benzyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Chrysene	0.002	0.07	mg/L	ND(0.005) [ND(0.005)]
Diallate	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Dibenzo(a,h)anthracene	0.0005	0.04	mg/L	ND(0.005) [ND(0.005)]
Dibenzofuran	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Diethyl phthalate	2	9	mg/L	ND(0.005) [ND(0.005)]
Dimethoate	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Dimethyl phthalate	0.3	50	mg/L	ND(0.005) [ND(0.005)]
Di-n-butyl phthalate	- -	- -	mg/L	0.00054 J [0.00064 J]
Di-n-octyl phthalate	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Dinoseb	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Diphenylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Disulfoton	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Ethyl Methanesulfonate	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Ethyl Parathion	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Famphur	- -	- -	mg/L	ND(0.04) [ND(0.04)]
Fluoranthene	0.09	0.2	mg/L	ND(0.005) [ND(0.005)]
Fluorene	0.03	0.04	mg/L	ND(0.005) [ND(0.005)]
Hexachloro-1,3-butadiene	0.0006	3	mg/L	ND(0.005) [ND(0.005)]
Hexachlorobenzene	0.001	6	mg/L	ND(0.005) [ND(0.005)]
Hexachlorocyclopentadiene	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Hexachloroethane	0.008	50	mg/L	ND(0.005) [ND(0.005)]
Hexachloropropene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Indeno(1,2,3-cd)pyrene	0.0005	0.1	mg/L	ND(0.005) [ND(0.005)]
Isodrin	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Isophorone	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Isosafrole	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Kepone	- -	- -	mg/L	ND(0.05) [ND(0.05)]
Methapyrilene	- -	- -	mg/L	ND(0.05) [ND(0.05)]

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Methyl Methanesulfonate	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Methyl Parathion	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Naphthalene	0.14	20	mg/L	ND(0.005) [ND(0.005)]
Nitrobenzene	- -	- -	mg/L	ND(0.005) [ND(0.005)]
N-Nitrosodiethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
N-Nitrosodimethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
N-Nitroso-di-n-butylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
n-Nitrosodi-n-propylamine	- -	- -	mg/L	ND(0.005) [ND(0.005)]
N-nitrosodiphenylamine	- -	- -	mg/L	ND(0.005) [ND(0.005)]
N-Nitrosomethylethylamine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
N-Nitrosomorpholine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
N-Nitrosopiperidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
N-Nitrosopyrrolidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
o,o,o-Triethylphosphorothioate	- -	- -	mg/L	ND(0.01) [ND(0.01)]
o-Toluidine	- -	- -	mg/L	ND(0.01) [ND(0.01)]
p-Chloroaniline	0.02	0.3	mg/L	ND(0.005) [ND(0.005)]
p-Dimethylaminoazobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Pentachlorobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Pentachloronitrobenzene	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Pentachlorophenol	0.001	0.2	mg/L	ND(0.01) [ND(0.01)]
Phenacetin	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Phenanthrene	0.04	10	mg/L	ND(0.005) [ND(0.005)]
Phenol	1	2	mg/L	ND(0.005) [ND(0.005)]
Phorate	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Pronamide	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Pyrene	0.06	0.02	mg/L	ND(0.005) [ND(0.005)]
Pyridine	- -	- -	mg/L	ND(0.025) [ND(0.025)]
Safrole	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Sulfotep	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Thionazin	- -	- -	mg/L	ND(0.01) [ND(0.01)]
Inorganics				
Antimony	0.006	8	mg/L	ND(0.020) [ND(0.020)]
Arsenic	0.01	0.9	mg/L	ND(0.015) [ND(0.015)]
Barium	2	50	mg/L	0.0087 [0.0086]
Beryllium	0.004	0.2	mg/L	ND(0.0020) [ND(0.0020)]
Cadmium	0.005	0.004	mg/L	ND(0.0020) [ND(0.0020)]
Chromium	0.1	0.3	mg/L	ND(0.0040) [ND(0.0040)]
Cobalt	- -	- -	mg/L	ND(0.0040) [ND(0.0040)]
Copper	- -	- -	mg/L	ND(0.010) [ND(0.010)]
Cyanide	0.2	0.03	mg/L	ND(0.010) [ND(0.010)]
Lead	0.015	0.01	mg/L	ND(0.010) [ND(0.010)]
Mercury	0.002	0.02	mg/L	ND(0.00020) [ND(0.00020)]

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Nickel	0.1	0.2	mg/L	ND(0.010) [ND(0.010)]
Selenium	0.05	0.1	mg/L	ND(0.025) [ND(0.025)]
Silver	0.1	0.007	mg/L	ND(0.0060) [ND(0.0060)]
Thallium	0.002	3	mg/L	ND(0.020) [ND(0.020)]
Tin	- -	- -	mg/L	ND(0.010) [ND(0.010)]
Vanadium	0.03	4	mg/L	ND(0.0050) [ND(0.0050)]
Zinc	5	0.9	mg/L	ND(0.010) [ND(0.010)]
Pesticides				
2,4,5-T	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
2,4,5-TP	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
2,4-D	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
4,4'-DDD	0.0002	0.05	mg/L	ND(0.00005) [ND(0.00005)]
4,4'-DDE	0.00005	0.4	mg/L	ND(0.00005) [ND(0.00005)]
4,4'-DDT	0.0003	0.001	mg/L	ND(0.00005) [ND(0.00005)]
4-Chlorobenzilate	- -	- -	mg/L	ND(0.005) [ND(0.005)]
Aldrin	0.0005	0.03	mg/L	ND(0.00005) [ND(0.00005)]
Alpha-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Alpha-Chlordane	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Beta-BHC	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Delta-BHC	- -	- -	mg/L	0.000011 J [0.00001 J]
Dieldrin	0.0001	0.0005	mg/L	ND(0.00005) [ND(0.00005)]
Dimethoate	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Disulfoton	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Endosulfan I	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Endosulfan II	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Endosulfan Sulfate	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Endrin	0.002	0.005	mg/L	ND(0.00005) [ND(0.00005)]
Endrin Aldehyde	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Endrin Ketone	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Ethyl Parathion	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Famphur	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Gamma-BHC (Lindane)	0.0002	0.004	mg/L	ND(0.00005) [ND(0.00005)]
Gamma-Chlordane	- -	- -	mg/L	ND(0.00005) [ND(0.00005)]
Heptachlor	0.0004	0.001	mg/L	ND(0.00005) [ND(0.00005)]
Heptachlor Epoxide	0.0002	0.002	mg/L	ND(0.00005) [ND(0.00005)]
Methoxychlor	0.04	0.01	mg/L	ND(0.00005) [ND(0.00005)]
Methyl Parathion	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Phorate	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Sulfotep	- -	- -	mg/L	ND(0.00096) [ND(0.00096)]
Technical Chlordane	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Toxaphene	- -	- -	mg/L	ND(0.0005) [ND(0.0005)]
Wet Chemistry				

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23
Sulfide	- -	- -	mg/L	ND(1.0) [ND(1.0)]

Notes:
1. Samples were collected by Arcadis and submitted to Eurofins TestAmerica for laboratory analysis.
2. Samples have been validated.
3. Field duplicate sample results are presented in brackets.
4. - - Indicates no standard is listed.
5. Italicized values indicate a GW-1 exceedance
6. Shaded values indicate a GW-3 Standard exceedance.

Qualifiers
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
B = Compound was found in the blank and sample.
E = Result exceeded calibration range.
F1 = MS and/or MSD recovery exceeds conrol limits
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
I = Value is EMPC (estimated maximum possible concentration).
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
R = Rejected.
S1+ = Surrogate recovery exceeds control limits, high biased.

Table 7A-11
Summary of Groundwater Environmental Quality Testing Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Sample Name: / Date Collected:	GW 1	GW 3	Units	MW-2022-9 04/27/23

Acronyms and Abbreviations

%R = Percent Recovery
XFL = Contains Free Liquid
CFU = Colony Forming Unit
CNF = Contains No Free Liquid
DER = Duplicate Error Ratio (normalized absolute difference)
Dil Fac =Dilution Factor
DL =Detection Limit (DoD/DOE)
DL, RA, RE, IN = Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC = Decision Level Concentration (Radiochemistry)
EDL = Estimated Detection Limit (Dioxin)
LOD = Limit of Detection (DoD/DOE)
LOQ = Limit of Quantitation (DoD/DOE)
MCL = EPA recommended "Maximum Contaminant Level"
MDA = Minimum Detectable Activity (Radiochemistry)
MDC = Minimum Detectable Concentration (Radiochemistry)
MDL = Method Detection Limit
ML = Minimum Level (Dioxin)
MPN = Most Probable Number
MQL = Method Quantitation Limit
NA = Not Analyzed
NC = Not Calculated
ND = Not Detected at the reporting limit (or MDL or EDL if shown)
NEG = Negative / Absent
POS = Positive / Present

Table 7B
Summary of EPA Groundwater Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: / Date Collected: / Sampler:	CAS Number	Units	MW-2022-8 06/27/22		MW-2022-2 11/17/22		MW-2022-4S 05/01/23	
			GE	EPA	GE	EPA	GE	EPA
PCBs								
Aroclor 1016	12674-11-2	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Aroclor 1221	11104-28-2	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	NA [ND(0.00048)]
Aroclor 1232	11141-16-5	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Aroclor 1242	53469-21-9	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Aroclor 1248	12672-29-6	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Aroclor 1254	11097-69-1	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Aroclor 1260	11096-82-5	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Aroclor 1262	37324-23-5	mg/L	NA	ND(0.001) [ND(0.001)]	NA	ND(0.001) [ND(0.001)]	NA	ND(0.00048) [ND(0.00048)]
Aroclor 1268	11100-14-4	mg/L	NA	ND(0.001) [ND(0.001)]	NA	ND(0.001) [ND(0.001)]	NA	ND(0.00048) [ND(0.00048)]
Total PCBs	1336-36-3	mg/L	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.001) [ND(0.001)]	ND(0.0005)	ND(0.00048) [ND(0.00048)]
Volatile Organics								
1,1,1,2-Tetrachloroethane	630-20-6	mg/L	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]
1,1,1-Trichloroethane	71-55-6	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,1,2,2-Tetrachloroethane	79-34-5	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
1,1,2-Trichloroethane	79-00-5	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,1-Dichloroethane	75-34-3	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,1-Dichloroethene	75-35-4	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,2,3-Trichlorobenzene	87-61-6	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
1,2,3-Trichloropropane	96-18-4	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,2,4-Trichlorobenzene	120-82-1	mg/L	NA	ND(0.005) [0.001 J]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [0.000055 J]
1,2,4-Trimethylbenzene	95-63-6	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
1,2-Dibromo-3-chloropropane	96-12-8	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,2-Dibromoethane	106-93-4	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,2-Dichlorobenzene	95-50-1	mg/L	NA	ND(0.005) [0.0021 J]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
1,2-Dichloroethane	107-06-2	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,2-Dichloropropane	78-87-5	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
1,3,5-Trimethylbenzene	108-67-8	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
1,3-Dichlorobenzene	541-73-1	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
1,4-Dichlorobenzene	106-46-7	mg/L	NA	ND(0.005) [0.0016 J]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
2-Butanone (MEK)	78-93-3	mg/L	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.005) [ND(0.005)]
2-Chloro-1,3-butadiene	126-99-8	mg/L	ND(0.001 J)	NA [NA]	ND(0.001 J)	NA [NA]	ND(0.001 J)	NA [NA]
2-Chloroethyl vinyl ether	110-75-8	mg/L	R	NA [NA]	R	NA [NA]	R	NA [NA]
4-Methyl-2-Pentanone	108-10-1	mg/L	ND(0.005)	ND(0.01) [ND(0.01)]	ND(0.005)	ND(0.01) [ND(0.01)]	ND(0.005)	ND(0.005) [ND(0.005)]
Acetone	67-64-1	mg/L	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.01) [ND(0.01)]	ND(0.01)	ND(0.005) [ND(0.005)]
Acetonitrile	75-05-8	mg/L	ND(0.015)	NA [NA]	ND(0.015 J)	NA [NA]	ND(0.015 J)	NA [NA]
Acrolein	107-02-8	mg/L	ND(0.02)	NA [NA]	ND(0.02 J)	NA [NA]	ND(0.02)	NA [NA]
Acrylonitrile	107-13-1	mg/L	ND(0.005)	NA [NA]	ND(0.005)	NA [NA]	ND(0.005)	NA [NA]
Allyl chloride	107-05-1	mg/L	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]
Benzene	71-43-2	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
Bromochloromethane	74-97-5	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Bromodichloromethane	75-27-4	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Bromoform	75-25-2	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Bromomethane	74-83-9	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Carbon Disulfide	75-15-0	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Carbon Tetrachloride	56-23-5	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
CFC-11	75-69-4	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
CFC-12	75-71-8	mg/L	ND(0.001)	ND(0.005) [0.001 J]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Chlorobenzene	108-90-7	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Chlorodibromomethane	124-48-1	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Chloroethane	75-00-3	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	0.0004 J [0.00028 J]
Chloroform	67-66-3	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Chloromethane	74-87-3	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]

Table 7B
Summary of EPA Groundwater Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Location ID: / Date Collected: / Sampler:	CAS Number	Units	MW-2022-8 06/27/22		MW-2022-2 11/17/22		MW-2022-4S 05/01/23	
			GE	EPA	GE	EPA	GE	EPA
cis-1,2-Dichloroethene	156-59-2	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
cis-1,3-Dichloropropene	10061-01-5	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
Cyclohexane	110-82-7	mg/L	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]
Dibromomethane	74-95-3	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Dichloromethane	75-09-2	mg/L	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]
Ethyl Methacrylate	97-63-2	mg/L	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]	ND(0.001)	NA [NA]
Ethylbenzene	100-41-4	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
Iodomethane	74-88-4	mg/L	ND(0.002)	ND(0.005) [ND(0.005)]	ND(0.002)	ND(0.005) [ND(0.005)]	ND(0.002)	ND(0.0005) [ND(0.0005)]
Isopropylbenzene	98-82-8	mg/L	ND(0.005)	NA [NA]	ND(0.005 J)	NA [NA]	ND(0.005 J)	NA [NA]
m,p-Xylene	ARC-mpXyl	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
Methacrylonitrile	126-98-7	mg/L	ND(0.001)	NA [NA]	ND(0.001 J)	NA [NA]	ND(0.001 J)	NA [NA]
Methyl Acetate	79-20-9	mg/L	ND(0.005)	ND(0.01) [ND(0.01)]	ND(0.005)	ND(0.01) [ND(0.01)]	ND(0.005)	ND(0.005) [ND(0.005)]
Methyl Methacrylate	80-62-6	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
Methyl N-Butyl Ketone (2-Hexanone)	591-78-6	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Methylcyclohexane	108-87-2	mg/L	ND(0.01)	NA [NA]	ND(0.01 J)	NA [NA]	ND(0.01 J)	NA [NA]
Methyl-tert-butylether	1634-04-4	mg/L	ND(0.001)	ND(0.005 J) [ND(0.005 J)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
o-Xylene	95-47-6	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Propionitrile	107-12-0	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Styrene (Monomer)	100-42-5	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Tetrachloroethene	127-18-4	mg/L	ND(0.001)	NA [NA]	ND(0.001 J)	NA [NA]	ND(0.001)	NA [NA]
Toluene	108-88-3	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
trans-1,2-Dichloroethene	156-60-5	mg/L	ND(0.005)	NA [NA]	ND(0.005)	NA [NA]	ND(0.005)	NA [NA]
trans-1,3-Dichloropropene	10061-02-6	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
trans-1,4-Dichloro-2-butene	110-57-6	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Trichloroethene	79-01-6	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Vinyl acetate	108-05-4	mg/L	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.005) [ND(0.005)]	ND(0.001)	ND(0.0005) [ND(0.0005)]
Vinyl chloride	75-01-4	mg/L	NA	ND(0.005) [ND(0.005)]	NA	ND(0.005) [ND(0.005)]	NA	ND(0.0005) [ND(0.0005)]
Inorganics								
Aluminum	7429-90-5	mg/L	NA	ND(0.2) [ND(0.2)]	NA	0.075 J [ND(0.2)]	NA	ND(0.2) [ND(0.2)]
Antimony	7440-36-0	mg/L	ND(0.020)	ND(0.06) [ND(0.06)]	ND(0.020)	ND(0.06) [ND(0.06)]	ND(0.020)	ND(0.06) [ND(0.06)]
Arsenic	7440-38-2	mg/L	NA	NA [NA]	NA	NA [NA]	NA	ND(0.00048) [NA]
Barium	7440-39-3	mg/L	ND(0.015)	ND(0.01) [ND(0.01)]	ND(0.015)	ND(0.01 J) [ND(0.01)]	ND(0.015)	ND(0.01) [ND(0.01)]
Beryllium	7440-41-7	mg/L	0.021	0.021 J [0.021 J]	0.013	0.013 J [0.013 J]	0.018	ND(0.2) [ND(0.2)]
Cadmium	7440-43-9	mg/L	ND(0.0020)	ND(0.005) [ND(0.005)]	ND(0.0020)	ND(0.005) [ND(0.005)]	ND(0.0020)	ND(0.005) [ND(0.005)]
Calcium	7440-70-2	mg/L	ND(0.0020)	ND(0.005) [ND(0.005)]	ND(0.0020)	ND(0.005) [ND(0.005)]	ND(0.0020)	ND(0.005) [ND(0.005)]
Chromium	7440-47-3	mg/L	NA	75 [75]	NA	35 [32]	NA	59 [62]
Cobalt	7440-48-4	mg/L	0.0012 J	ND(0.01) [ND(0.01)]	ND(0.0040)	ND(0.01) [0.0033 J]	ND(0.0040)	ND(0.01) [ND(0.01)]
Copper	7440-50-8	mg/L	ND(0.0040)	ND(0.05) [ND(0.05)]	ND(0.0040)	ND(0.05) [ND(0.05)]	ND(0.0040)	ND(0.05) [ND(0.05)]
Cyanide	57-12-5	mg/L	ND(0.010)	ND(0.025) [ND(0.025)]	ND(0.010)	ND(0.025) [ND(0.025)]	ND(0.010)	ND(0.025) [ND(0.025)]
Iron	7439-89-6	mg/L	0.0069 J	NA [NA]	ND(0.010 J)	NA [NA]	ND(0.010)	NA [NA]
Lead	7439-92-1	mg/L	NA	ND(0.1) [ND(0.1)]	NA	ND(0.1) [ND(0.1)]	NA	ND(0.1) [ND(0.1)]
Magnesium	7439-95-4	mg/L	ND(0.010)	ND(0.01) [ND(0.01)]	ND(0.010)	ND(0.01) [ND(0.01)]	ND(0.010)	ND(0.01) [ND(0.01)]
Manganese	7439-96-5	mg/L	NA	34 [34]	NA	12 [11]	NA	24 [25]
Mercury	7439-97-6	mg/L	NA	0.0067 J [0.0059 J]	NA	0.0018 J [ND(0.015)]	NA	ND(0.015) [ND(0.015)]
Nickel	7440-02-0	mg/L	ND(0.00020)	ND(0.0002) [ND(0.0002)]	ND(0.00020)	0.000062 J [0.000079 J]	ND(0.00020)	0.000063 J [ND(0.0002)]
Potassium	7440-09-7	mg/L	ND(0.010)	ND(0.04) [ND(0.04)]	ND(0.010)	ND(0.04) [ND(0.04)]	ND(0.010)	ND(0.04) [ND(0.04)]
Selenium	7782-49-2	mg/L	NA	1.6 J [1.6 J]	NA	ND(5) [ND(5)]	NA	2.3 J [2.3 J]
Silver	7440-22-4	mg/L	ND(0.025)	ND(0.035) [ND(0.035)]	ND(0.025)	ND(0.035) [ND(0.035)]	ND(0.025)	ND(0.035) [ND(0.035)]
Sodium	7440-23-5	mg/L	ND(0.0060)	ND(0.01) [ND(0.01)]	ND(0.0060)	ND(0.01) [ND(0.01)]	ND(0.0060)	ND(0.01) [ND(0.01)]
Thallium	7440-28-0	mg/L	NA	0.89 J [0.89 J]	NA	7 [7.6]	NA	ND(5) [ND(5)]
Tin	7440-31-5	mg/L	ND(0.020)	ND(0.025) [ND(0.025)]	ND(0.020)	ND(0.025) [ND(0.025)]	ND(0.020)	ND(0.025) [ND(0.025)]
Total Hardness	Hard	mg/L	ND(0.010)	NA [NA]	ND(0.010)	NA [NA]	ND(0.010)	NA [NA]
Vanadium	7440-62-2	mg/L	NA	320 [330]	NA	0.14 [0.13]	NA	0.25 [0.26]
Zinc	7440-66-6	mg/L	ND(0.0050)	ND(0.05) [ND(0.05)]	ND(0.0050)	ND(0.05) [ND(0.05)]	ND(0.0050)	ND(0.05) [ND(0.05)]

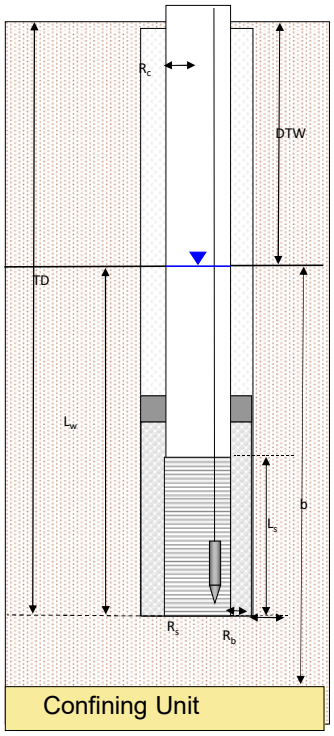
Table 7B
Summary of EPA Groundwater Environmental Quality Testing Split Results
PDI Summary Report for Upland Disposal Facility Area
GE Pittsfield/Housatonic River Site

Notes:
1. Data is validated.
2. Duplicate samples presented in brackets.
3. NA = not analyzed.

Qualifiers
J = Indicates an estimated value.
JNX = The compound is an estimated maximum possible concentration and is tentatively identified.
R = Rejected.
ND = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
ND J = The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

Table 8
Summary of Slug Test Results
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

Boring ID	Date of Test	Constructed Screen Interval (ft bgs)	Saturated Thickness[1] (ft)	General Screened Interval Description	Slug Test Type[2]	Test Number[3]	Hydraulic Conductivity (ft/day)	Analysis Method
MW-2022-1S	7/20/2023	54 to 64	3.75	Very fine to fine sand with silt and some fine to coarse gravel	Falling head	1	0.3	Hyder et. al.
MW-2022-1D	6/2/2022	70.5 to 80.5	21.96	Very fine to fine sand with silt, little clay, and little fine to coarse gravel	Rising Head	1	2.3	Hyder et. al.
MW-2022-2	6/1/2022	28.0 to 38.0	12.45	Very fine to medium sand with silt and some fine to medium gravel	Rising Head	2	30	Hyder et. al.
MW-2022-4D	7/20/2023	109 to 119	40.65	Overburden/Bedrock Interface	Rising Head	8	400	Springer-Gelhar
MW-2022-5	6/1/2022	59.0 to 69.0	11.10	Very fine to medium sand with silt	Rising Head	2	5.3	Bouwer and Rice
MW-2022-7	7/19/2023	80.4 to 90.4	6.27	Very fine to fine sand with silt	Rising Head	2	1.5	Bouwer and Rice
MW-2022-9	6/1/2022	31.9 to 41.9	5.57	Very fine to medium sand with silt and some fine to coarse gravel	Rising Head	3	38	Bouwer and Rice



Well	Ls	Lw[1]	Le[4]	Rs	Rb	Rc	DTW	TD[5]
MW-2022-1S	10.00	3.75	3.75	0.083	0.25	0.083	60.15	63.90
MW-2022-1D	10.00	21.96	8.27	0.083	0.25	0.083	56.81	78.77
MW-2022-2	10.00	12.45	9.48	0.083	0.25	0.083	25.03	37.48
MW-2022-4D	10.00	40.65	7.38	0.083	0.25	0.083	75.73	116.38
MW-2022-5	10.00	11.10	9.31	0.083	0.25	0.083	57.21	68.31
MW-2022-7	10.00	6.27	6.27	0.083	0.25	0.083	83.12	89.39
MW-2022-9	10.00	5.57	5.57	0.083	0.25	0.083	34.10	39.67

All units in feet

L_s Constructed screen length
L_w Length of water column in well
L_e Effective screen length
R_s Radius of Screen
R_b Radius of filter pack
R_c Radius of Casing
DTW Static depth to water (bgs)
TD Total depth of well (ft)
b Saturated thickness

Notes
ft bgs = feet below ground surface
ft/day = feet per day
[1] Saturated thickness set equal to water column with radial flow due to water table wells and/or partially submerged well screens.
[2] Solid slug size used was either 1.5-inch diameter and 2.0 feet in length or 1.5-inch diameter and 2.72 feet in length.
[3] A minimum of three tests completed with a solid slug at each well. The test with the least amount of noise was used for hydraulic conductivity estimate.
[4] Effective screen length calculated from measured total well depth or equal to water column with partially submerged screen.
[5] Measured total well depth used due to accumulated sediment.

References

Bouwer, H., 1989. The Bouwer and Rice slug test--an update, Ground Water, vol. 27, no. 3, pp. 304-309.

Bouwer, H. and R.C. Rice, 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, Water Resources Research, vol. 12, no. 3, pp. 423-428.

Butler Jr, J.J., 2019. The design, performance, and analysis of slug tests - 2nd edition. Crc Press.

Hyder, Z, J.J. Butler, Jr., C.D. McElwee and W. Liu, 1994. Slug tests in partially penetrating wells, Water Resources Research, vol. 30, no. 11, pp. 2945-2957.

Springer, R.K. and L.W. Gelhar, 1991. Characterization of large-scale aquifer heterogeneity in glacial outwash by analysis of slug tests with oscillatory response, Cape Cod, Massachusetts, U.S. Geol. Surv. Water Res. Invest. Rep. 91-4034, pp. 36-40.

Table 9
Summary of Weather Station Data
PDI Summary Report for Upland Disposal Facility Area
GE-Pittsfield/Housatonic River Site

ARCADIS

Weekly Date Range	Cumulative Rainfall (in)	Average Value for Date Range				
		Barometric Pressure (psi)	Temperature (degrees F)	Wind Speed (mph)	Wind Gust Speed (mph)	Wind Direction (degrees)
10/3/2022 to 10/8/2022	1.51	14.2257	52.0	3.5	6.6	278.9
10/9/2022 to 10/15/2022	1.78	14.2477	50.7	2.5	5.2	272.6
10/16/2022 to 10/22/2022	0.82	14.1585	44.5	1.9	4.1	189.5
10/23/2022 to 10/29/2022	0.76	14.3171	52.6	2.2	4.5	181.9
10/30/2022 to 11/5/2022	0.13	14.3142	52.0	2.4	4.7	229.4
11/6/2022 to 11/12/2022	1.37	14.3078	53.0	4.9	9.3	230.7
11/13/2022 to 11/19/2022	0.59	14.2255	33.9	4.1	7.7	254.1
11/20/2022 to 11/26/2022	0.05	14.2605	33.5	4.4	8.4	258.9
11/27/2022 to 12/3/2022	1.59	14.2105	37.6	5.3	10.1	248.4
12/4/2022 to 12/10/2022	0.66	14.3152	37.2	4.4	8.0	251.7
12/11/2022 to 12/17/2022	1.44	14.2310	26.6	3.9	7.5	242.0
12/18/2022 to 12/24/2022	1.00	14.1983	26.1	5.0	9.6	256.2
12/25/2022 to 12/31/2022	0.08	14.2542	26.5	1.8	3.8	231.5
1/1/2023 to 1/7/2023	1.02	14.1914	39.4	2.6	4.9	234.2
1/8/2023 to 1/14/2023	0.97	14.1990	29.6	5.3	9.2	245.5
1/15/2023 to 1/28/2023	1.56	14.1553	30.5	4.5	7.9	238.2
1/22/2023 to 1/28/2023	0.51	14.1768	31.0	3.5	6.8	242.9
1/29/2023 to 1/31/2023	0.00	14.2840	34.8	2.7	5.2	165.1
2/1/2023 to 2/4/2023	0.00	14.2724	12.9	6.6	11.7	274.8
2/5/2023 to 2/11/2023	0.11	14.2559	33.5	4.9	8.9	219.7
2/12/2023 to 2/18/2023	0.12	14.1746	37.6	4.8	8.5	228.3
2/19/2023 to 2/25/2023	0.11	14.2132	30.7	4.6	8.5	212.5
2/26/2023 to 2/28/2023	0.32	14.1639	25.9	3.9	7.1	230.8
3/1/2023 to 3/4/2023	1.12	14.1398	34.1	5.0	9.3	217.1
3/5/2023 to 3/11/2023	0.32	14.2066	32.3	7.7	12.5	265.8
3/12/2023 to 3/18/2023	0.84	14.1082	34.0	4.4	7.7	211.5
3/19/2023 to 3/25/2023	0.31	14.2430	36.4	4.0	7.7	223.4
3/26/2023 to 3/31/2023	0.22	14.2203	37.8	4.8	8.6	217.6
4/1/2023 to 4/6/2023	0.66	14.1972	45.1	4.6	8.7	211.6
4/7/2023 to 4/13/2023	0.00	14.3069	48.2	4.6	8.5	278.3
4/14/2023 to 4/20/2023	0.18	14.1560	55.1	3.7	7.0	216.7
4/21/2023 to 4/27/2023	1.87	14.2532	47.6	3.5	7.0	208.4
4/28/2023 to 4/30/2023	0.24	14.2627	47.6	4.0	9.0	144.1
5/1/2023 to 5/6/2023	1.29	14.0777	47.1	3.2	6.1	168.6
5/7/2023 to 5/13/2023	0.04	14.2225	57.6	3.5	6.6	217.7
5/14/2023 to 5/20/2023	1.02	14.2501	52.7	4.4	8.2	197.4
5/21/2023 to 5/27/2023	0.03	14.2972	55.9	3.5	6.5	200.7
5/28/2023 to 5/31/2023	0.00	14.2832	64.1	2.2	4.8	187.3
6/1/2023 to 6/6/2023	0.19	14.2032	60.2	3.2	6.3	195.3
6/7/2023 to 6/13/2023	0.31	14.1003	58.9	2.8	5.5	217.3
6/14/2023 to 6/20/2023	1.60	14.1330	61.5	2.5	4.9	209.4
6/21/2023 to 6/27/2023	3.25	14.2173	67.8	2.3	4.9	171.1
6/28/2023 to 6/30/2023	0.01	14.1776	67.6	3.2	5.7	211.2

Notes:
1. Weather data obtained from weather station located on GE parcel in Lee, MA.
2. Weather station activated on 10/3/2022.

Figures

Figures



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA
- EXISTING OVERHEAD TRANSMISSION EASEMENT
- LEE LANDFILL MONITORING WELLS

0 600' 1200'

GRAPHIC SCALE

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.

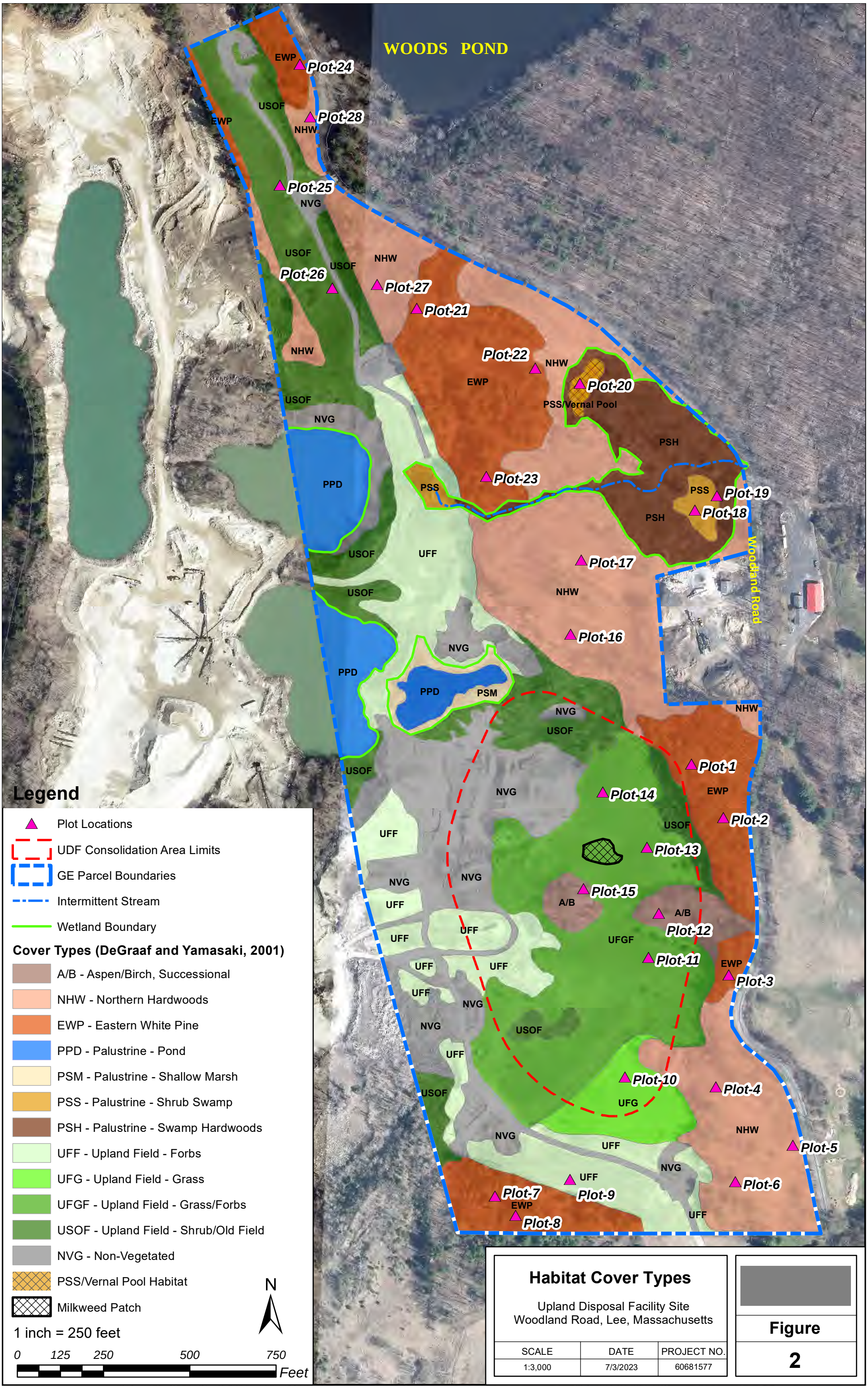
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

SITE PLAN

ARCADIS

FIGURE
1

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 1 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:18 AM BY: POSENAUER, LISA



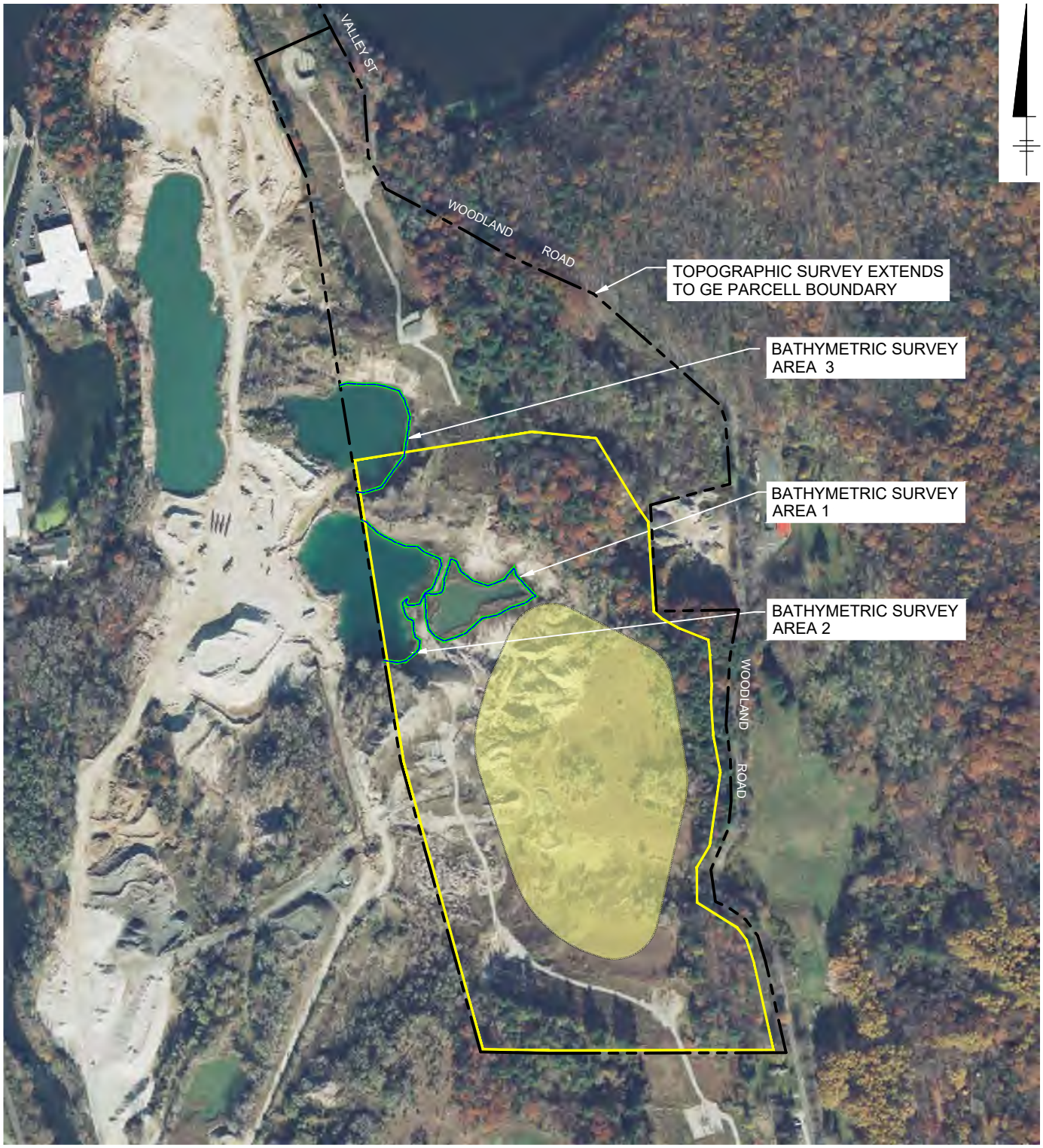
Habitat Cover Types

Upland Disposal Facility Site
Woodland Road, Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:3,000	7/3/2023	60681577

Figure

2



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA

0 500' 1000'

GRAPHIC SCALE

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "TOPOGRAPHIC SURVEY" PREPARED BY HILL ENGINEERS, ARCHITECTS, PLANNERS, INC., DATED JULY 15, 2022.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. EXTENTS OF BATHYMETRIC SURVEY AREAS SHOWN REPRESENT ACTUAL LIMITS SURVEYED.
4. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.

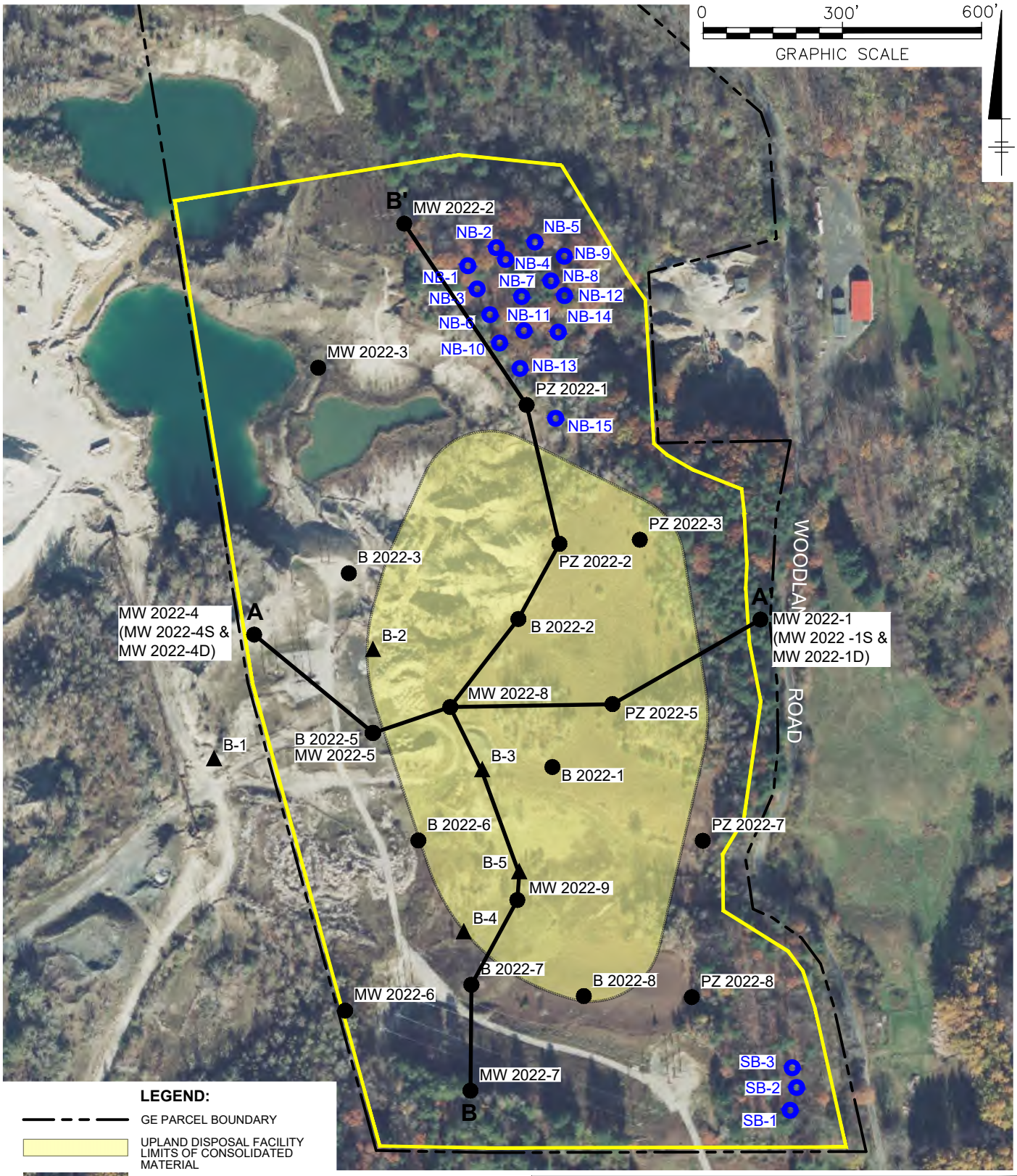
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

FIELD SURVEY ACTIVITIES

ARCADIS

FIGURE
3

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 3 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:18 AM BY: POSENAUER, LISA



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA
- HISTORICAL GEOPROBE LOCATIONS
- SOIL BORINGS WITH GEOTECHNICAL SAMPLING
- STORMWATER BASIN TEST BORING
- A——A' GEOLOGIC CROSS SECTION LOCATION

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.
4. AS-BUILT SOIL INFILTRATION TESTING LOCATIONS PROVIDED BY HILL ENGINEERS ON JULY 17, 2023.

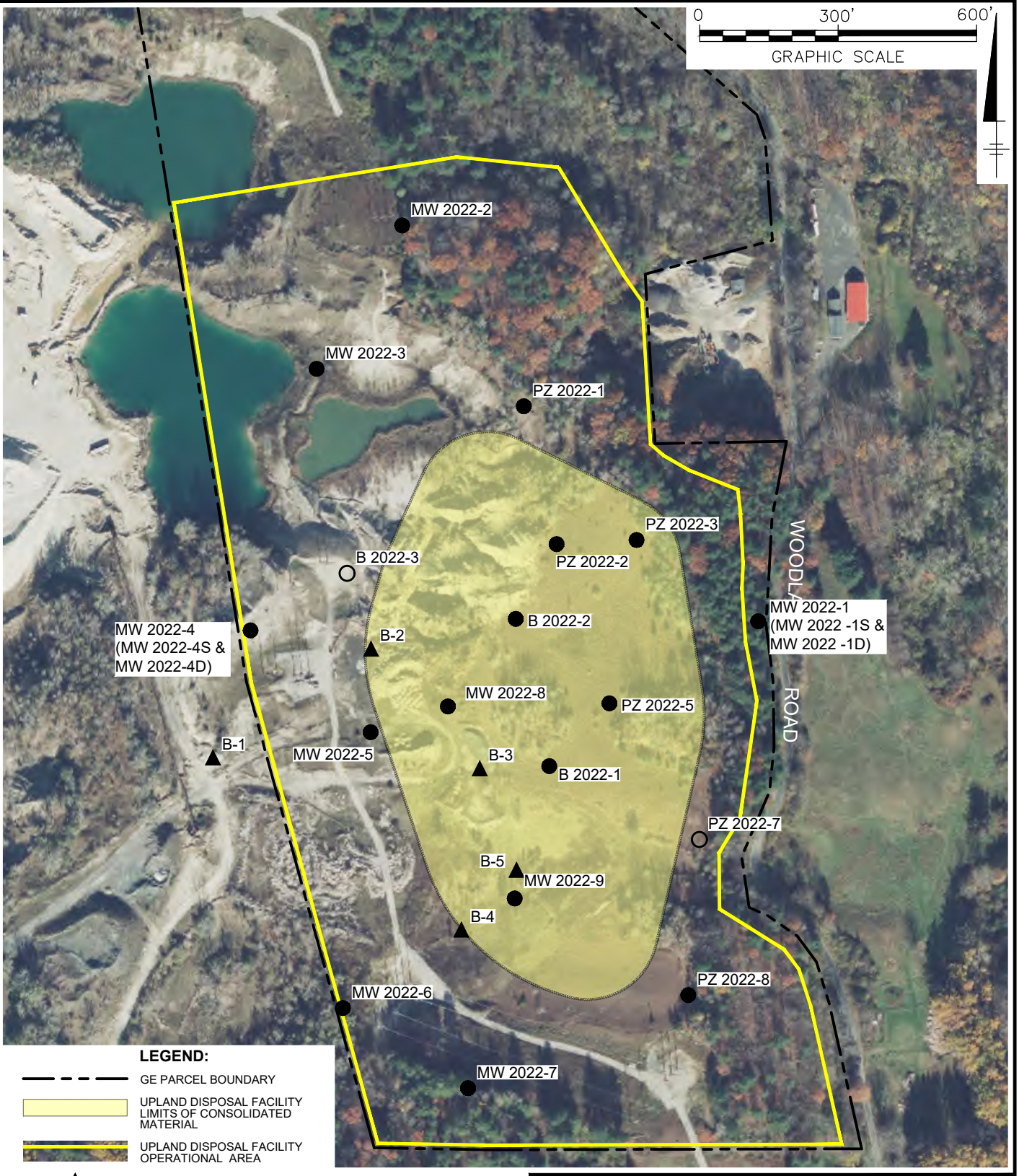
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

SOIL GEOTECHNICAL INVESTIGATION

ARCADIS

FIGURE
4

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 4 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:18 AM BY: POSENAUER, LISA



NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.

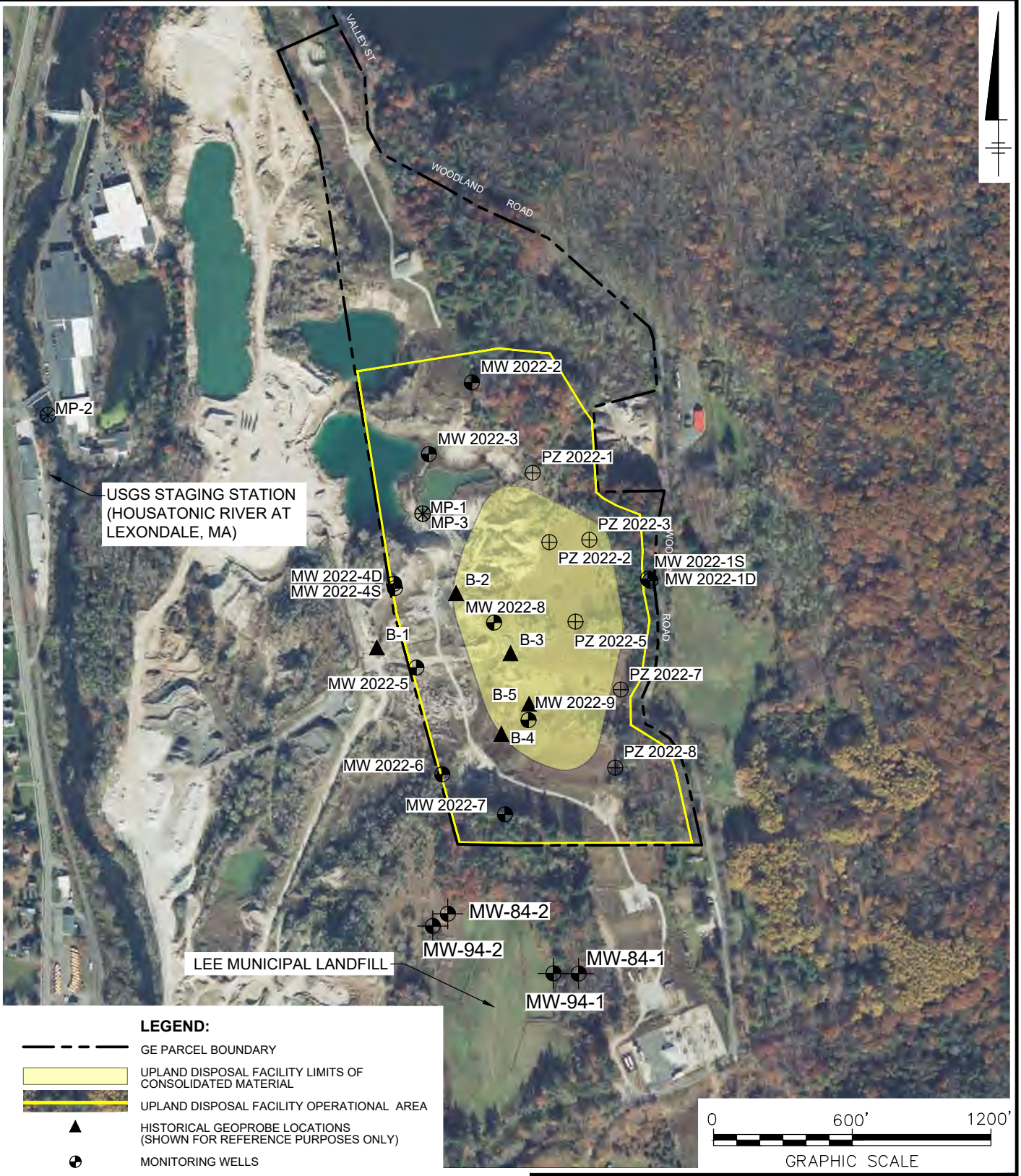
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

SOIL QUALITY INVESTIGATION

ARCADIS

FIGURE
5

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 5 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:18 AM BY: POSENAUER, LISA



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA
- HISTORICAL GEOPROBE LOCATIONS (SHOWN FOR REFERENCE PURPOSES ONLY)
- MONITORING WELLS
- PIEZOMETERS
- LEE LANDFILL MONITORING WELLS
- MONITORING POINT

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.

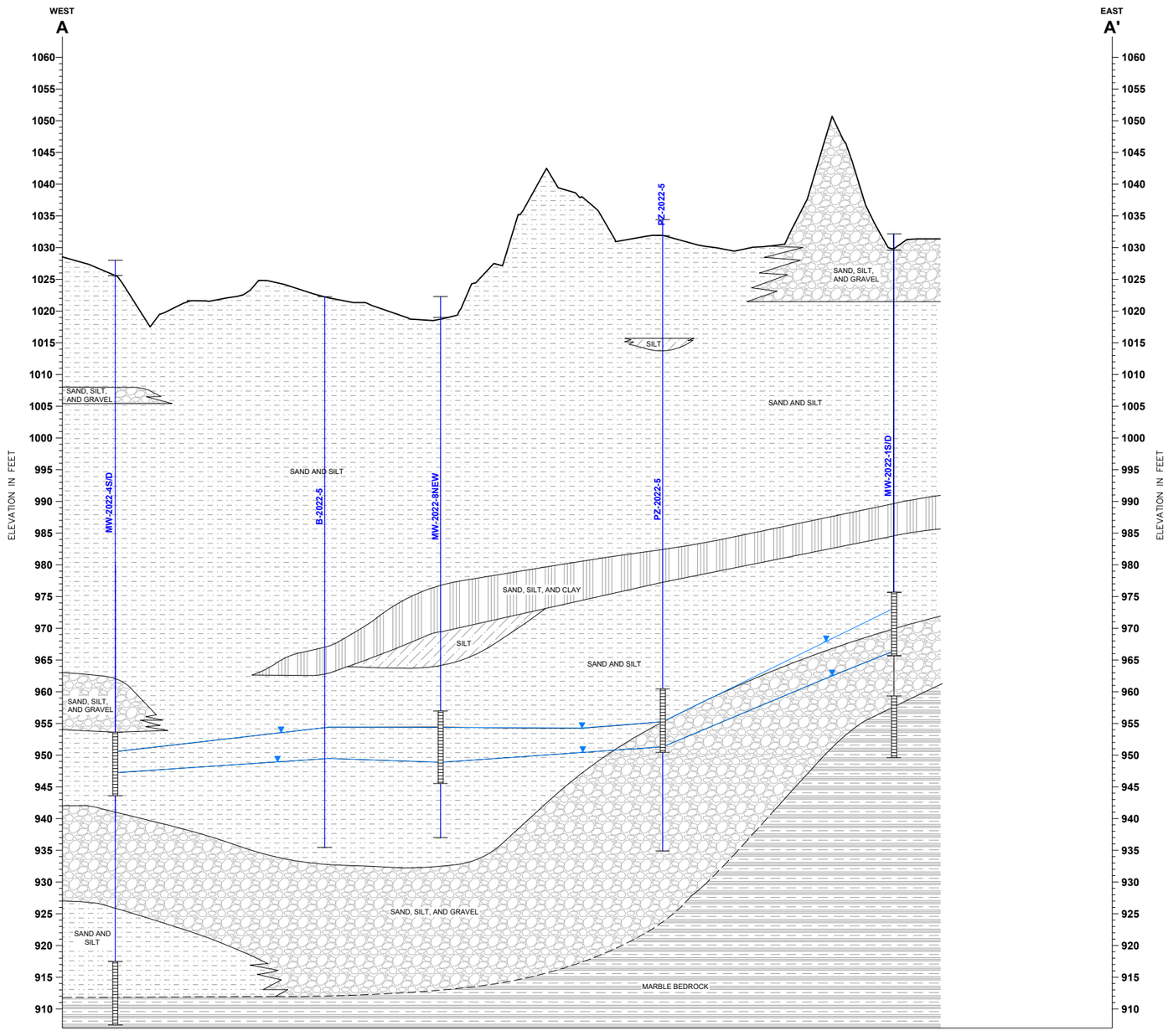
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

GROUNDWATER DEPTH INVESTIGATION

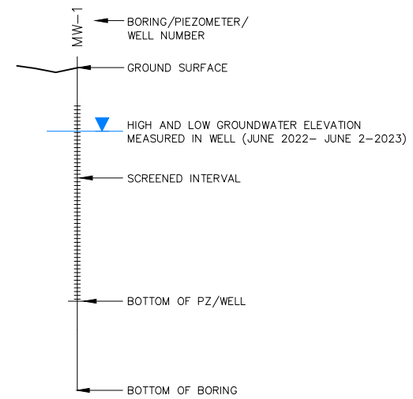
ARCADIS

FIGURE
6

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 6 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:18 AM BY: POSENAUER, LISA



LEGEND:



NOTE:

1. GROUNDWATER ELEVATIONS MEASURED BY PRESSURE TRANSDUCERS DEPLOYED IN WELLS AND PIEZOMETERS FROM JUNE 6, 2022 – JUNE 8, 2023.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

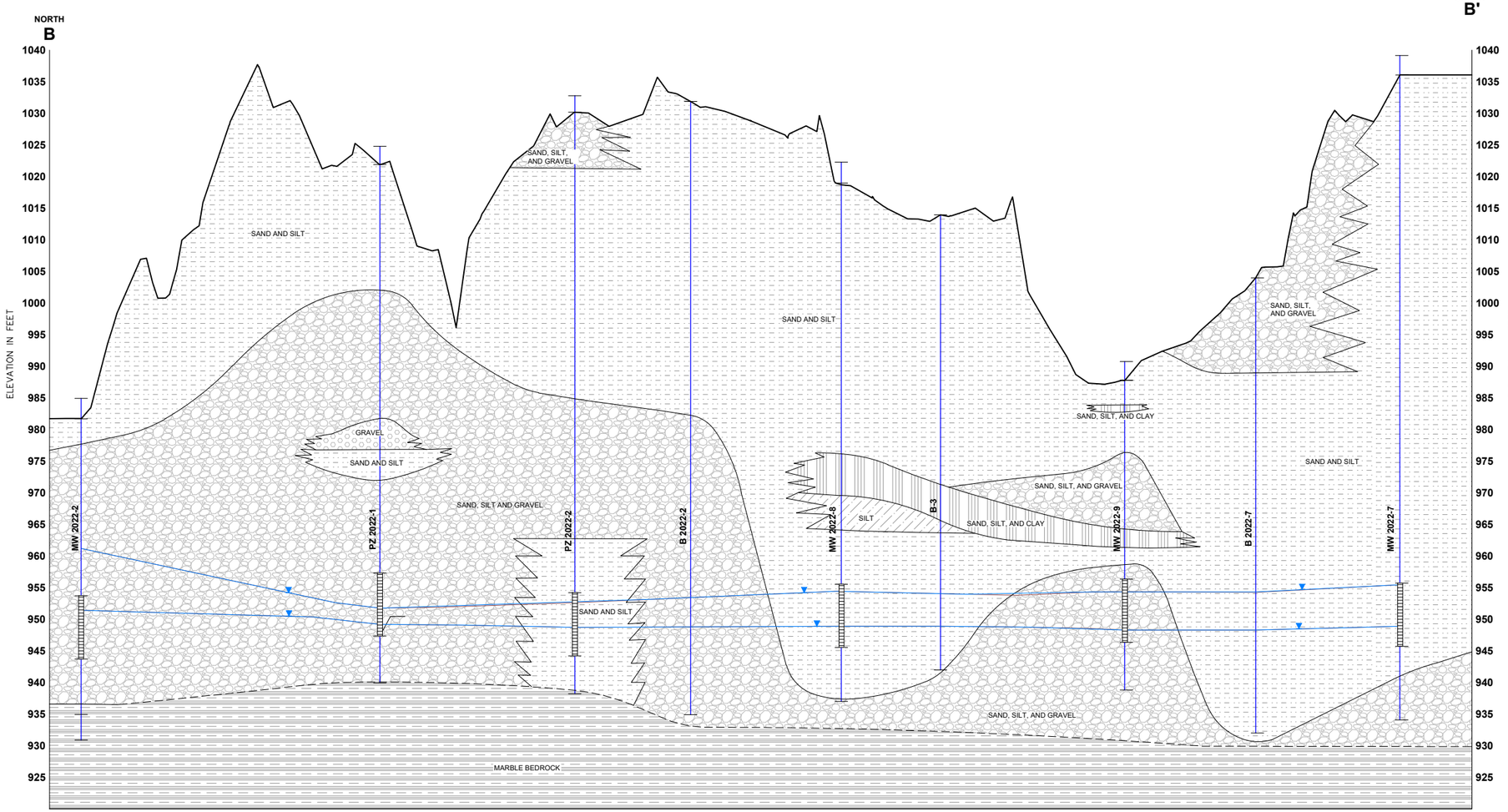
A-A' EAST-WEST GEOLOGIC CROSS SECTION

ARCADIS

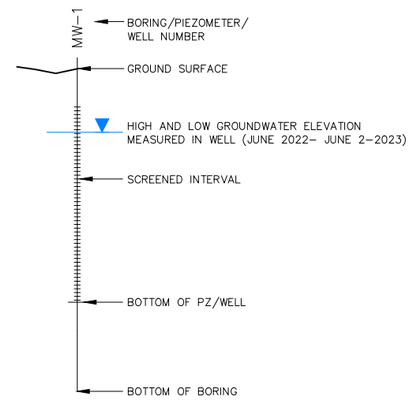
FIGURE
7

C:\Users\JDLoving\ARCADIS\Environmental CAD Team - BIM360 - OneDrive Sync Location\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\2023\01-In Progress\01-DWG\UDF-PDI-GEOXSEC AA+BB.dwg LAYOUT: 7 SAVED: 7/31/2023 2:18 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ----
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/31/2023 2:19 PM BY: LOVING, JEFF

C:\Users\JDLoving\ARCADIS\Environmental CAD Team - BIM360 - OneDrive Sync Location\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\2023\01-In Progress\01-DWG\UDF-PDI-GEOXSEC AA+BB.dwg LAYOUT: 8 SAVED: 7/27/2023 7:49 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ----
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 7/27/2023 8:15 AM BY: LOVING, JEFF



LEGEND:



NOTE:

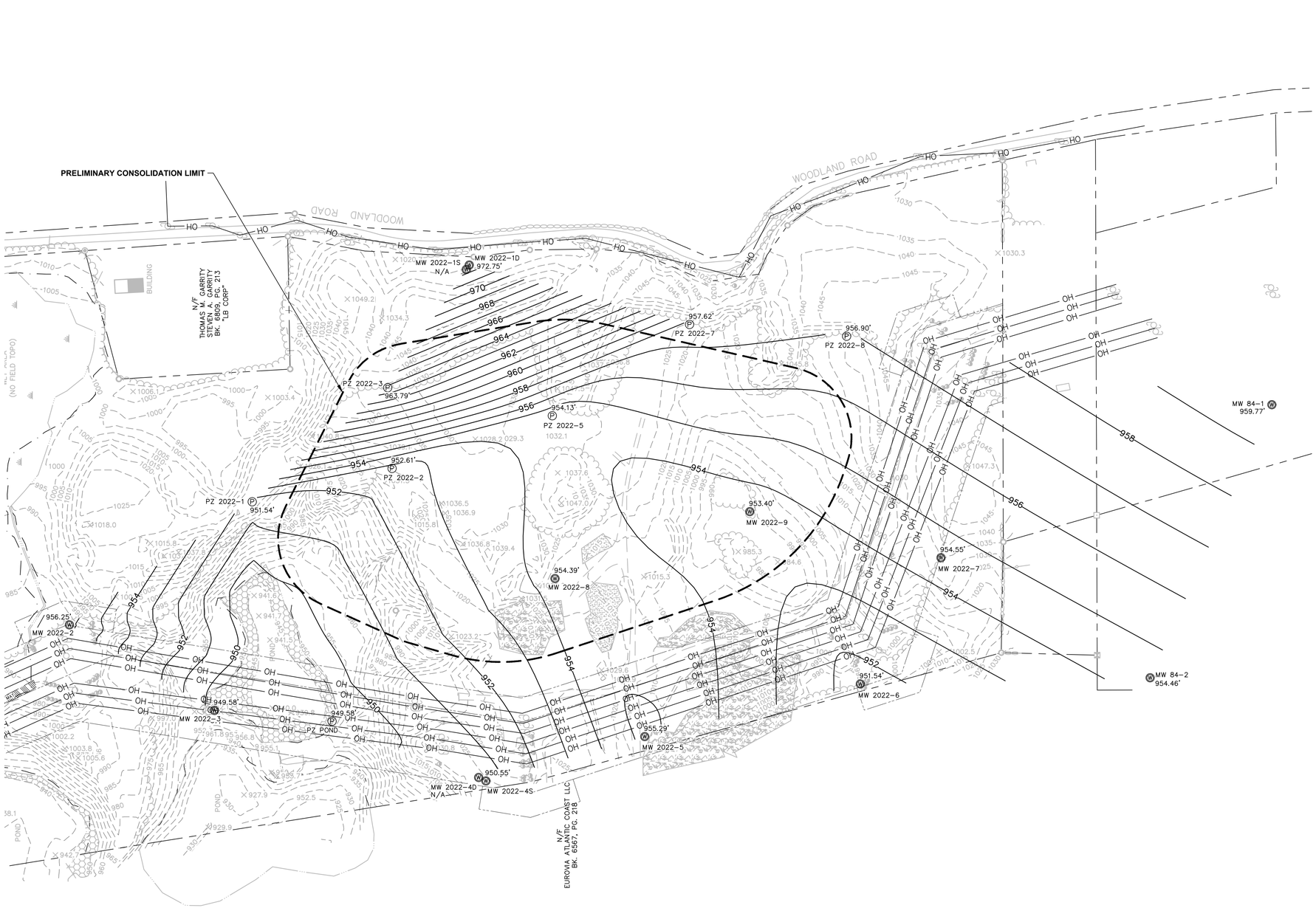
1. GROUNDWATER ELEVATIONS MEASURED BY PRESSURE TRANSDUCERS DEPLOYED IN WELLS AND PIEZOMETERS FROM JUNE 6, 2022 – JUNE 8, 2023.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

B-B' SOUTH-NORTH GEOLOGIC CROSS SECTION

ARCADIS

FIGURE
8



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 x — SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH — OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 — ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 — GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON JUNE 6, 2022.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

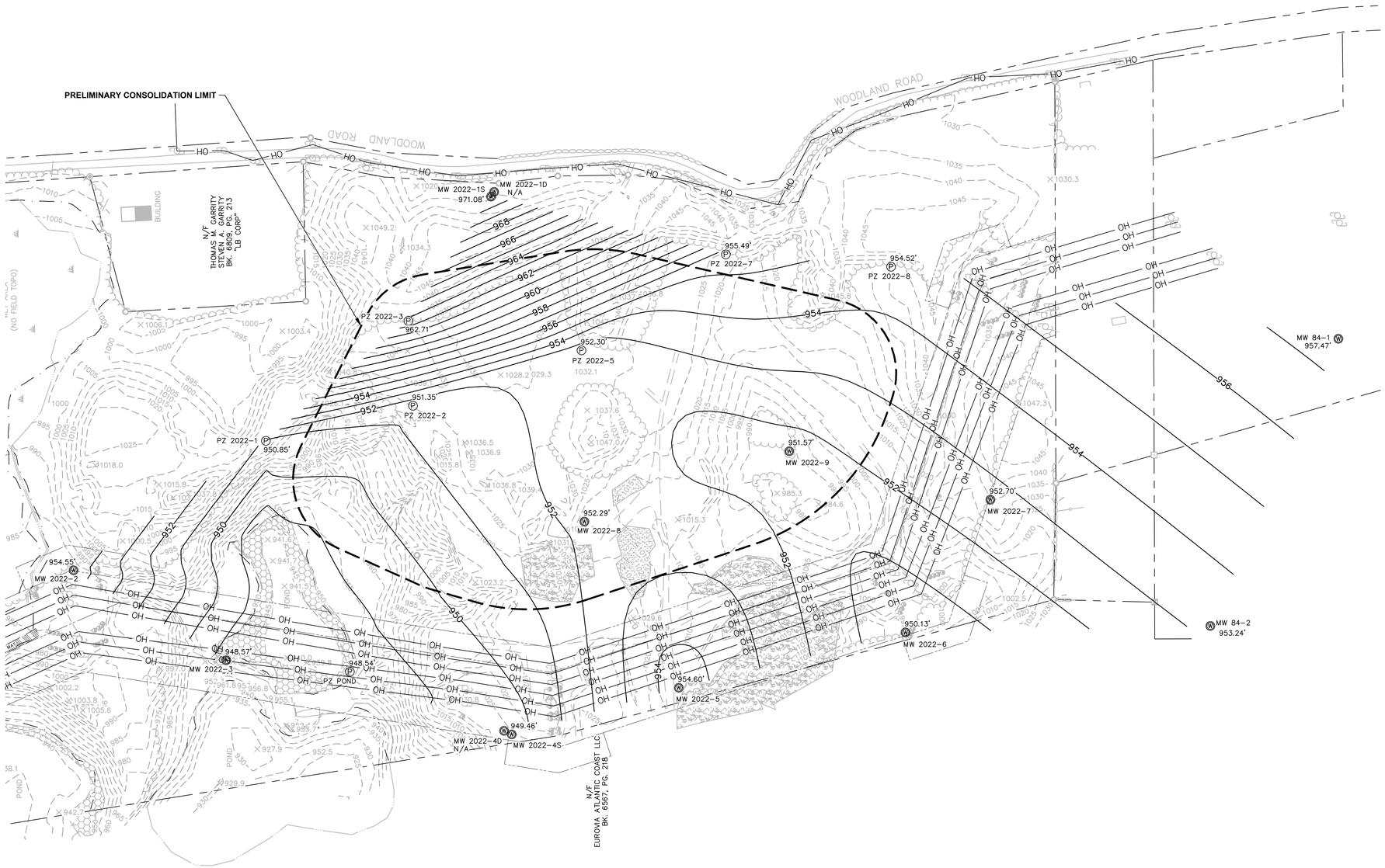
GROUNDWATER ELEVATION MAP JUNE 6, 2022

ARCADIS

FIGURE 9

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 9 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:18 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON JULY 8, 2022.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

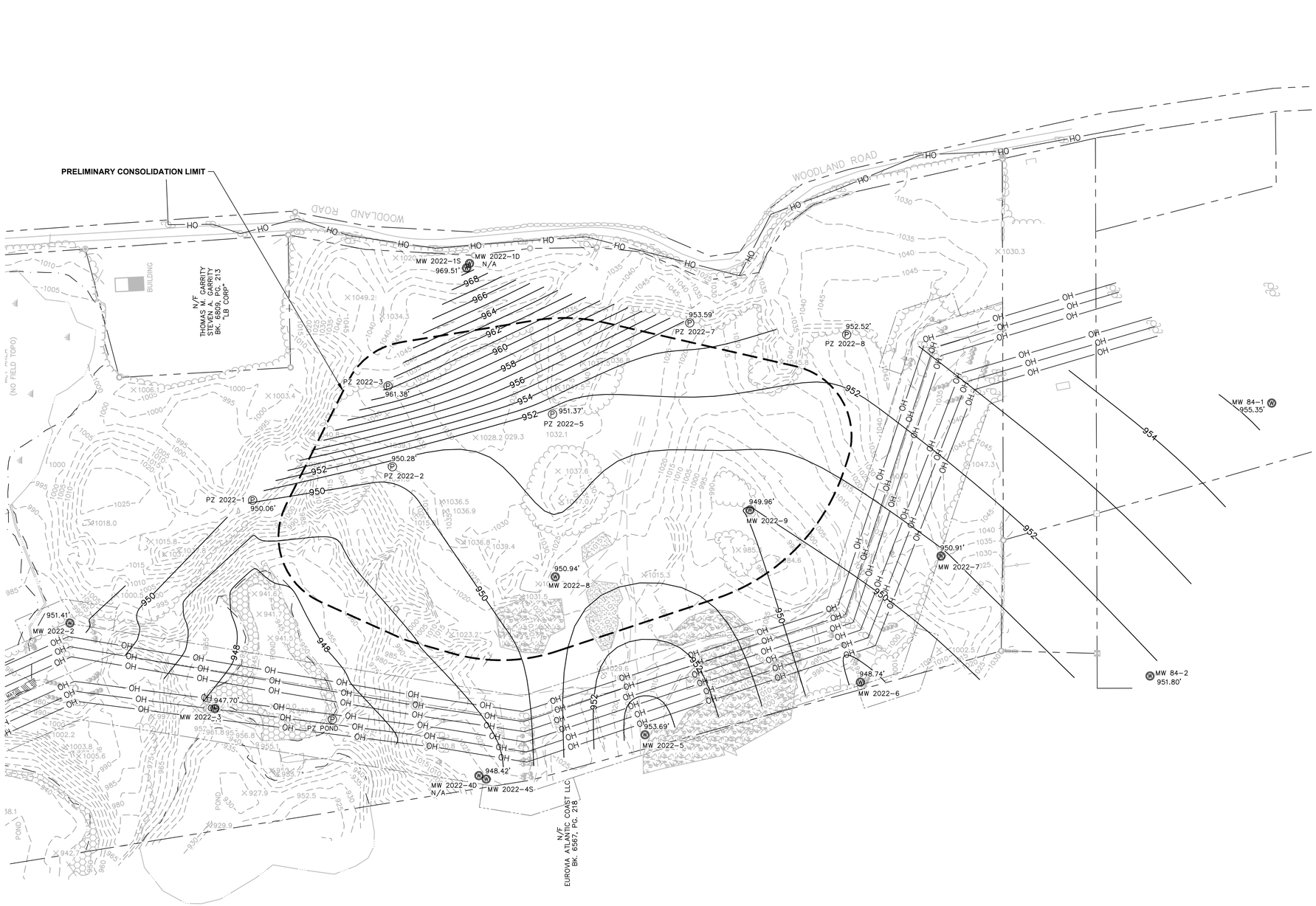
GROUNDWATER ELEVATION MAP JULY 8, 2022

ARCADIS

FIGURE
10

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 10 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA
XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 11 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA
XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON AUGUST 10, 2022.

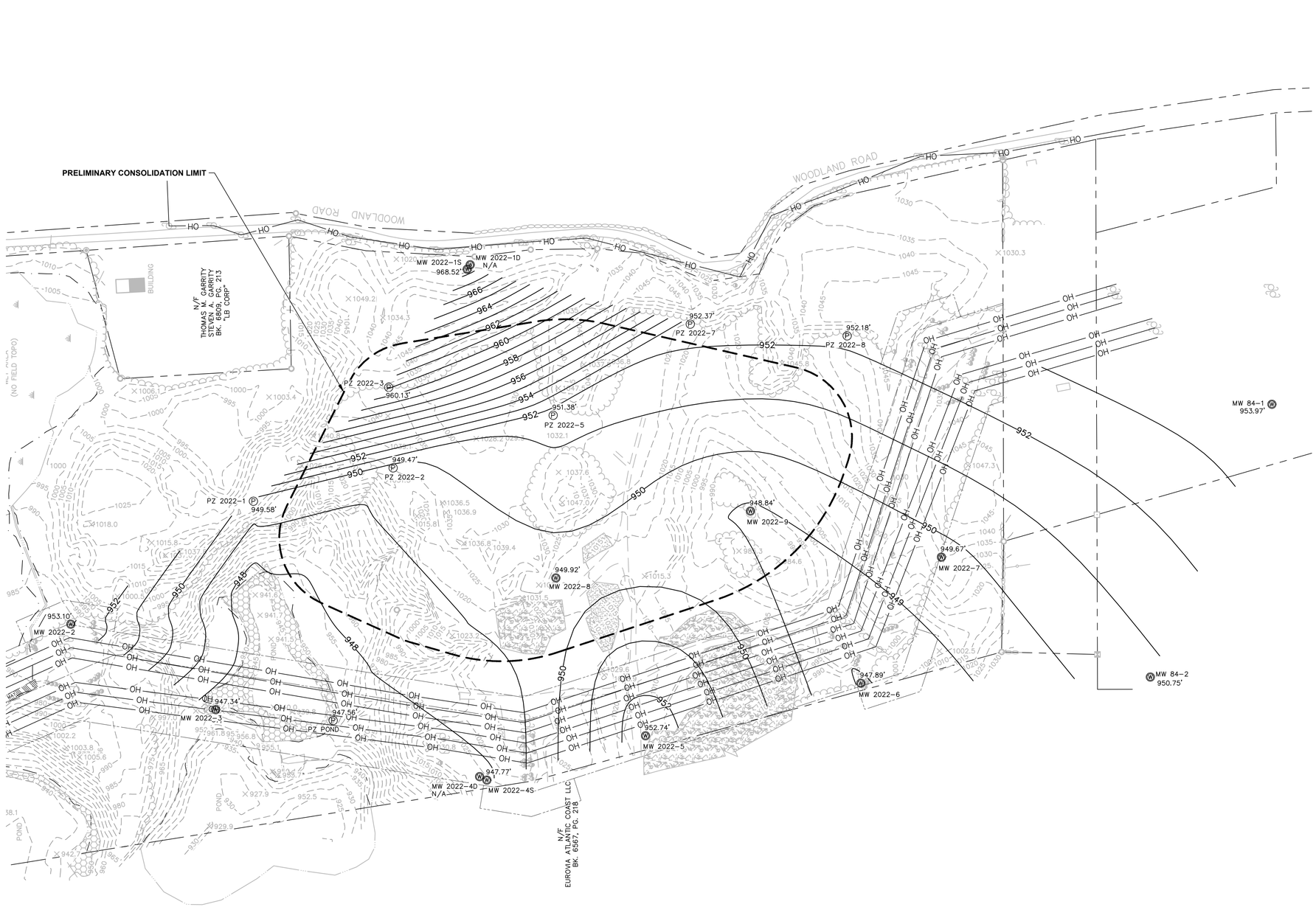
0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

GROUNDWATER ELEVATION MAP AUGUST 10, 2022

ARCADIS

FIGURE
11



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 x — SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH — OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 — ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 — GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON SEPTEMBER 8, 2022.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

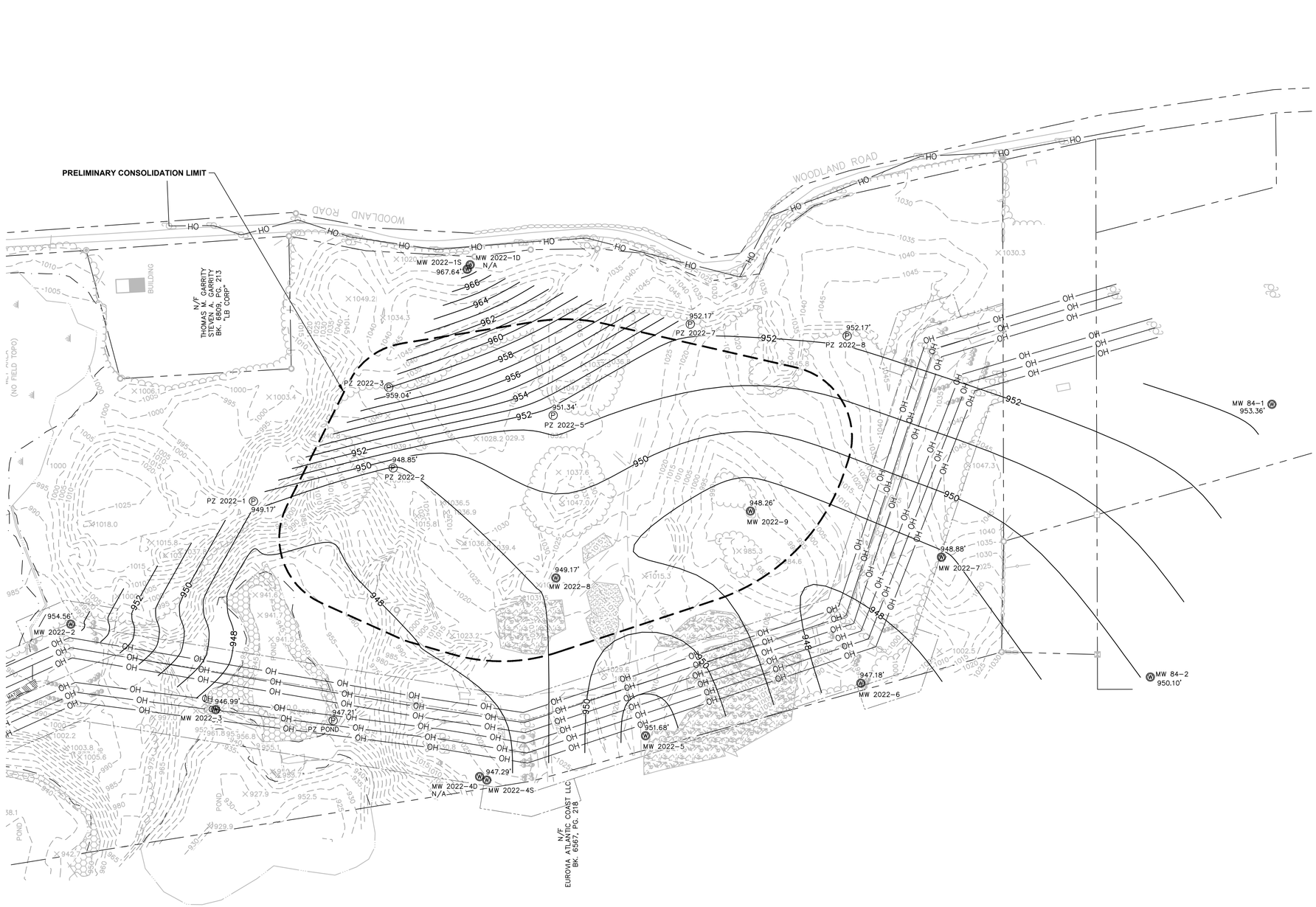
GROUNDWATER ELEVATION MAP SEPTEMBER 8, 2022

ARCADIS

FIGURE
12

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 12 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 x — SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH — OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 — ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 — GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON OCTOBER 7, 2022.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

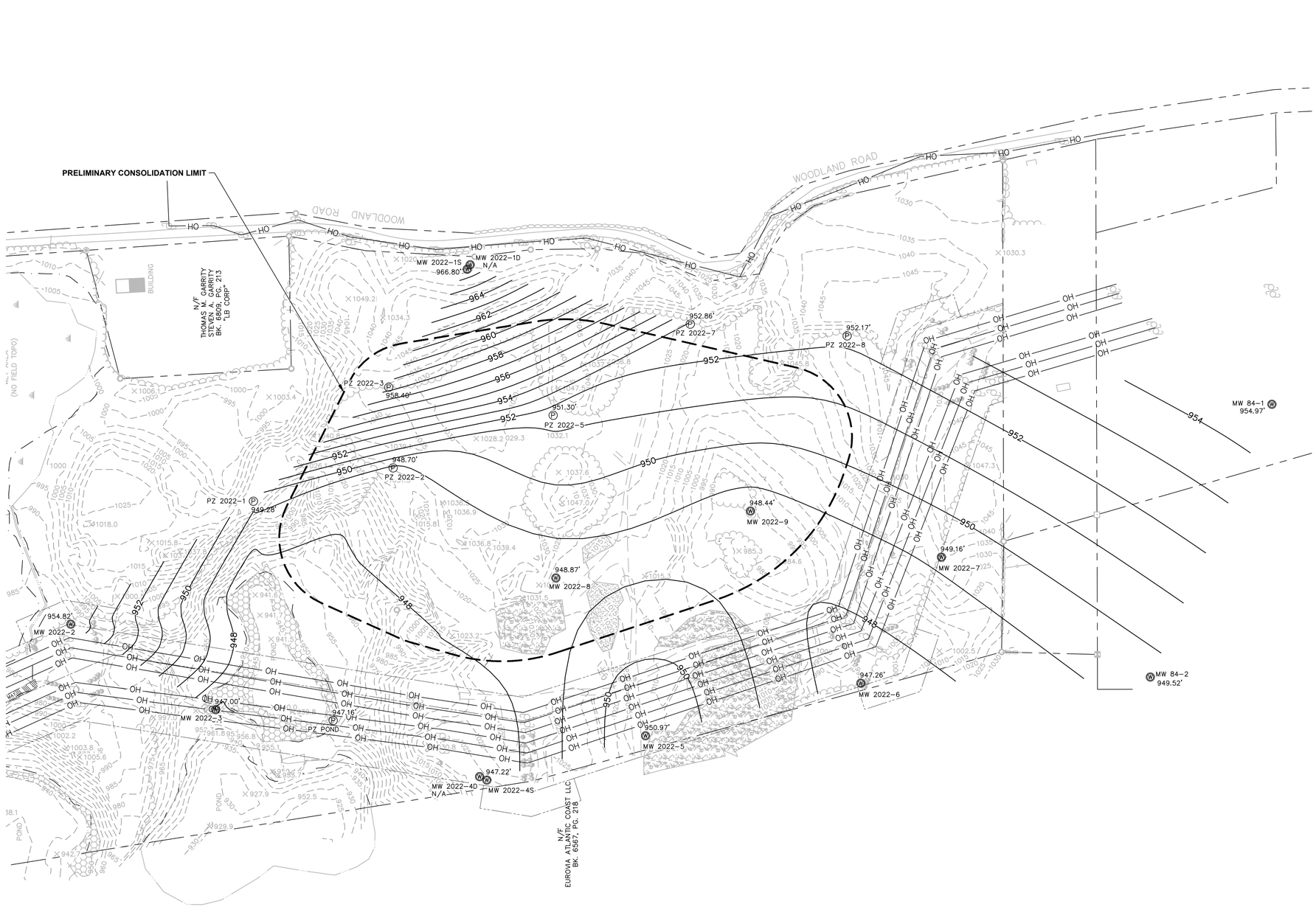
GROUNDWATER ELEVATION MAP OCTOBER 7, 2022

ARCADIS

FIGURE
13

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 13 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 x — SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH — OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 — ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 — GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON NOVEMBER 8, 2022.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

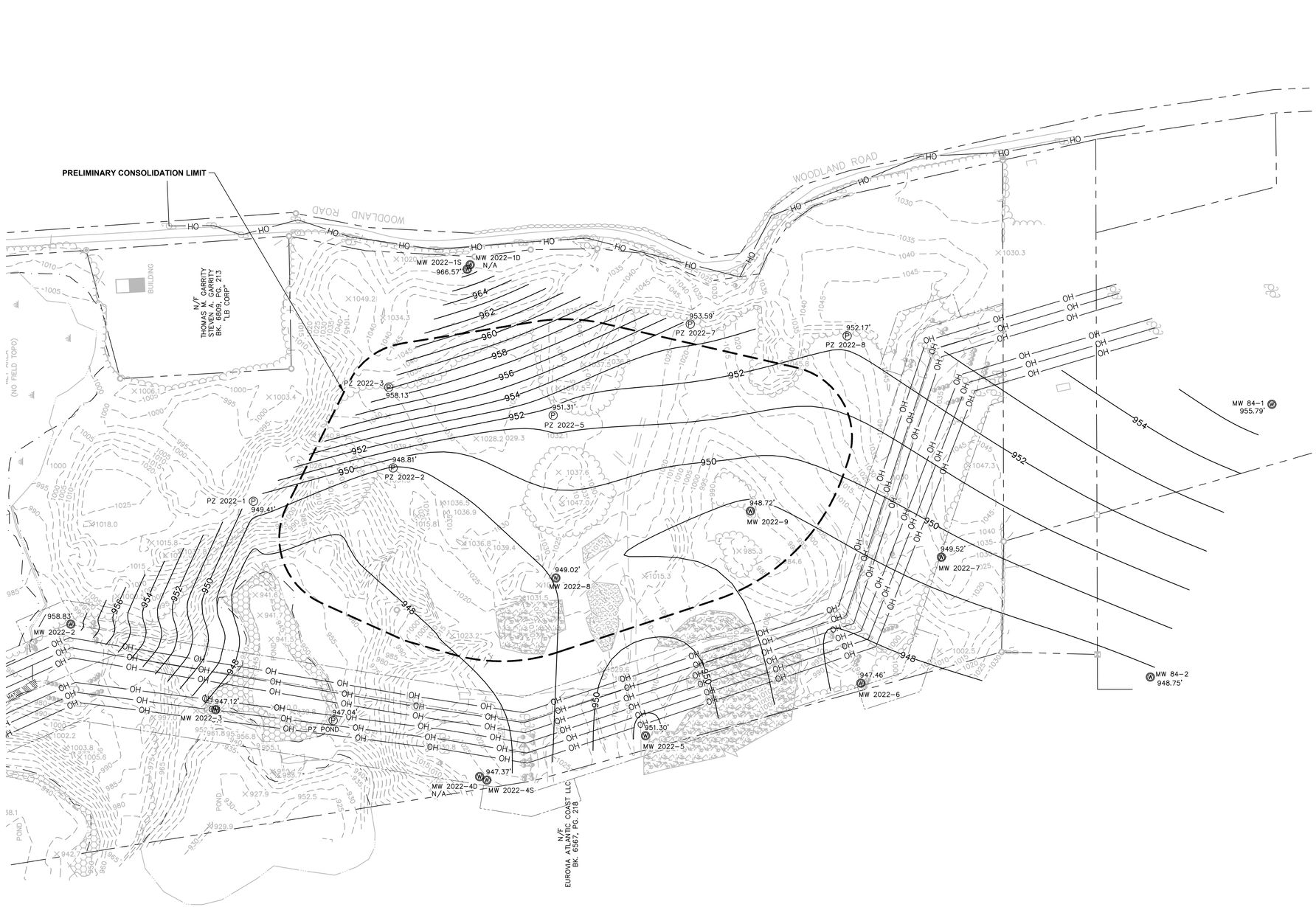
GROUNDWATER ELEVATION MAP NOVEMBER 8, 2022

ARCADIS

FIGURE
14

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 14 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON DECEMBER 7, 2022.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

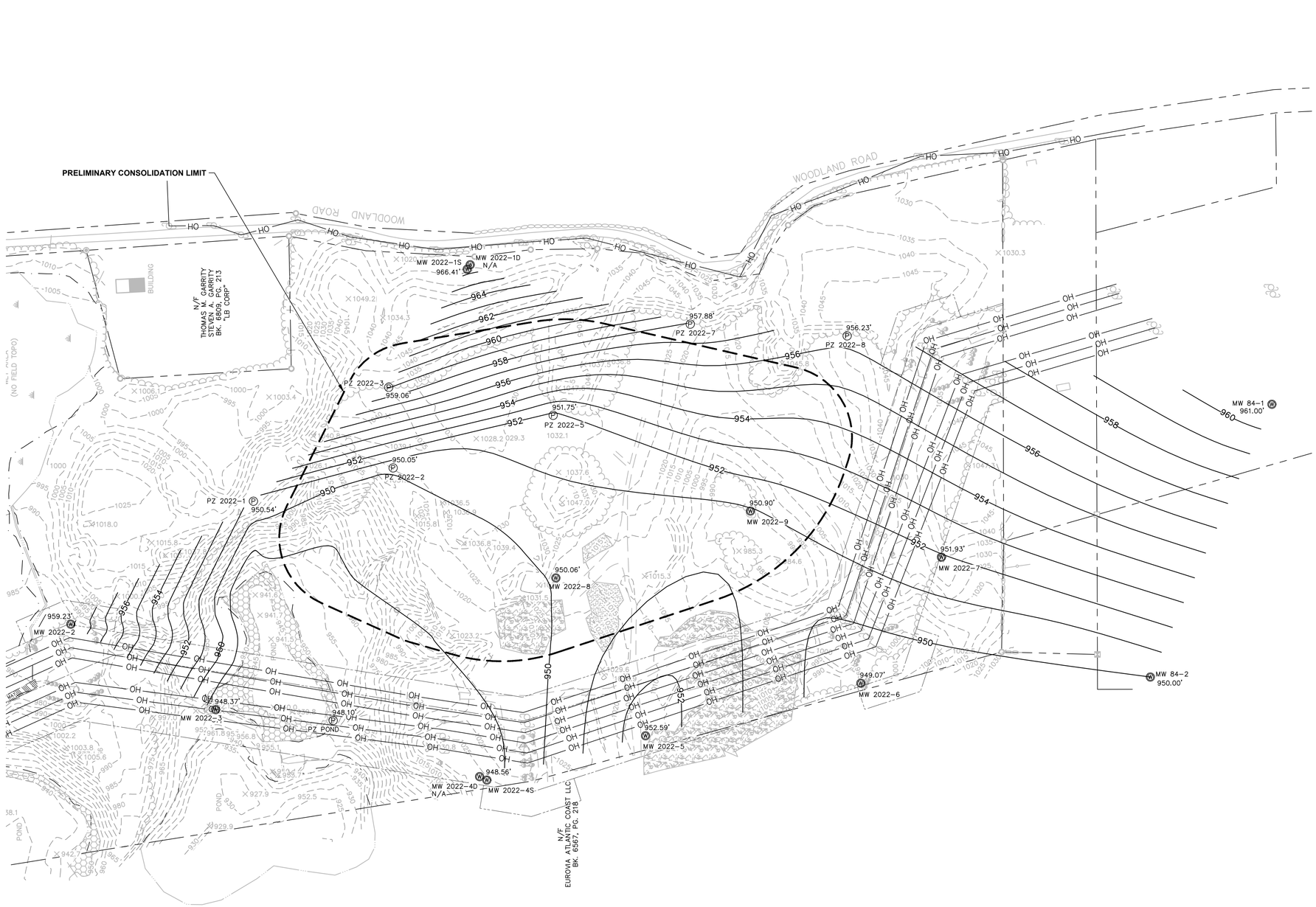
GROUNDWATER ELEVATION MAP DECEMBER 7, 2022

ARCADIS

FIGURE
15

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 15 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 x — SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH — OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 — ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 — GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON JANUARY 11, 2023.

0 120' 240'
GRAPHIC SCALE

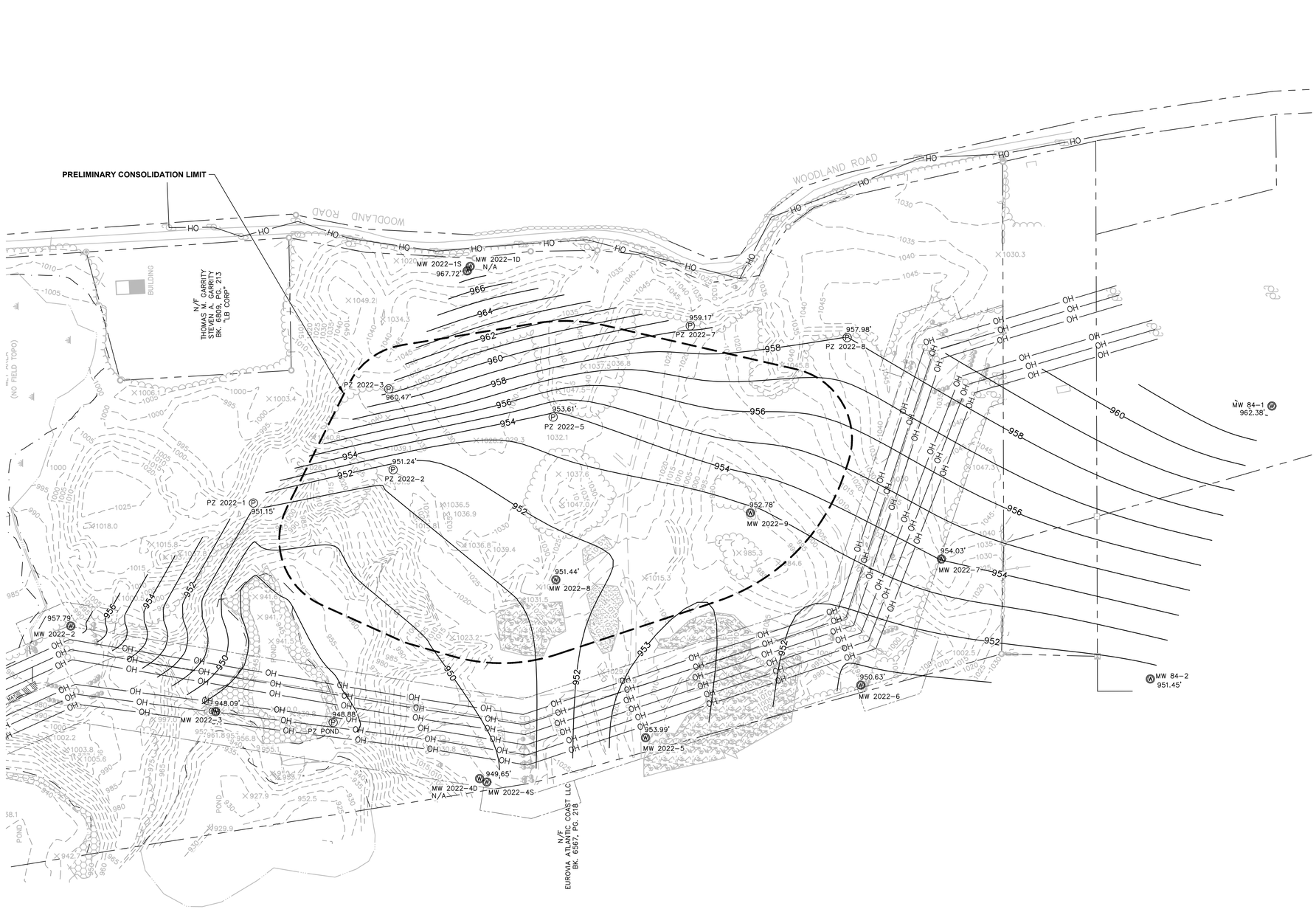
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

GROUNDWATER ELEVATION MAP JANUARY 11, 2023

ARCADIS

FIGURE
16

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 16 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA
XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON FEBRUARY 7, 2023.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

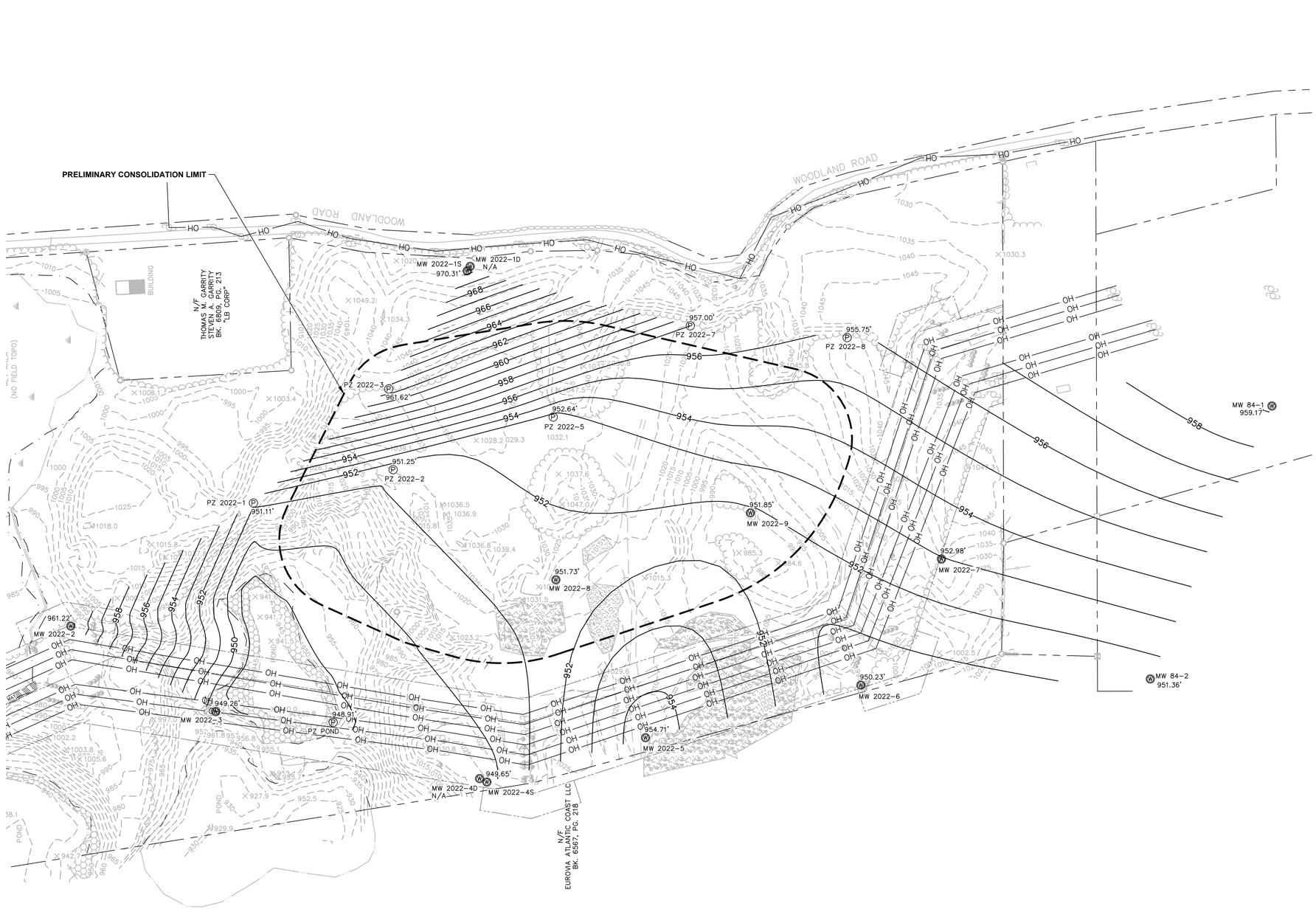
GROUNDWATER ELEVATION MAP FEBRUARY 7, 2023

ARCADIS

FIGURE
17

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 17 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON MARCH 24, 2023.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

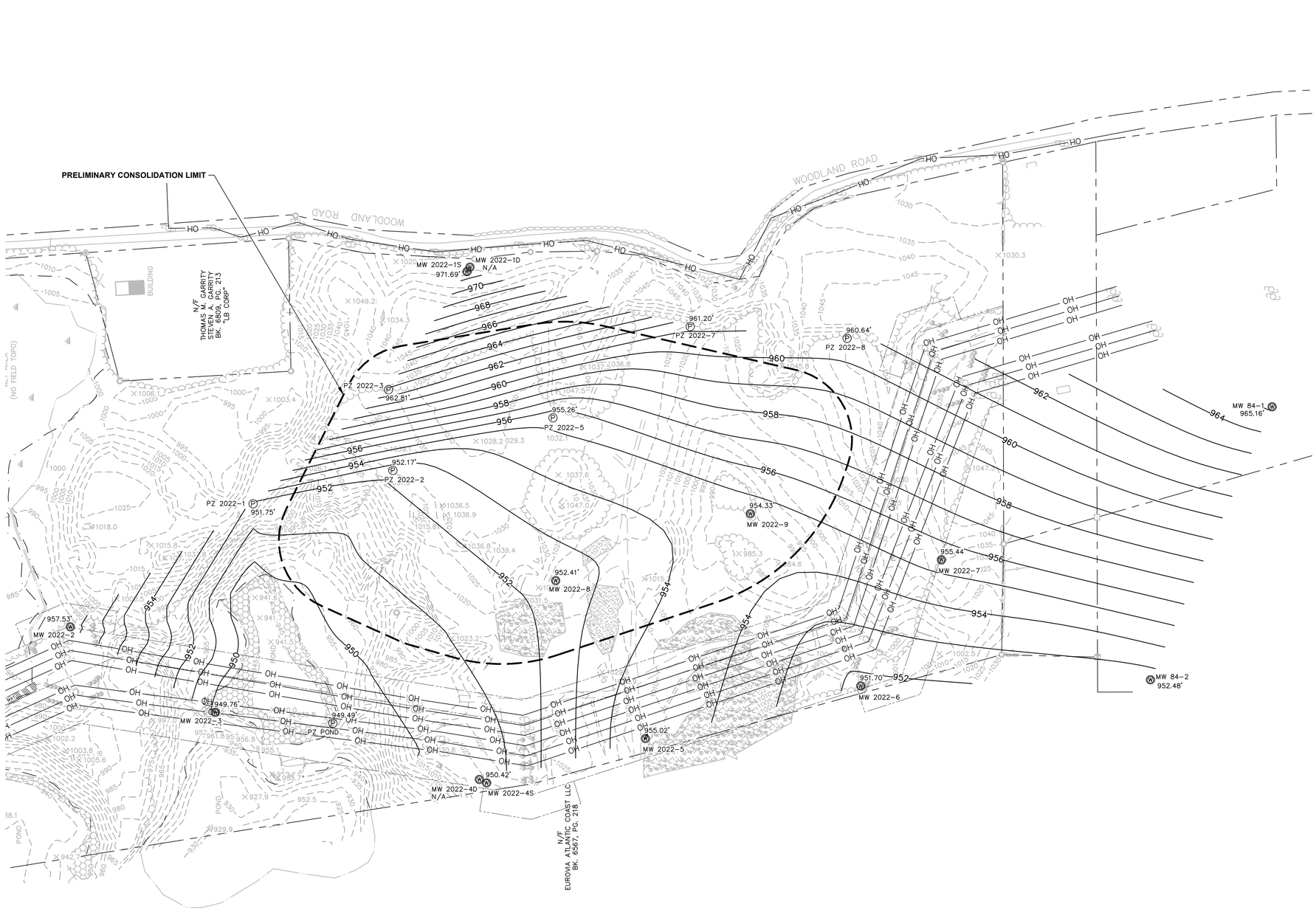
GROUNDWATER ELEVATION MAP MARCH 24, 2023

ARCADIS

FIGURE
18

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 18 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON APRIL 12, 2023.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

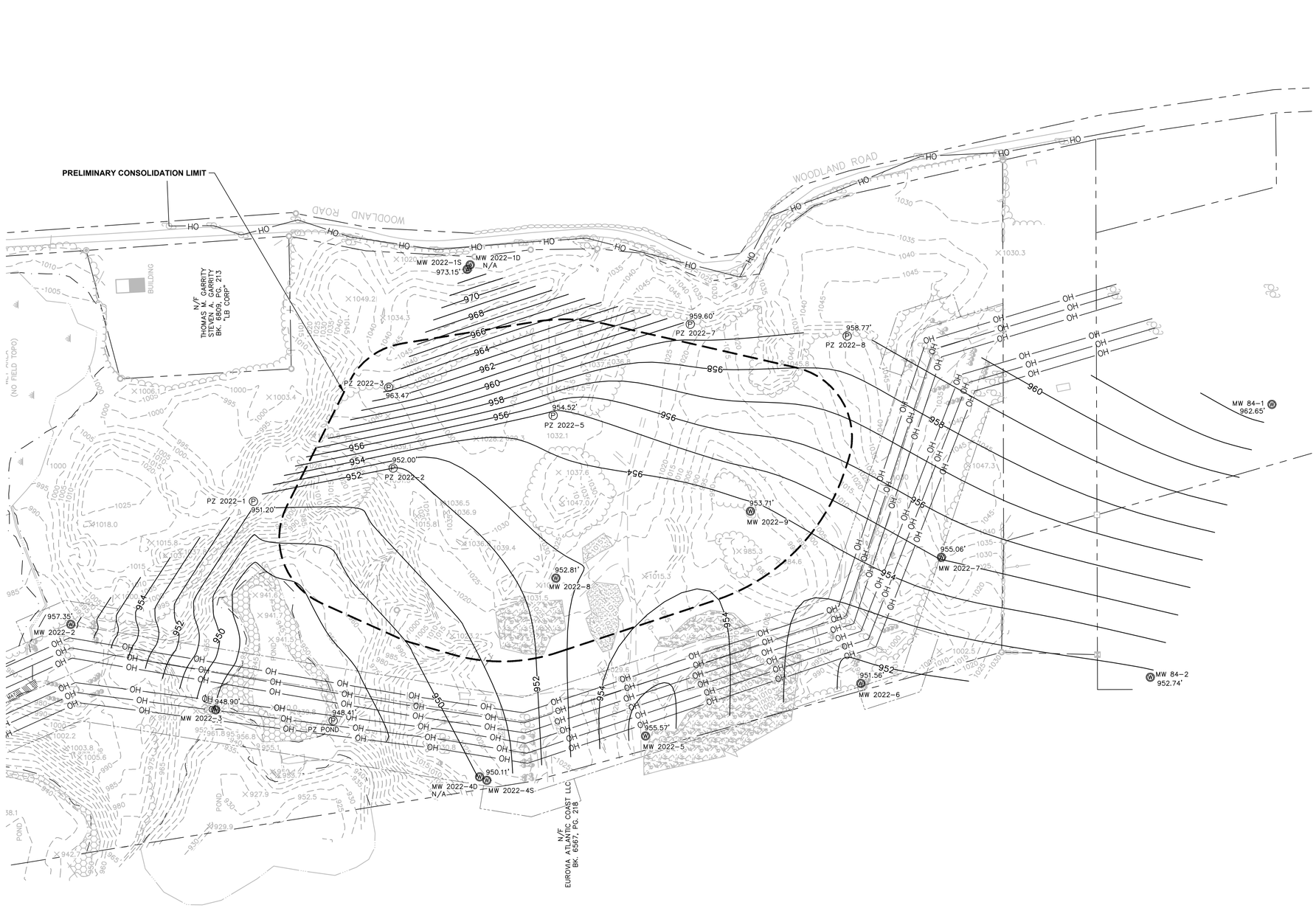
GROUNDWATER ELEVATION MAP APRIL 12, 2023

ARCADIS

FIGURE
19

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 19 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- 1101.7 SPOT ELEVATION
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OH OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- 1010 ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON MAY 9, 2023.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

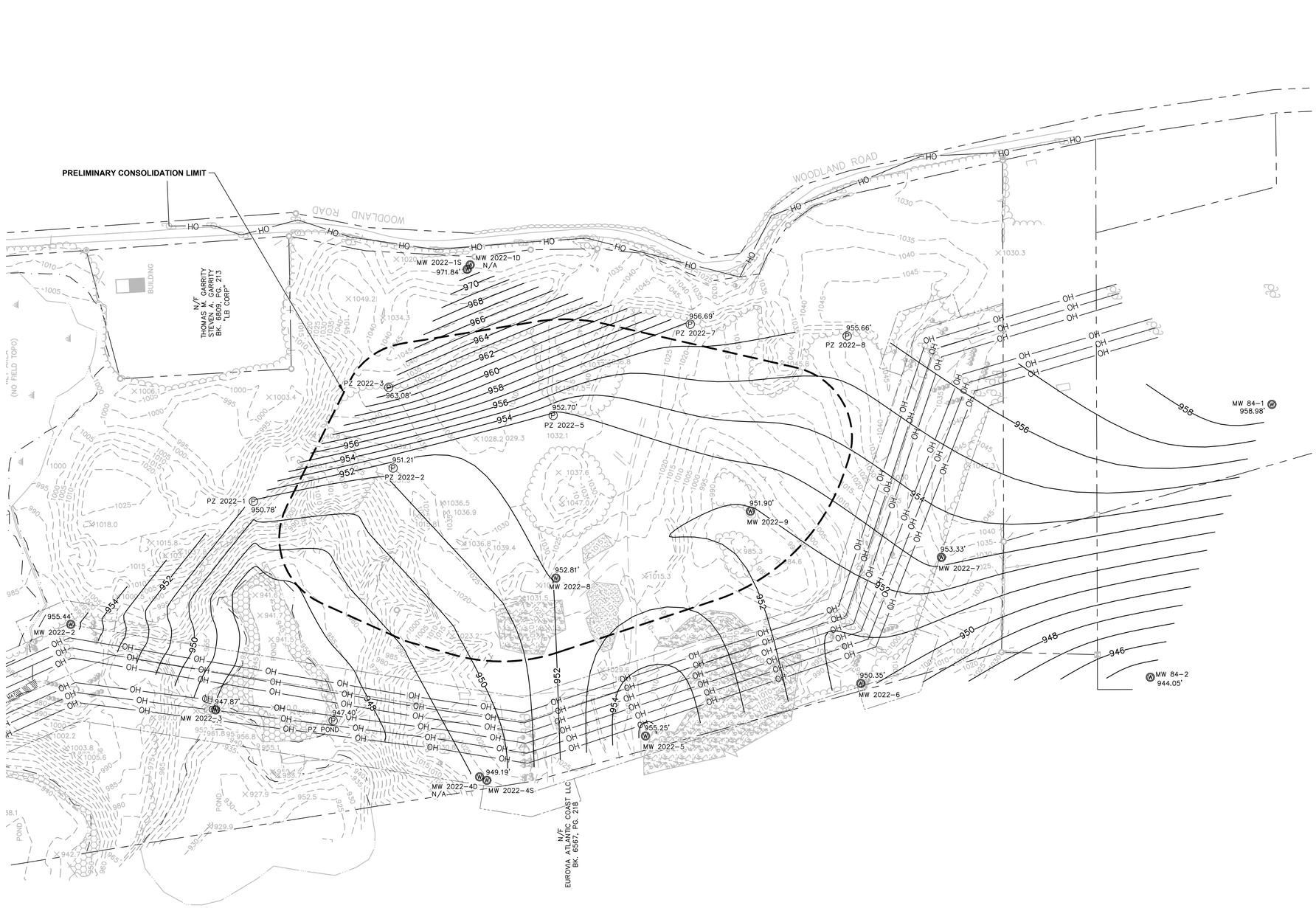
GROUNDWATER ELEVATION MAP MAY 9, 2023

ARCADIS

FIGURE
20

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD MassachusettsProject Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 20 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND

- REBAR FOUND
- IRON PIN FOUND
- CONCRETE BOUND FOUND
- GRANITE BOUND FOUND
- BENCH MARK
- UTILITY POLE
- GUY WIRE
- MONITORING WELL
- PIEZOMETER
- WET AREA
- SPOT ELEVATION (1101.7)
- APPROXIMATE PROPERTY BOUNDARY
- EDGE OF GRAVEL
- EDGE OF BITUMINOUS
- EDGE OF WATER
- EDGE OF WETLAND
- STONEWALL
- OVERHEAD WIRES
- EDGE OF TREE/BRUSH LINE
- PHRAGMITES
- CONCRETE DEBRIS PILE
- GRAVEL PILE
- TIMBER MATTING
- ELEVATION CONTOUR (5-FOOT INTERVAL)
- OVERHEAD LINE EASEMENT
- GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. BASEMAP INFORMATION BASED ON A FIELD SURVEY CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. EXCEPT WETLAND LIMITS WHICH WERE PROVIDED BY AECOM. TOPOGRAPHY INCLUDES A MERGE OF FIELD SURVEY AND BATHYMETRY WITHIN PONDED FEATURES.
2. SURVEY ON CERTAIN PORTIONS OF THE PARCEL (E.G. SLOPED AREAS) MAY INCLUDE LIMITED INFORMATION DUE TO ACCESS LIMITATIONS.
3. HORIZONTAL DATUM IS NSRS 2007 MASSACHUSETTS STATE PLANE, MAINLAND ZONE, US FOOT. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
4. ALL DESIGN FEATURES SHOWN ARE PRELIMINARY (CONCEPTUAL) ONLY AND ARE SUBJECT TO CHANGE IN THE FINAL DESIGN.
5. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON JUNE 8, 2023.

0 120' 240'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

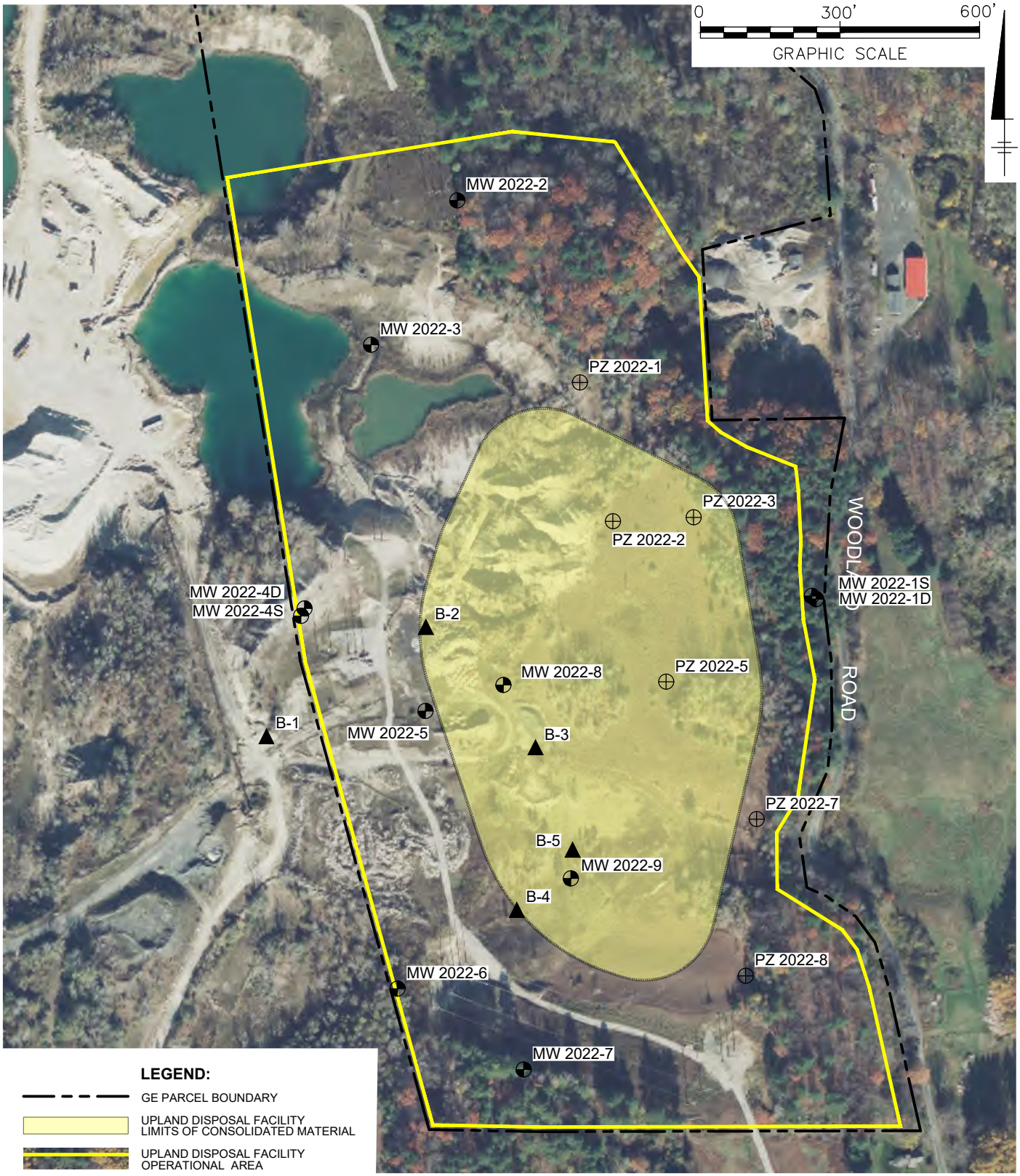
GROUNDWATER ELEVATION MAP JUNE 8, 2023

ARCADIS

FIGURE
21

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-PDI-GW Elev Contour Mapping-Figures 10 thru 22.dwg LAYOUT: 21 SAVED: 7/25/2023 11:16 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

XREFS:
X-UDF-BDR-F-LD-GW
X-UDF-EXISTING SITE
X-UDF-PROPOSED



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA
- HISTORICAL GEOPROBE LOCATIONS
- MONITORING WELL WITH GROUNDWATER QUALITY SAMPLING
- PIEZOMETER (NO GROUNDWATER QUALITY SAMPLING)

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.

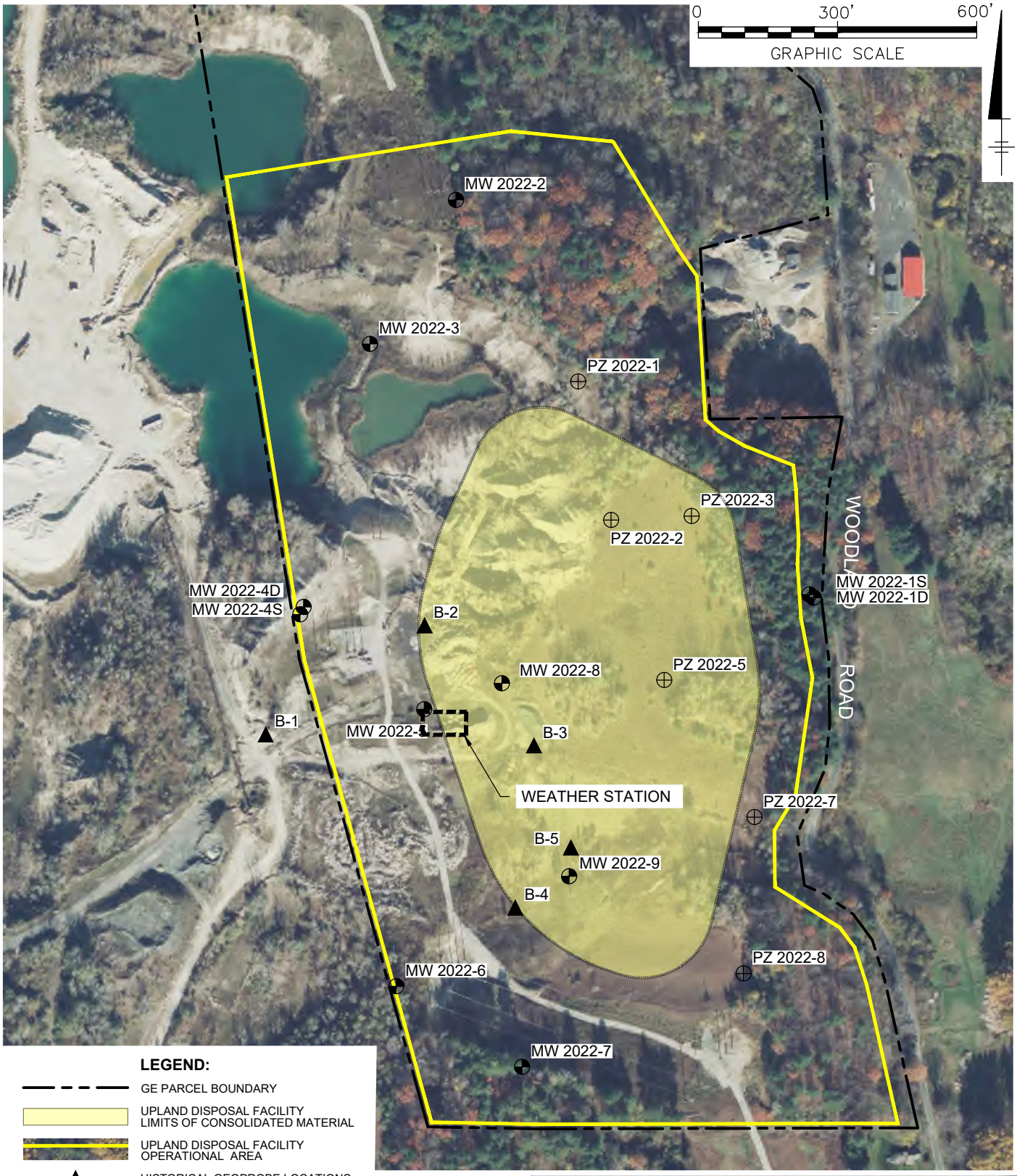
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

GROUNDWATER QUALITY INVESTIGATION

ARCADIS

FIGURE
22

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 22 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA
- HISTORICAL GEOPROBE LOCATIONS
- MONITORING WELL
- PIEZOMETER

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

WEATHER STATION PLAN

ARCADIS

FIGURE
23

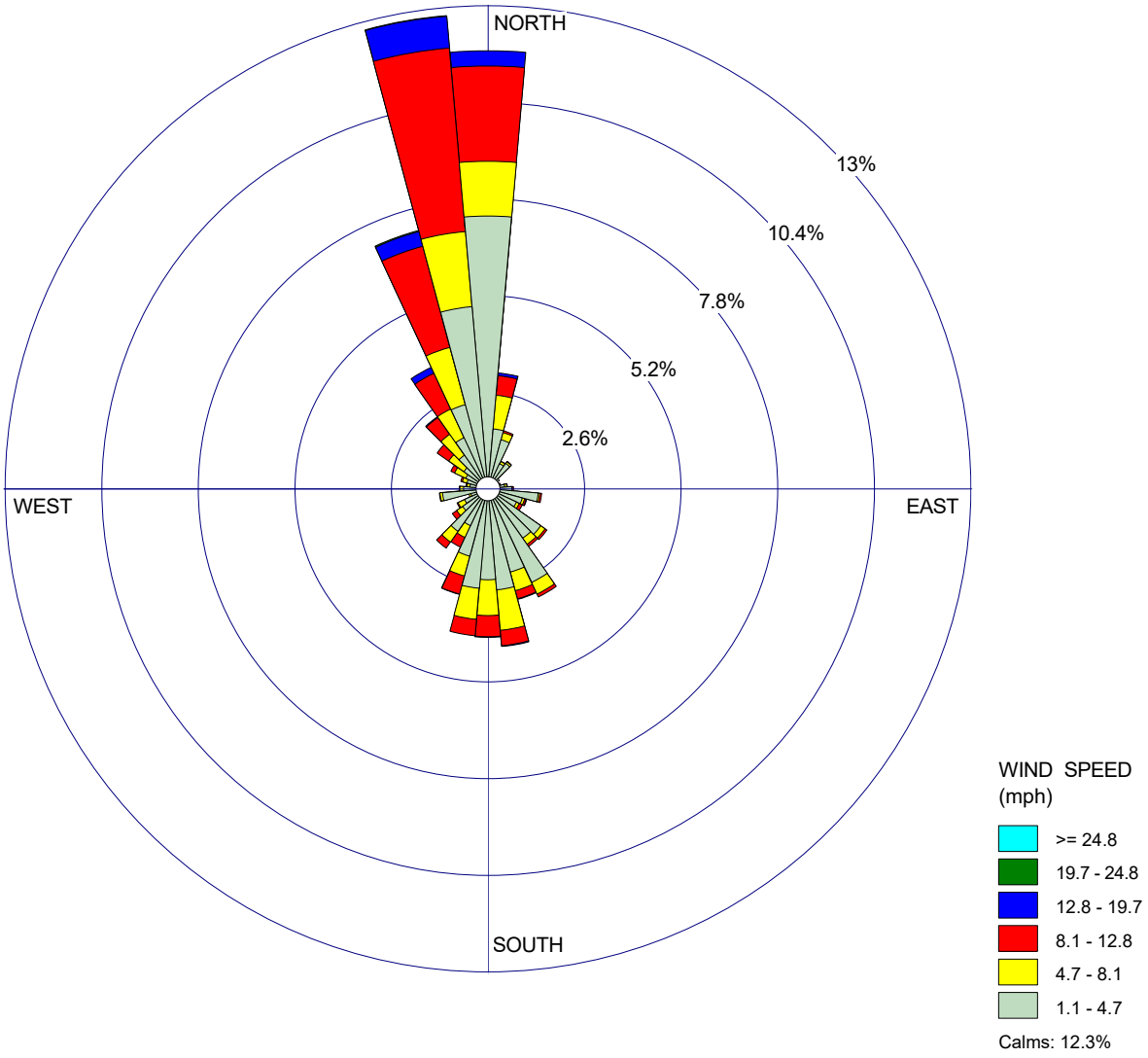
C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 23 SAVED: 7/25/2023 10:35 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 7/25/2023 11:19 AM BY: POSENAUER, LISA

WIND ROSE PLOT:

GE UDF Site (Onsite Met Data)
Lee, Massachusetts

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Q4 2022
Q1 2023
Q2 2023
Wind Speed in mph

DATA PERIOD:

Start Date: 10/3/2022 - 23:00
End Date: 6/29/2023 - 23:00

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

MODELER:

Jalbert

CALM WINDS:

12.3%

TOTAL COUNT:

6337 hrs.

AVG. WIND SPEED:

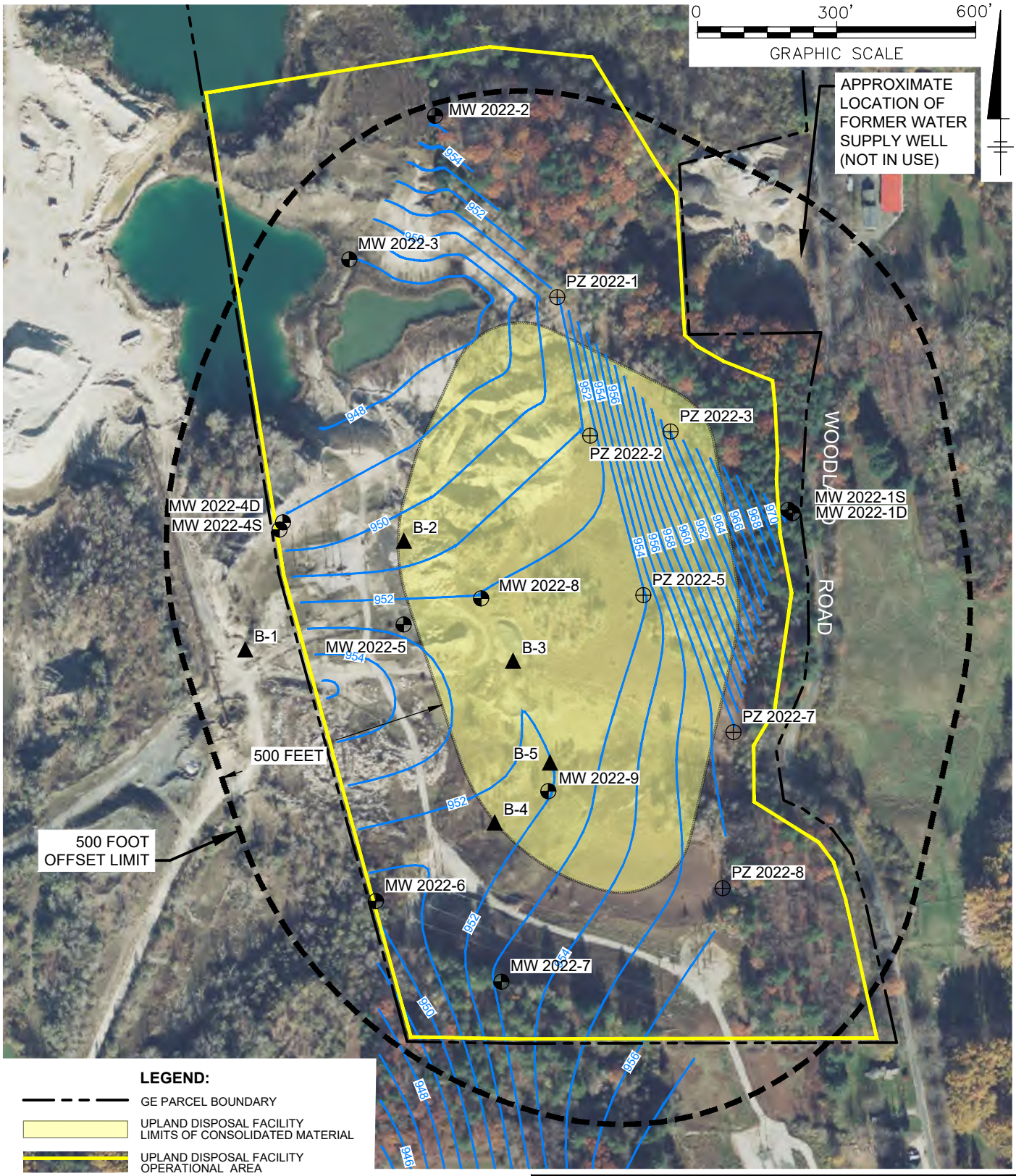
4.0 mph

DATE:

7/20/2023

FIGURE 24

WRPLOT View - Lakes Environmental Software



LEGEND:

- GE PARCEL BOUNDARY
- UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL
- UPLAND DISPOSAL FACILITY OPERATIONAL AREA
- HISTORICAL GEOPROBE LOCATIONS
- MONITORING WELL
- PIEZOMETER
- 954 GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)

NOTES:

1. SITE FEATURES OBTAINED FROM DRAWING ENTITLED "PLAN OF LAND SURVEYED FOR THE LANE CONSTRUCTION CORPORATION" PREPARED BY SK DESIGN GROUP, INC., DATED JUNE 4, 2010.
2. AERIAL IMAGERY: © MICROSOFT CORPORATION © 2022 MAXAR ©CNES (2022) DISTRIBUTION AIRBUS DS.
3. UPLAND DISPOSAL FACILITY LIMITS OF CONSOLIDATED MATERIAL, OPERATIONAL AREA, AND SUPPORT AREAS SHOWN ARE CONCEPTUAL ONLY.
4. GROUNDWATER ELEVATION CONTOURS SHOWN ARE BASED ON PRE-DESIGN INVESTIGATION (PDI) GROUNDWATER ELEVATION GAUGING CONDUCTED ON JUNE 8, 2023.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
GE-PITTSFIELD/HOUSATONIC RIVER SITE

500-FOOT LIMIT FROM CONSOLIDATION AREA

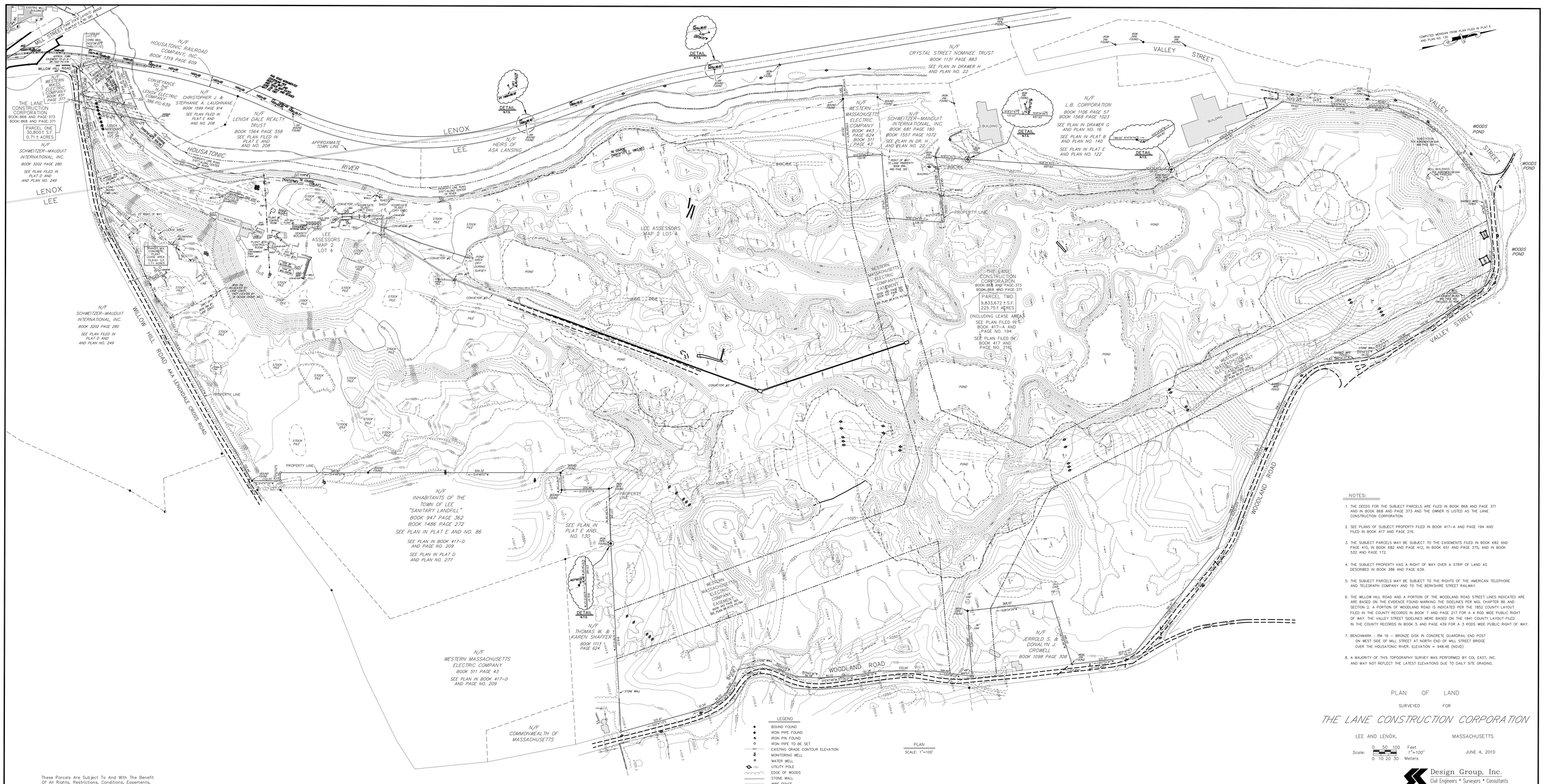
ARCADIS

FIGURE
25

C:\Users\lposenauer\ACCDocs\Arcadis\AUS-GE-HOUSATONIC-PITTSFIELD Massachusetts\Project Files\2023\01-In Progress\01-DWG\UDF-F01-F10-FIGURES-1.dwg LAYOUT: 25 SAVED: 8/4/2023 9:43 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: C-PA-PDF-TPY PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 8/4/2023 3:38 PM BY: POSENAUER, LISA

Appendix A

2010 Topographic Survey



These Parcels Are Subject To And With The Benefit Of All Rights, Restrictions, Conditions, Easements, Leases, Encumbrances, And Appurtenances Of Record.

LEGEND

- BOUND FOUND
- IRON PIPE FOUND
- IRON PIN FOUND
- IRON PIPE TO BE SET
- EXISTING GRADE CONTOUR ELEVATION
- MONITORING WELL
- WATER WELL
- UTILITY POLE
- EDGE OF WOODS
- STONE WALL
- WIRE FENCE

PLAN
SCALE: 1"=100'

NOTES:

1. THE DEEDS FOR THE SUBJECT PARCELS ARE FILED IN BOOK 868 AND PAGE 371 AND IN BOOK 868 AND PAGE 373 AND THE OWNER IS LISTED AS THE LANE CONSTRUCTION CORPORATION.
2. SEE PLANS OF SUBJECT PROPERTY FILED IN BOOK 417-A AND PAGE 194 AND FILED IN BOOK 417 AND PAGE 216.
3. THE SUBJECT PARCELS MAY BE SUBJECT TO THE EASEMENTS FILED IN BOOK 682 AND PAGE 410, IN BOOK 682 AND PAGE 412, IN BOOK 651 AND PAGE 375, AND IN BOOK 532 AND PAGE 172.
4. THE SUBJECT PROPERTY HAS A RIGHT OF WAY OVER A STRIP OF LAND AS DESCRIBED IN BOOK 386 AND PAGE 639.
5. THE SUBJECT PARCELS MAY BE SUBJECT TO THE RIGHTS OF THE AMERICAN TELEPHONE AND TELEGRAPH COMPANY AND TO THE BERKSHIRE STREET RAILWAY.
6. THE WILLOW HILL ROAD AND A PORTION OF THE WOODLAND ROAD STREET LINES INDICATED ARE ARE BASED ON THE EVIDENCE FOUND MARKING THE SIDELINES PER MGL CHAPTER 86 AND SECTION 2. A PORTION OF WOODLAND ROAD IS INDICATED PER THE 1852 COUNTY LAYOUT FILED IN THE COUNTY RECORDS IN BOOK 7 AND PAGE 217 FOR A 4 ROD WIDE PUBLIC RIGHT OF WAY. THE VALLEY STREET SIDELINES WERE BASED ON THE 1841 COUNTY LAYOUT FILED IN THE COUNTY RECORDS IN BOOK 5 AND PAGE 439 FOR A 3 RODS WIDE PUBLIC RIGHT OF WAY.
7. BENCHMARK : RM 16 – BRONZE DISK IN CONCRETE GUARDRAIL END POST ON WEST SIDE OF MILL STREET AT NORTH END OF MILL STREET BRIDGE OVER THE HOUSATONIC RIVER. ELEVATION = 948.46 (NGVD)
8. A MAJORITY OF THIS TOPOGRAPHY SURVEY WAS PERFORMED BY COL EAST, INC. AND MAY NOT REFLECT THE LATEST ELEVATIONS DUE TO DAILY SITE GRADING.

PLAN OF LAND

SURVEYED FOR

THE LANE CONSTRUCTION CORPORATION

LEE AND LENOX, MASSACHUSETTS

Scale: 0 50 100 Feet, 1"=100'; 0 10 20 30 Meters

JUNE 4, 2010

Design Group, Inc.
Civil Engineers * Surveyors * Consultants
3 FEDERICO DRIVE * PITTSFIELD, MASSACHUSETTS 01201 * (413)443-3537

PROJECT NUMBER:050010PL-SURVEY-WITH-TOPO

Appendix B

Soil Map – Berkshire County, Massachusetts



Map Scale: 1:6,530 if printed on B portrait (11" x 17") sheet.

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Berkshire County, Massachusetts
Survey Area Data: Version 17, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 15, 2021—Nov 8, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Cwater	33.2	6.2%
8A	Limerick silt loam, 0 to 3 percent slopes, frequently flooded	0.7	0.1%
34A	Fredon fine sandy loam, 0 to 3 percent slopes	13.8	2.6%
76B	Kendaia silt loam, 3 to 8 percent slopes	1.5	0.3%
267B	Copake fine sandy loam, 3 to 8 percent slopes	53.9	10.0%
267C	Copake fine sandy loam, 8 to 15 percent slopes	16.5	3.1%
267D	Copake fine sandy loam, 15 to 25 percent slopes	19.5	3.6%
270A	Hero loam, 0 to 3 percent slopes	8.1	1.5%
270B	Hero loam, 3 to 8 percent slopes	30.0	5.6%
298E	Groton and Hinckley soils, 25 to 35 percent slopes	72.5	13.5%
500B	Amenia silt loam, 3 to 8 percent slopes	42.1	7.8%
500C	Amenia silt loam, 8 to 15 percent slopes	8.4	1.6%
511C	Pittsfield loam, 8 to 15 percent slopes, very stony	1.7	0.3%
512D	Pittsfield loam, 15 to 25 percent slopes, extremely stony	31.7	5.9%
514E	Pittsfield and Nellis loams, 25 to 35 percent slopes, extremely stony	5.8	1.1%
600	Pits, gravel	143.6	26.7%
651	Udorthents, smoothed	29.0	5.4%
901E	Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony	13.6	2.5%
904E	Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony	12.0	2.2%
Totals for Area of Interest		**537.5**	**100.0%**

Appendix C

Revised Baseline Ecological Characterization and Habitat Assessment Report for Upland Disposal Facility Area



AECOM

Revised Baseline Ecological Characterization and Habitat Assessment Report for Upland Disposal Facility Area

Woodland Road, Lee, Massachusetts

August 2023

Prepared for General Electric Company
Pittsfield, Massachusetts

Revised Baseline Ecological Characterization and Habitat Assessment Report for Upland Disposal Facility Area

Woodland Road, Lee, Massachusetts

August 2023

Prepared for
General Electric Company
1 Plastics Avenue
Pittsfield, Massachusetts 01201

Prepared by
AECOM
500 Enterprise Drive
Rocky Hill, Connecticut 06067

TABLE OF CONTENTS

1.0 Introduction and Scope 1
1.1 Introduction 1
1.2 Scope of Ecological Characterization and Habitat Assessment 2
2.0 Environmental Setting 4
3.0 Methods 5
3.1 Background Data Collection 5
3.2 Field Investigations 6
3.2.1 Wetland Delineation and Inventory 6
3.2.2 Vernal Pool Assessment 7
3.2.3 Plant Community Inventory and Wildlife Habitat Survey 8
3.2.4 Invasive Species Assessment 8
3.3 Wildlife Habitat Assessment 9
3.4 Rare Species Assessment 9
3.5 Geology and Soils 10
3.6 Ecological Functions and Values Assessment 10
4.0 Results 11
4.1 Geology and Soils 11
4.2 Plant Community Inventory and Wildlife Habitat 12
4.2.1 Cover Type Mapping 12
4.2.2 Habitat Inventory Forms 13
4.2.3 Plant Inventory 13
4.2.4 Wildlife Habitat 18
4.3 Delineation and Inventory of Wetlands and Ponds 21
4.4 Vernal Pool Findings 22
4.5 Rare Species Habitat Findings 24
4.6 Ecological Functions and Values Assessment 25
4.6.1 Wetland Functions and Values Assessment 25
4.6.2 Upland Habitats Functions and Values Assessment 26
5.0 References 27

LIST OF TABLES

Table 1. Cover type comparison: DeGraaf and Yamasaki (2001) versus Woodlot (2002)

Table 2. Mapped plant communities within the GE Parcel

Table 3. Mapped plant communities within the Consolidation Area versus rest of the GE Parcel

Table 4. Vascular plant species observed on the GE Parcel

Table 5. Vascular plant species observed in vegetative plots in the Consolidation Area

Table 6. Ranked IV_{ave} values for the entire GE Parcel

Table 7. Ranked IV_{ave} values for Northern Hardwood Forest

Table 8. Ranked IV_{ave} values for Eastern White Pine Forest

Table 9. Ranked IV_{ave} values for Aspen/Birch Late Successional Forest

Table 10. Ranked IV_{ave} values for Palustrine Wetland

Table 11. Ranked IV_{ave} values for Upland Field

Table 12. Wildlife species observations

Table 13. Observed and potential bird species presence

Table 14. Observed and potential amphibian, reptile, and mammal presence.

LIST OF FIGURES

Figure 1: Location of the GE Parcel in Lee, Massachusetts.

Figure 2: General Layout of the Upland Disposal Facility in Lee, Massachusetts

Figure 3: 2021 East Lee Topographic Quadrangle Map

Figure 4: USDA NRCS Soil Mapping

Figure 5: Habitat Cover Types

LIST OF ATTACHMENTS

A. Representative Photographs

B. USDA Soils Mapping and Descriptions

C. Habitat Inventory Forms

D. U.S. Army Corps of Engineers Wetland Determination Data Forms

E. MNHESP Vernal Pool Field Observation Forms

F. IPaC results and NHESP Mapping/Consultation

1.0 Introduction and Scope

1.1 Introduction

This Revised Baseline Ecological Characterization and Habitat Assessment Report for the Upland Disposal Facility Area (UDF Revised Baseline Habitat Report or Revised Report) has been prepared by AECOM on behalf of the General Electric Company (GE) to present the results of the ecological characterization and habitat data collection conducted as part of pre-design investigation (PDI) activities for the area that will contain the Upland Disposal Facility (UDF) and UDF support facilities associated with the Rest of River Remedial Action. That Remedial Action, including provisions for the UDF, was specified in the final Revised Resource Conservation and Recovery Act Corrective Action Permit issued by the U.S. Environmental Protection Agency (EPA) to GE on December 16, 2020.

The UDF will be sited on a 75-acre property in the Town of Lee, Massachusetts (Figure 1) that was formerly part of an active sand and gravel quarry – a property that GE acquired from The Lane Construction Corporation in April 2021.

Figure 2 shows the extent of the property acquired by GE (referred to herein as the GE Parcel). That figure also shows the maximum limits of consolidated material for the UDF (the Consolidation Area) and the associated operational area surrounding and encompassing the limits of the consolidated material (jointly referred to herein as the UDF area). In addition, the GE Parcel will contain a UDF support area, which is currently undefined and not shown on the figure and which may include temporary facilities such as sediment dewatering and material handling areas. The UDF support area will be defined in the Final Design Plan for the UDF.

On November 24, 2021, GE submitted a Pre-Design Investigation Work Plan for the UDF (UDF PDI Work Plan; Arcadis and AECOM 2021). Section 5.2.1 of that Work Plan provided that GE would conduct a baseline habitat assessment of the UDF area and described the scope of those assessment activities. The UDF PDI Work Plan was conditionally approved by EPA on February 25, 2022, along with the addition of several conditions which further directed certain aspects of the habitat assessment. Beginning in March of 2022, GE subsequently carried out the baseline habitat survey activities described in that Work Plan and EPA's conditional approval. Those activities were presented initially in a *Baseline Ecological Characterization and Habitat Assessment Report for the UDF Area*, submitted to EPA on December 6, 2022 as Appendix C to GE's *Interim Pre-Design Investigation Data Summary Report for Upland Disposal Facility Area* (Interim PDI Data Summary). That report has now been revised in response to comments from EPA included in an April 18, 2023 conditional approval letter for the Interim PDI Data Summary, as well as to provide other updates to the information presented in the report. This document constitutes that Revised Report.

1.2 Scope of Ecological Characterization and Habitat Assessment

This section provides an overview of the baseline ecological characterization and habitat assessment activities conducted at the GE Parcel in accordance with the UDF PDI Work Plan, as well as the additional requirements specified by EPA in its conditional approval letter for that Work Plan as well as its April 18, 2023 conditional approval letter for the Interim PDI Data Summary. These activities were conducted by AECOM, with field investigations under EPA oversight, to develop and implement a detailed baseline ecological inventory and assessment of existing conditions and serve as the foundation for developing the Final Cover/Closure Plan for the UDF area and UDF support area.[1] The baseline habitat assessment of the approximately 75-acre GE Parcel included the following components:

- The presence, location, and species composition of terrestrial and aquatic habitats were identified initially through on-line database reviews and aerial photograph interpretation. This process included producing cover type mapping using the habitat classification system developed by DeGraaf and Yamasaki (2001), which is similar to the community type classification mapping used in the *Ecological Characterization of the Housatonic River* (Woodlot Alternatives 2002). The mapping was done with the aid of aerial photographs, and these preliminary delineations were transferred onto the updated aerial photographic and topographic mapping obtained for the GE Parcel. Field investigations were then conducted over the entire GE Parcel to review and verify or adjust the habitat cover type delineations.

- During the field surveys, each discrete cover type unit was subject to a detailed inventory using the UDF/GE Parcel Habitat Inventory Form included in the UDF PDI Work Plan. This form was used to record a broad range of habitat parameters to characterize structural, physical, hydrologic, and biological conditions within each habitat cover unit. The conditions evaluated included substrate/soil characteristics, plant species composition, other habitat features, and habitat degradation.

- Aquatic resources (such as streams or potential wetlands) identified within the GE Parcel were subject to field verification using current federal wetland delineation criteria. This verification included completing the U.S. Army Corps of Engineers (USACE) Wetland Determination Data Form for the Northeast Region. In particular, the potential isolated scrub-shrub wetland located off Woodland Road was evaluated to determine whether it constitutes a wetland using state and/or federal wetland criteria. In addition, several man-made gravel-pit ponded areas on the

[1] As discussed further in Section 4, in response to a condition in EPA's February 25, 2022 conditional approval letter dated February 25, 2022, this UDF Baseline Habitat Report describes the habitat cover types and species composition within the overall GE Parcel and also specifically within the Consolidation Area.

GE Parcel were inventoried and evaluated as part of this ecological characterization and habitat assessment, including to determine whether they constitute regulated areas under federal and state wetlands regulations.

- An evaluation was conducted for the possible presence of vernal pools at the GE Parcel. This evaluation was initially performed through on-line aerial imagery and review of the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) database and was then confirmed by field verifications conducted during the recognized vernal pool breeding season on three days in the spring of 2022. The procedures employed for vernal pool identification followed the criteria established by the MNHESP for determining whether a pool meets the criteria for a certified vernal pool. Additional surveys of this area were also conducted in the spring of 2023, as described in Section 4.4.

- The presence, location, abundance, and condition of federal or state-listed threatened or endangered species or other state-listed species and their habitats were initially identified through review of the U.S. Fish and Wildlife (USFWS) on-line Information for Planning and Consultation (IPaC) and review of the MNHESP records on state-listed species. In addition, GE consulted with the MNHESP to determine whether information was available on the existence of such species or their Priority Habitat in or near the GE Parcel. To the extent practicable, the results of these reviews were confirmed by field investigations.

- The presence, location, abundance, and condition of invasive species, including both those listed by the USACE New England District and those listed by the Massachusetts Invasive Plant Advisory Group (MIPAG), were investigated through base mapping and aerial photograph reviews in combination with field verification.

- From early April into early July 2022, four days of field surveys were conducted by teams of ecologists to inventory and assess habitat conditions on the GE Parcel. A total of 28 vegetation plots were systematically sampled to quantitatively describe the plant communities and map habitat cover types within the GE Parcel. Soil conditions were also documented, along with a range of other habitat features, using the habitat inventory forms. All field investigations included oversight by scientists on behalf of EPA. As noted above, additional field surveys of the potential vernal pool identified on the GE Parcel during the 2022 investigations were conducted in the spring of 2023.

2.0 Environmental Setting

The GE Parcel is located at the northern edge of the Town of Lee in Berkshire County, Massachusetts, which is on the western edge of the State and is bordered by Lenox to the north and west, and Washington to the east. It is positioned in steep dissected terrain between the western slopes of October Mountain and the Housatonic River, which flows south through the Central Valley region between the Berkshire Plateau and the Taconic Mountains (Figure 3). The main stem of the river is formed by the confluence of the East and West Branches of the Housatonic River in Pittsfield, roughly 10 miles north of the GE Parcel. The East Branch begins in Dalton and Hinsdale from headwater tributaries. The West Branch starts at Onota and Pontoosuc Lakes in Pittsfield and Lanesboro and is augmented by flows from the Southwest Branch. Below the confluence, the river generally flows south through Berkshire County for approximately 10 miles to Woods Pond, the first significant impoundment. Woods Pond is an impoundment created in 1890 and is located just north of the GE Parcel; the Woods Pond Dam and the Housatonic River are situated west of the GE Parcel. Downstream of Woods Pond, the river continues south through western Massachusetts and south/southeast through Connecticut before emptying into Long Island Sound at Stratford, Connecticut.

While situated along the broadly defined Housatonic valley, the GE Parcel is distinct from the actual Rest of River in that it is entirely outside of the floodplain of the Housatonic River. The higher elevation, non-floodplain setting of the GE Parcel is related to the surficial geologic conditions, which are primarily glacially deposited stratified sands and gravel deposits. Over the last several decades more than 60% of the GE Parcel has been actively mined for sand and gravel, resulting in large volumes of the surficial sand and gravel deposits being removed and rearranged on site. This has resulted in highly irregular topography with steep slopes, extensive areas of unvegetated exposed soils, and the creation of three large ponds where excavations have intersected the water table for use in the mining wash-water operations. In addition, there is an existing powerline right-of-way that traverses the GE Parcel from north to south primarily along the western property limits through the gravel pit. The eastern portion of the GE Parcel between the gravel pit and Woodland Road is comprised primarily of forested habitats. The topography in this area is also highly variable with 15% to 35% slopes and soils that are formed in sandy and gravelly glaciofluvial deposits.

3.0 Methods

The baseline assessment of the GE Parcel included background data collection, cover type mapping and plant community inventory (including invasive species), an evaluation of existing and potential wildlife habitat (including documentation of species observations and habitats), field delineation of wetland habitats, wetland natural community classification, and inspection of potential vernal pool habitats. This section describes the methods used to conduct this baseline assessment. The results are presented in Section 4.

3.1 Background Data Collection

During the preparation of the UDF PDI Work Plan, background information was reviewed to develop a preliminary understanding of potential habitat conditions on and in proximity to the GE Parcel, including natural community types, the potential presence of federally listed threatened or endangered species and state-listed rare species, potential wetlands and vernal pools, and invasive species. That information was derived from on-line sources, such as the MassGIS Data Layers (MassGIS 2022; including MassMapper), the USFWS National Wetlands Inventory (NWI) Mapping, and the Information for Planning and Consultation (IPaC), as well as aerial photograph reviews. That information was described in Section 3.2.2 of the UDF PDI Work Plan.

During the PDI, the presence, location, and species composition of terrestrial and aquatic habitats were again reviewed through on-line database reviews and aerial photograph interpretation. This process included producing cover type mapping using the habitat classification system developed by DeGraaf and Yamasaki (2001). Although the UDF PDI Work Plan called for using the community type classification mapping used in the 2002 Woodlot Ecological Characterization, the DeGraaf and Yamasaki (2001) habitat classification system was used instead. The DeGraaf and Yamasaki cover type categories are very similar to the cover types used for the Woodlot Ecological Characterization, but provide for greater differentiation of some of the habitat cover types, particularly in upland areas, whereas the Woodlot Ecological Characterization focused on floodplain habitats (and there are no floodplains on the GE Parcel). Table 1 provides a comparison of the habitat cover types between the 2002 Woodlot and 2001 DeGraaf and Yamasaki classification systems. As can be seen there, the cover types are generally comparable, with mostly minor naming changes between the two systems. For example, DeGraaf and Yamasaki provide four distinctions of upland field cover types, whereas Woodlot lumped all such areas into one “cultural grassland” cover type. Given the relatively widespread presence of these cover types in the disturbed portions of the GE Parcel, use of the DeGraaf and Yamasaki system allowed for finer distinctions in the upland habitat cover mapping. In addition, the DeGraaf and Yamasaki system allows for the separation of areas dominated by coniferous trees (i.e., eastern white pines) from communities mixed with deciduous oaks and maples

that typically exhibit a different wildlife assemblage. The Woodlot system combined these pine, oak and maple communities into one cover type (Northern Hardwoods-Hemlock-White Pine Forest).

The mapping was done with the aid of aerial photographs, and these preliminary delineations were transferred onto the updated aerial photographic and topographic mapping obtained for the GE Parcel. Field investigations were conducted over the entire GE Parcel to review and verify or adjust the habitat cover type delineations. As discussed in Section 4, the identification and mapping of habitat cover types were performed both for the GE Parcel as a whole and for the Consolidation Area in particular, as distinguished from the rest of the GE Parcel.

3.2 Field Investigations

Detailed field investigations were conducted on four days between April 11, 2022 to July 6, 2022, with oversight by EPA representatives, for the purposes of documenting ecological habitat conditions on the GE Parcel. During these field surveys, the main discrete habitat cover type units were subject to a detailed inventory using the UDF/GE Parcel Habitat Inventory Form that was provided in Appendix A to the UDF PDI Work Plan (as amended in accordance with EPA's conditional approval requirements). This form was used to record a range of habitat parameters to characterize structural, physical, hydrologic, and biological conditions within each habitat cover type unit. These characterizations included soil characteristics, plant species composition, a broad range of habitat features, and habitat degradation. Additional field investigations occurred on four days between April 20 and May 24, 2023 to survey the potential vernal pool identified in 2022.

3.2.1 Wetland Delineation and Inventory

AECOM identified wetland resource areas within the GE Parcel in two phases – initial desktop studies of existing data sources followed by a detailed field survey effort. Resources consulted during the desktop analyses included U.S. Geological Survey (USGS) topographic quadrangle maps, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) Soil Survey data, USFWS National Wetland Inventory mapping, most recent color aerial photographs, and other data layers available from MassGIS (2022).

Wetlands and watercourses were identified in accordance with the USACE *1987 Corps of Engineers Wetland Delineation Manual* (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regions* (Regional Wetland Supplement; USACE 2012), and the Massachusetts Wetlands Protection Act (MWPA; MGL 131 s.40) and its regulations (310 CMR 10.00). Within the entire GE Parcel, the upper limits of wetlands were demarcated in the field and located using an Arrow-100 Geographic Positioning System (GPS)

capable of sub-meter accuracy, in conjunction with ArcGIS on-line and ESRI Collector. Each wetland area was assigned the appropriate wetland classification in accordance with the USFWS Wetland Classification System (Cowardin et al. 1979) as well as using the cover mapping system developed by DeGraaf and Yamasaki (2001).

This verification included completing the U.S. Army Corps of Engineers (USACE) Wetland Determination Data Forms for the Northeast Region. In particular, since background information had indicated the potential presence of an isolated scrub-shrub wetland located off Woodland Road, this area was evaluated to determine whether it constitutes a wetland under state and/or federal wetland criteria, including completing the USACE form as part of this determination. Information was also collected on all identified wetland areas to provide for a classification of wetland resource area types consistent with the MWPA and its regulations.

To categorize soils in the field, a hand auger was used and soils were generally inspected to a depth of 18-24 inches. The information collected for each soil profile included soil horizons, depth, texture, color, and the presence or absence of redoximorphic features (mottles and other features). Colors of the soil matrix and mottles were identified using Munsell Soil Color Charts. All hydric soil determinations were based on criteria established in *Field Indicators for Identifying Hydric Soils in New England* (NEIWPCC, 2004) and guidance in the USACE Regional Wetland Supplement. Soil mapping was based on field collected data and inspection of digital sources outlined above.

AECOM identified plant species using appropriate botanical reference material for the region. The indicator status of each species was identified following Lichvar et al. (2014). Hydrophytic vegetation was determined to be prevalent following dominance criteria outlined in the USACE Regional Wetland Supplement.

3.2.2 Vernal Pool Assessment

Investigations to assess the presence of potential vernal pools on the GE Parcel followed procedures and methods previously approved by EPA for Reach 5A of the Rest of River. These procedures use guidelines and prescribed methods of the MNHESP for the certification of vernal pools. This evaluation was initially performed through on-line aerial imagery and MNHESP database review and, when available, the updated Light Detection and Ranging (LiDAR) mapping of the GE Parcel, and was then confirmed by field verifications. The site-specific field investigations were conducted during the recognized vernal pool breeding season on three dates in 2022: April 11, April 27, and May 19. The procedures employed for vernal pool identification followed the criteria established by the MNHESP for certification of a vernal pool (MassDFW NHESP 2009). This investigation used the current version of the MNHESP Vernal Pool Field Observation Form. As noted above, additional field investigations occurred on four days between April 20 and May 24, 2023 to survey this vernal pool.

3.2.3 Plant Community Inventory and Wildlife Habitat Survey

Documentation of mammals, birds, amphibians, reptiles, and invertebrates was made through direct observation and through indirect evidence of wildlife presence (e.g., scat, tracks, vocalizations, burrows). In addition, identification and delineation of any unusual habitats or natural communities which could support listed species or species of special concern were recorded (e.g., vernal pool habitat).

Habitat requirements for many species of wildlife common to New England are well documented, and therefore, by characterizing plant community composition and structure, the potential for a certain species to be present in an area can be assessed. Plant inventory and cover type mapping was accomplished through both qualitative and quantitative means. Qualitative meander surveys and mapping of habitat cover types was conducted in the field using scaled aerial photographs and a GPS, digitized using ArcGIS, and then plotted onto a plant community cover type map. The quantitative assessment involved sampling of plots situated within each plant community/cover type so as to be representative of general conditions. Percent cover of trees, woody shrubs, and vines were estimated within five-by-five meter quadrats ($25m^2$) with a nested one-by-one meter ($1\ m^2$) quadrat for estimating herbaceous plant cover (graminoids and forbs). A Daubenmire mid-point cover class scheme (Barbour et al., 1999), modified to include a <1% category, was used to estimate percent cover of each species.

For each habitat type sampled quantitatively, four descriptive metrics were reported: (1) species richness; (2) relative dominance; (3) relative frequency; and (4) an Importance Value identifying those plant species that are essentially most important (i.e., most dominant) and occur most frequently within the given community. These community metrics are further described in Barbour et al. (1999). A complete list of all plant species identified within the GE Parcel during the surveys is included in Section 4.2.3 of this report as well as the tables that follow. This list includes plant species observed at the GE Parcel but not recorded in the plots. The tabular data also list plant species identified in plots located in the Consolidation Area separately from those identified in the rest of the GE Parcel.

3.2.4 Invasive Species Assessment

The presence, location, abundance, and condition of invasive species, including both those listed by the USACE New England District and those listed by the MIPAG, were investigated through base mapping and aerial imagery reviews in combination with field verification. During field investigations, observations of the presence and relative abundance of identified invasive plant species were specifically noted and included in the quantified plant survey plot data.

3.3 Wildlife Habitat Assessment

In order to assess habitats for the presence of wildlife species that may actually be present within the GE Parcel at times but were not observed due to the timing of the surveys or species-specific behaviors and morphology (e.g., living underground, nocturnal existence, camouflage), the plant community cover types characterized and mapped following those described by DeGraaf and Yamasaki (2001) were used. Cover types described by DeGraaf and Yamasaki (2001) are broken down into a hierarchy of cover types within a "Forest Matrix" and a "Non-forested Matrix" and include terrestrial, wetland and deepwater, and other habitat types. These cover types correspond with various wildlife species in New England that typically breed, forage, or shelter within them. Characterizing the landscape within the GE Parcel following this methodology facilitates a more comprehensive evaluation of wildlife habitat within the GE Parcel than just by observation encounters alone.

3.4 Rare Species Assessment

In accordance with the UDF PDI Work Plan, the occurrence of federally listed threatened or endangered species or their habitat on the GE Parcel has been assessed based on the USFWS on-line IPaC (USFWS 2022a). In addition, the occurrence of state-listed threatened, endangered, or special concern species and their Priority Habitats on the GE Parcel was based on established records and documentation available from the MNHESP and consultation with MNHESP. (These federal and state-listed species are sometimes referred to collectively herein as rare species.)

Using the IPaC tool on the New England USFWS website, a list of potential federally listed rare species and critical habitats that are known or expected to be on or near the project area was generated. This list is for informational purposes only and is not intended for determining the likelihood and extent of effects that a particular project may have on listed species.

Documentation of MNHESP information on state-listed species was initiated by referral to the on-line mapping of Priority Habitats and Wetland Rare Species Habitats available on MassGIS (2022). Subsequently, direct consultation with MNHESP occurred via email correspondence to ensure that no additional pertinent records on rare species occurrences on or near to the GE Parcel were available. To the extent practicable, the results of these reviews were confirmed by field investigations. In addition to recording observations of all identified wildlife during the field surveys, the field verification consisted of evaluating the habitat requirements of any potential rare species relative to the identified habitat characteristics on the GE Parcel.

3.5 Geology and Soils

Documentation of bedrock and surficial geologic conditions on the GE Parcel was based upon information available on MassGIS (2022), supported by previous studies such as that described in the Woodlot 2002 Ecological Characterization. Soil conditions were evaluated using the information provided by the USDA NRCS Web Soil Survey (https://websoilsurvey.nrcs.usda.gov). Soil conditions were also evaluated in the field at 28 survey locations distributed among the mapped cover types at the GE Parcel. At each of these locations, a soil profile description was documented from a test pit, using either a shovel or auger, which allowed for a detailed assessment of the surface (top 2-3 feet) soils.

3.6 Ecological Functions and Values Assessment

The UDF PDI Work Plan stated that, based on the information collected, the ecological functions and values of the affected habitats will be identified and qualified. From a baseline perspective, ecological functions of both upland and wetland habitats identified on the GE Parcel have been assessed.

The assessment of upland ecological functions was based largely on the habitat characteristics and the associated wildlife functions which are observed or have potential to occur within the identified habitat. For establishing and documenting these relationships, the principles and procedures developed by DeGraaf and Yamasaki (2001) were used.

Wetland functions and values assessments were conducted in accordance with *The Highway Methodology Workbook Supplement: Wetland Functions and Values: A Descriptive Approach* developed by the USACE (USACE 1999). According to that report, wetland functions are defined as those properties that are intrinsic to the wetland system (e.g., nutrient cycling, hydrology). In contrast, wetland values are properties ascribed to the wetland system by society. In large part, the values ascribed to a wetland stem from the functions provided.

4.0 Results

As described in Section 3.1 above, an environmental assessment of the GE Parcel was conducted through a desktop analysis of publicly available GIS data and aerial photographs, followed by a detailed field investigation. Two survey teams including wildlife biologists and wetland and soil scientists conducted four site visits at the GE Parcel on April 11, April 27, May 19, and July 6, 2022, with oversight by EPA representatives. Surveys included confirmation, refinement, and finalization of the mapping the natural plant communities identified during the desktop analysis; detailed identification of the plant types present (including invasive species); delineation and surveying the limits of on-site wetlands; inspections of seasonally flooded wetlands for the presence of obligate vernal pool breeding amphibians (e.g., wood frogs [*Lithobates sylvatica*] and spotted salamanders [*Ambystoma maculatum*]); recording of habitat information for each habitat type; and assessment wildlife habitats. Results of the desktop analysis and field survey efforts are described below. Representative photographs from the field visits are provided in Attachment A.

EPA's conditional approval letter dated February 25, 2022 stated that the habitat assessments should be presented separately for the Consolidation Area and the support area within the GE Parcel because restoration options may be different. At this time, in response to that condition, this section describes the habitat cover types and species composition both for the entire GE Parcel and for the Consolidation Area in particular, as distinguished from the rest of the parcel. It does not specifically break out that information for the UDF support area as that area is currently undefined. More detailed information on the UDF support area will be provided in the Final Design Plan for the UDF.[2]

4.1 Geology and Soils

The GE Parcel is situated within the Housatonic River Drainage Basin and the Grenville Shelf Sequence. The dominant lithogeochemical character of the near-surface bedrock in this sequence is composed of carbonate rocks and other metasedimentary rocks deposited in a carbonate shelf sequence overlying the Grenville basement, which extends from western Connecticut, to Massachusetts, and Vermont (MassGIS 2022). Based on the USGS 1:24,000 Surficial Geology (MassGIS 2022), the entire GE Parcel is mapped as having a thin till layer overlain by the succeeding coarse textured glacial stratified deposits.

Soils that form in these glaciofluvial deposited materials are typically very deep and range from well drained to excessively drained. According to the NRCS mapping, soils series on the GE Parcel include the well-drained Copake fine sandy loam, excessively drained Groton gravelly sandy loam and

[2] As discussed further in Section 4.3, the Final Design Plan will also discuss potential restoration or mitigation options to address impacts to wetland habitat (if any) or other regulated habitat where restoration or mitigation is required.

Hinkley loamy sand, and the moderately well drained Hero gravelly loam, as shown on Figure 4. However, most of the GE Parcel (approximately 47% or 35.2 acres) is mapped as gravel pits and is not classified by drainage class or soils series. In addition, no poorly drained or very poorly drained wetland soils were mapped by the NRCS on the GE Parcel. Approximately 26% (19.9 acres) is mapped as Copake, Groton and Hinkley are combined into one mapping unit and make up approximately 14% (10.6 acres) of the GE Parcel, and the Hero series accounts for the remaining 13% (9.9 acres). Attachment B provides additional information on the soil series mapped on the site by NRCS using the Web Soil Survey (USDA NRCS: https://websoilsurvey.nrcs.usda.gov).

4.2 Plant Community Inventory and Wildlife Habitat

This section discusses cover type mapping conducted to characterize the habitat conditions identified on the GE Parcel. In addition, it presents the results of the plant species inventory and documentation of observed and potential wildlife habitat features conducted.

4.2.1 Cover Type Mapping

As discussed in Section 3.1, habitat cover types were mapped using DeGraaf and Yamasaki (2001) habitat classification system. As also noted above, those cover type categories are very similar to the cover types used in the 2002 Woodlot Ecological Characterization, but provide for greater differentiation of some of the habitat cover types, particularly in upland areas, whereas the Ecological Characterization focused on floodplain habitats (which do not exist on the GE Parcel). As also noted in Section 3.1, Table 1 provides a comparison between the two cover type systems.

The total GE Parcel evaluated for this procedure is approximately 75.6 acres. A total of 11 different habitat cover types were mapped on the GE Parcel following the DeGraaf and Yamasaki (2001) habitat classification system. The cover types identified on the entire GE Parcel are summarized in Table 2 and shown on Figure 5. This system separates habitat cover types into two broad categories: Forested Matrix and Non-forested Matrix, which represent both terrestrial and wetland habitats. Based on relationships between habitat cover types, and the wildlife species that are typically associated with them, a list of potential wildlife species can be generated for the study area. Table 3 presents the habitat cover type data separately for just the Consolidation Area and for the remainder of the GE Parcel. The habitat types for the Consolidation Area and the rest of the GE Parcel can also be seen on Figure 5.

Terrestrial cover types observed on the GE Parcel include aspen/birch successional habitats, eastern white pine forests, northern hardwoods, and upland fields. Subcategories in the upland field class include areas dominated by forbs, grasses, and early successional shrub/old field habitats. Palustrine wetland cover types include swamp hardwoods-red maple, shrub swamp, shallow marsh, and pond.

In addition, several areas associated with the former gravel mining operations and gravel access roads to the powerline right-of-way were classified as non-vegetated.

Approximately 10.6 acres (14% of the total GE Parcel) comprise areas of diminished habitat value because they consist of non-vegetated areas associated with former gravel mining operations, stockpiled construction debris consisting primarily of broken fragments of concrete slabs, and gravel access roads associated with the dumping/stockpiling activities and the existing powerline ROW. Another approximately 29.2 acres (39%) situated within the former gravel mining operation areas have since revegetated and are classified as Upland Field habitats dominated by a mixture of forbs, upland grasses, shrubs, and small sapling trees. Approximately 27.1 acres (36%) of the GE Parcel are forested and 8.8 acres (11%) consist palustrine wetlands. Lastly, contained within the broader swamp hardwoods-red maple mapping unit is a small approximately 0.2-acre seasonally flooded area that appears to function as vernal pool breeding habitat, as discussed further below.

4.2.2 Habitat Inventory Forms

Each main discrete cover type unit was subject to a detailed inventory using the UDF/GE Parcel Habitat Inventory Form included in the UDF PDI Work Plan and modified in accordance with EPA's conditional approval of February 25, 2022. This form was used to record a broad range of habitat parameters to characterize structural, physical, hydrologic, and biological conditions within each habitat cover unit. The conditions surveyed included substrate/soil characteristics, plant species composition, other habitat features, and habitat degradation. The completed forms for each cover type are provided in Attachment C.

4.2.3 Plant Inventory

A total of 28 vegetation plots were evaluated in detail to quantitatively describe the plant communities and map habitat cover types within the GE Parcel. Percent cover of trees, woody shrubs, and vines was estimated within 5x5 meter plots, and a nested one-square meter was used for estimating herbaceous plant cover. As described above, several plant metrics were calculated to help describe and summarize the field collected plot data and included Species Richness, Relative Dominance (D_R), Relative Frequency (F_R) and Importance Values (IV_{ave}). Six of the quantitative vegetation plots were located within the Consolidation Area, and the data from these plots were also tabulated separately (as well as collectively for the entire GE Parcel) to provide data specific for the Consolidation Area.

A total of 131 plant species were observed across the entire GE Parcel, as listed in Table 4. These include 25 trees, 16 woody shrubs, four woody vines, and 86 herbaceous plant species. A total of ten observed species are listed as invasive (8) or likely invasive (2) by MIPAG

(https://www.massnrc.org/mipag/linvasive.htm), as also shown in Table 4. These include three herbaceous plants, six woody shrubs, and one woody vine. The USACE New England District does not list any plants as invasive that are not listed by MIPAG as invasive or likely invasive.[3] No plants were identified that are either state- or federally listed rare species.

A total of 94 plant species were observed within the vegetation plots. The number of species observed per plot ranged from 2 to 17 species with an average of 9.1 ±0.6 SE species per plot. Seven plant species observed in the plots are listed by MIPAG as invasive (5) or likely invasive (2) and occurred in 22 out of the 28 vegetation plots. Specific to the Consolidation Area, a total of 22 species were observed within the six plots located within the limits of that area. These species are listed in Table 5. The number of species observed per plot in the Consolidation Area ranged from six to nine species with an average of 7.3 ±0.6 SE species per plot. Plant species in the Consolidation Area with the greatest IV_{ave}, (i.e., plants with the greatest dominance and frequency combined) were little blue stem, switchgrass and lemon thyme (Table 6).

Plant metrics calculated for the entire GE Parcel include only species that were observed in three or more plots. These metrics are presented in Table 7. The most frequently occurring plant and that with the highest relative dominance and greatest importance value was Morrow's honeysuckle, an invasive species. This invasive species was observed in 20 of the vegetation plots in the GE Parcel. A second invasive plant, Asiatic bittersweet (*Celastrus orbiculatus*), was also included in the top five ranked species, along with native trees that exhibited both high percent cover on average and were frequently observed – namely, sugar maple (*Acer saccharum*), white pine (*Pinus strobus*), and black cherry (*Prunus serotina*). Asiatic bittersweet was also included in the top five ranked species within the Consolidation Area, with two other MIPAG-listed species (Morrow's honey-suckle and spotted knapweed) occurring with less frequency and abundance.

Northern Hardwood Forest

Northern hardwood forest is the dominant forest cover type observed on the GE Parcel and includes a large proportion of the area between the existing gravel pit and Woodland Road (approximately 15.4 acres). Only a small portion of this cover type (approximately 0.17 acre) is present within the limits of the Consolidation Area near Plot-10. This cover type is typically dominated by sugar maple, American beech (*Fagus grandifolia*) and yellow birch (*Betula alleghaniensis*) in northern New England; however, it tends to grade into a mixed hardwood or transition type in southern New England with associated species including red maple (*Acer rubrum*), hemlock (*Tsuga canadensis*), white ash

[3] Many of the following paragraphs in this section discuss species listed by MIPAG as invasive or likely invasive. As noted in the text, the USACE New England District list of invasive species does not include any other species that are not also listed by MIPAG.

(*Fraxinus americana*), white pine (*Pinus strobus*) and black cherry (*Prunus serotina*) (DeGraaf and Yamasaki 2001). This more closely represents conditions observed on the GE Parcel.

A total of 32 plant species were observed in the vegetation plots sampled within this cover type, and four of them are listed as invasive by MIPAG. Based on the plot data, species with the largest IV_{ave} are sugar maple as the dominant tree species, with red oak (*Quercus rubra*), white ash, and black cherry as sub-dominants (Table 8). Likely due to past disturbances in the region, the understory is dominated by Morrow's honeysuckle and garlic mustard, both listed by MIPAG as invasive plant species. Morrow's honeysuckle was observed in six of the seven plots located within the Northern Hardwood Forest cover type and garlic mustard was observed in two of those seven plots, and these species accounted for as much as 85.5 percent and 63 percent of the total plot area sampled, respectively. The invasive species Asiatic bittersweet and common buckthorn were also observed in this cover type, but at much lower frequency and percent cover. Native species observed in the understory include white wood aster (*Eurybia divaricata*), wild sarsaparilla (*Aralia nudicaulis*), hayscented fern (*Dennstaedtia punctilobula*), and partridge berry (*Mitchella repens*). Habitat forms describing conditions observed within northern hardwood forest on the GE Parcel are provided in Attachments C3 and C4.

Eastern White Pine Forest

On the GE Parcel, eastern white pine forest is the next most dominant forested cover type and accounts for approximately 10.3 acres at the GE Parcel. Only a narrow sliver of this cover type (approximately 0.07 acre) lies within the limits of the Consolidation Area along its eastern border. This cover type is typical of sandy, gravelly or sandy loam soils throughout New England (DeGraaf and Yamasaki 2001). It often occurs in pure stands initially outcompeting other species and preventing their future establishment with densely shaded conditions. According to DeGraaf and Yamasaki (2001), when this cover types occurs on heavier soils, common associate species include birches (*Betula lenta, B. alleghaniensis, B papyrifera*), white ash, black cherry and sugar maple. This coincides with observations on the GE Parcel.

A total of 39 plant species were observed in the vegetation plots sampled within this cover type, and six of them are listed by MIPAG as either invasive (5) or potentially invasive (1). Based on the plot data, species with the largest IV_{ave} are white pine and sugar maple, with black cherry and white ash as sub-dominants in the tree canopy (Table 9). As with the Northern Hardwoods Forest, the invasive Morrow's honeysuckle was the dominant woody shrub in the understory, occurring in seven of the nine plots sampled within this cover type and exhibiting estimated percent cover of 10.5% to 63% of the plot. Other understory species observed in the plots include Canada mayflower (*Maianthemum canadense*), spinulose wood fern (*Dryopteris carthusiana*), partridge-berry (*Mitchella repens*) and new

York fern (*Parathelypteris noveboracensis*). A habitat form describing conditions observed within the eastern white pine forest on the GE Parcel is provided in Attachment C3.

Aspen/Birch Successional Forest

This forest cover type was observed in only two locations on the GE Parcel, totaling approximately 1.4 acres, and has developed within disturbed areas previously cleared during historic gravel mining operations. Nearly all this mapped cover type (approximately one acre) lies within the limits of the Consolidation Area, and both monitoring plots sampled to describe this cover type are located within the Consolidation Area. According to DeGraaf and Yamasaki (2001), this cover type occurs on a variety of soil types and is a relatively short-lived pioneer community. Typical sub-dominants include white ash paper birch and white pine, all of which were observed on the GE Parcel.

A total of 10 plant species were observed in the two vegetation plots inspected within this cover type. Based on the plot data, species with the largest IV_{ave} are eastern cottonwood (*Populus deltoides*) plus two MIPAG-listed invasive species – Morrow's honeysuckle and Asiatic bittersweet (Table 10). Both invasive plants were observed in both plots and exhibited 63 to 85.5 percent cover, respectively. A habitat form describing conditions observed within this forest type on the GE Parcel is provided in Attachment C2.

Palustrine Wetland

The palustrine wetland cover type is a combination of several wetland cover types described by DeGraaf and Yamasaki (2001). These include swamp hardwoods-red maple (3.9 acres), shrub-swamp (0.8 acre), and shallow marsh habitats (0.6 acres). No Palustrine wetlands were identified or mapped within the limits of the Consolidation Area. Only three plots were sampled, and all were located within portions of the swamp-hardwoods wetland with mostly open canopy and were dominated with woody shrubs (i.e., those areas mapped as shrub-swamp on Figure 5). However, characteristics of the shrub and herbaceous community within the understory of the areas mapped as swamp hardwoods-red maple are similar to the open areas described by the plot data. That is, based on the plot data, the dominant woody shrubs and herbs observed in the shrub swamp habitats were also observed in the swamp hardwoods areas, but with a denser canopy cover of mature red maple trees above. These included woody shrubs silky dogwood (*Cornus amomum*) and speckled alder (*Alnus incana*), with a co-dominance of sensitive fern (*Onoclea sensibilis*) observed in the herbaceous layer. Red maple and slippery elm (*Ulmus rubra*) were observed in the plots, but at lower IV_{ave} values. A total of 20 plant species were observed within the palustrine wetland plots at the GE Parcel, and included only one MIPAG-listed invasive plant, Morrow's honeysuckle (Table 11). A habitat form describing conditions observed within wetland habitats on the GE Parcel is provided in Attachment C5.

Shallow marsh habitats were only observed on the banks around the periphery of the southeastern-most gravel-pit pond located in the west-central portion of the GE Parcel outside the Consolidation Area. This habitat is described as a dense monoculture stand of common reed (*Phragmites australis*) with scattered small trees and shrubs of black willow (*Salix nigra*), eastern cottonwood, and tall scouring rush (*Equisetum hyemale*).

Pond

Approximately 3.5 acres of pond habitat are mapped within the GE Parcel, none of which is located within the Consolidation Area. These ponds are man-made resulting from extensive gravel mining operations where excavations have intercepted the regional water table. The exact depth of these ponds is unknown at this time, but they are, at a minimum, greater than four feet deep. The ponds are permanently flooded and largely unvegetated without emergent or floating-leaved aquatic plants observed below mean low water; however, as noted above, the southeastern-most pond area is fringed by dense growth of the invasive emergent common reed forming the banks of the pond. Substrates appear composed of nutrient poor sandy/gravelly materials with little or no organic matter. Documentation describing conditions observed within the three gravel-pit ponded habitats on the GE Parcel is provided in Attachment C7 (a habitat form for the southeastern-most pond) and Attachment C8 (a similar form for the other two ponds along the western side of the GE Parcel).

Upland Field

Upland field habitats account for approximately 29.2 acres of the GE Parcel. Nearly all of the Consolidation Area (approximately 75%) is composed of this cover type. Three terrestrial cover types as described in DeGraaf and Yamasaki (2001) were mapped on the parcel; these are grass, forbs, and shrub/old field habitat. These cover types are more typically associated with hayfields or abandoned agricultural fields that are reverting back to forest; however, on the GE Parcel, these cover types are forming on areas that were previously mined for sand and gravel, but have become re-vegetated either naturally and/or through landscaping/site stabilization activities (i.e., loaming, grading, and overseeding with an erosion control seed mixture and some areas additionally stabilized with jute netting beneath the existing powerlines).

A total of 27 species of grasses and forbs were observed in the seven vegetation plots inspected within this cover type. Based on the plot data, species with the largest IV_{ave} include little bluestem (*Schizachyrium scoparium*), switchgrass (*Panicum virgatum*), lemon thyme (*Thymus pulegioides*), bladder campion (*Silene latifolia*), and common yarrow (*Achillea millefolium*). Three MIPAG listed species were also observed including Morrowii's honeysuckle and Asiatic bittersweet and spotted knapweed (*Centaurea stoebe*). Percent cover within each plot for Invasive species was generally low (less than approximately 10.5% cover) except for one plot with approximately 38% cover of Morrow's

honeysuckle (Table 12). A habitat form describing conditions observed within upland fields on the GE Parcel is provided in Attachment C1.

Non-Vegetated Cover Type

Areas identified on Figure 5 as non-vegetated include areas that were previously mined for sand and gravel and/or extensively disturbed during construction activities associated with the overhead transmission lines and that have not yet grown in with any substantial amount of vegetation cover. The exposed soils are sandy to gravelly in texture and exhibited less than approximately five percent cover of grasses and forbs. As these areas grow in, they are expected to resemble habitats described above in the Upland Field section. A habitat form describing conditions observed within this habitat type on the GE Parcel is provided in Attachment C6.

4.2.4 Wildlife Habitat

During the 2022 site visits, wildlife biologists identified a total of 43 species from four taxonomic groups at the GE Parcel, including nine invertebrates, six amphibians and reptiles, six mammals, and 22 birds. These species are listed in Table 13.[4] Most identifications were obtained through direct observations; however, some were obtained through documentation of auditory songs and calls of birds, tracks and scat of mammals, and egg fragments of a predated/exhumed turtle nest (snapping turtle [*Chelydra serpentina*]).

Table 14 and Table 15 provide lists potential wildlife species associated with all the habitat cover types identified on the GE Parcel, as described by DeGraaf and Yamasaki (2001), and include both terrestrial and wetland cover classes from within the Forested Matrix and the Non-forested Matrix.

A total of 107 wildlife species have been rated as potentially occurring on the GE Parcel based on recognized habitat conditions (according to the associations described by DeGraaf and Yamasaki 2001). These includes 68 birds, 23 mammals, and 16 species of amphibians and reptiles. The potential occurrence of state-listed and federal-listed wildlife species is discussed in Section 4.5.

Forested Matrix

As described above, the forested matrix includes both terrestrial and wetland habitats with deciduous, coniferous, and mixed canopy cover. Forests provide food resources, cover, and nesting habitat for a wide variety of mammals, birds, amphibians, reptiles, and invertebrates.

[4] Due to the mobility of wildlife, these observations are not broken down by Consolidation Area versus the rest of the GE Parcel.

The tree and shrub layers within the forested matrix provide food and cover for many birds and larger mammals such as white-tailed deer (*Oedicoileus virginianus*). Although the forested area on the GE Parcel is relatively small, it is effectively connected to the forested area to the east on October Mountain despite being separated from October Mountain by a small dirt road. Under these conditions, some of the larger, wide-ranging mammals such as bobcat (*Lynx rufus*) and forest interior birds like thrushes or other neotropical migrants (e.g., warblers) are likely to use this habitat. In fact, scat of the wide-ranging black bear (*Ursus americanus*) was observed on the GE Parcel, as well as wood thrush (*Hylocichla mustelina*) and veery (*Catharus fuscescens*), which are typically considered to be forest interior species.

The micro-topography and detritus found on the forest floor (e.g., leaf litter and fine and coarse woody debris) provide food and cover for invertebrates, amphibians, and reptiles. Obligate vernal pool species such as the spotted salamander (*Ambystoma maculatum*) and the wood frog (*Lithobates sylvatica*) require forested uplands and coarse woody debris for moisture and thermoregulation, summer foraging, and overwintering. During the early spring site visits, wood frogs were observed breeding in a small depression within the swamp hardwoods-red maple forest on the GE Parcel, as discussed further in Section 4.4. Smaller mammals, such as the gray squirrel (*Sciurus carolinensis*), Eastern chipmunk (*Tamias striatus*), and raccoons (*Procyon lotor*), utilize fallen logs for cover and nest cavities. Conifer-dominated forests are important overwintering areas for deer where movement in light snow cover and grazing on low-lying vegetation is easier.

Forested wetlands also provide a diverse assemblage of vegetation and an abundance of food, shelter, migratory and wintering areas, water sources, and breeding areas for a number of wildlife species. Amphibian species will also require forested wetlands for moisture and temperature regulation during the hottest and driest times of the year. Reptiles will use these habitats for thermoregulation and rehydration as well, including eastern garter snake (*Thamnophis sirtalis*) and ribbon snakes (*Thamnophis sauritus*). Wood frogs, gray treefrogs (*Dryophytes versicolor*), green frogs (*Lithobates clamitans*) and bullfrogs (*Lithobates catesbeiana*) were all observed within the forested wetland habitats on the GE Parcel.

Non-forested Matrix

The Non-forested Matrix provides habitat function for some of the same species described above for the Forested Matrix, as well as a different group of wildlife species. Habitats in the Non-forested Matrix include the former gravel pit areas that are reverting into open field and early successional scrub-shrub/sapling habitats, palustrine shallow marsh, and shrub swamp habitats, and open water habitats associated with the gravel pit ponds.

Cover types in the Upland Field category include those areas dominated by forbs, grasses, and early successional shrub/old Ffeld habitats. The open areas dominated by forbs and grasses provide temporary forage and nesting for a number of bird species such as killdeer (*Charadrius vociferus*), and field sparrow (*Spizella pusilla*), and raptors including broad-winged hawks (*Buteo platpterus*) and turkey vulture (*Cathartes aura*). During the 2022 site visits, American crow (*Corvus brachyrhynchos*), song sparrow (*Melospiza melodia*) red-tailed hawk (*Buteo jamaicensis*) and American Kestrel (*Falco sparverius*) were all observed using these habitats, although evidence of breeding and/or nesting by these species at the GE Parcel was not observed. Small mammals and numerous invertebrate species typically use these Open Field habitats and their edges to forage, and these habitats provide hunting opportunities for larger mammals such as red fox and predatory birds including red-tailed hawks and American kestrels.

Early successional shrub/old field habitats can be utilized as foraging and nesting habitat or protective cover by a number of mammals, songbirds, invertebrates, reptiles, and amphibians. Species such as the Eastern cottontail (*Sylvilagus floridanus*), gray squirrel, red fox, Virginia opossum (*Didelphis virginiana*), and raccoon utilize these types of habitats. Eastern cottontails were observed in these areas, as well as tracks of white-tailed deer. Where these open areas border on forest edges, habitats are available for coyote (*Canis latrans*), eastern cottontail, and forest edge bird species, such as the American robin (*Turdus migratorius*), brown thrasher (*Toxostoma rufum*), and northern mockingbird (*Mimus polyglottus*).

The former gravel-pit ponds may provide habitat for a number of species as well. During the 2022 site visits, American beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*) were observed in the southeastern ponded area, with red-winged black birds (*Agelaius phoeniceus*) constructing nests in small eastern cottonwood trees surrounded by a dense stand of common reed within the shallow marsh areas comprising the banks around the periphery of the pond. Predated snapping turtle nests were also observed in sandy/gravelly areas adjacent to this pond, indicating that they are likely to be residing in the pond. In addition, while no fish collection was conducted, it is possible that all three of these ponds could support some tolerant warm-water fish species.

Shallow emergent marsh, shrub swamp, and pond habitats may also be used for breeding and feeding by a variety of bat species. These non-forested palustrine features are used by several bat species, including the northern long-eared bat (*Myotis septentrionalis*) and eastern pipistrelles (*Pipistrellus subflavus*), among others. Open field areas are also typically used by these species as secondary habitats for feeding.

4.3 Delineation and Inventory of Wetlands and Ponds

A detailed assessment, inventory, and delineation of wetland conditions on the GE Parcel were conducted. The east-central part of the property (outside the Consolidation Area) was determined to have wetland conditions consisting primarily of a forested red maple swamp, with smaller areas of shrub swamp and a potential vernal pool at the northern edge of the wetland (discussed in Section 4.4). An intermittent stream discharges into this wetland under Woodland Road, traverses the wetland from east to west, and conveys flow into another shrub wetland area under the transmission line; all stream flow was observed to infiltrate into the ground at this western edge. USACE Wetland Determination Data Forms documenting the wetland boundary conditions for this wetland were completed and are provided in Attachment D. These forms document the hydrologic, vegetation, and soils conditions both inside and outside of the delineated wetland at two transects along the boundary. The limits of the wetland were delineated in the field (with flagging) based upon state and federal criteria, including the criteria on hydrology, vegetation, and soils, and the limits were located using an Arrow-100 GPS instrumentation capable of sub-foot accuracy. In addition to meeting the federal criteria for wetland/waters of the U.S., the wetland appears to meet the classification of two resource areas as defined in the MWPA regulations – a Bordering Vegetated Wetland with the Bank of an intermittent stream. As described below, the vernal pool appears to meet the MNHESP criteria for certification as a vernal pool based on the presence of wood frog larvae in the pool (see Section 4.4). At the present time, no impacts on the above-discussed wetland, including the vernal pool, from UDF-related activities have been defined. To the extent that such impacts are determined to occur, on-site or off-site mitigation options will be considered, as required, to mitigate any loss of wetland habitat function. Such mitigation options will be addressed in the UDF Final Design Plan, along with any necessary associated data collection.

In addition to the above-described wetland, the man-made gravel-pit ponded areas on the GE Parcel provide aquatic conditions. These areas were also delineated and inventoried, with the results presented in the documentation provided in Attachment C7. Two of these ponds (the western ponds) are situated partly on the GE Parcel and partly on land abutting to the west; one of the ponds, the southeastern-most pond, is located entirely on the GE Parcel. Based on current regulatory criteria, the three ponds do not constitute federally regulated waters of the U.S., since they were created in upland settings for the purpose of treating water as part of the gravel pit wash-water system. Further, based on observations over the past couple of years, the two westerly ponds remain in active use as part of the gravel pit operation ongoing in the land abutting the west side of the GE Parcel.[5] As a result, they are also not regulated wetlands under the MWPA regulations, which

[5] These observations include direct observations of activities in and around the ponds that are associated with the sand and gravel operation, as well as observations of the greenish color of the pond water, which reflects the suspended silts and clays consistent with the use of the pond for settling as part of that operation.

exclude from the definition of Pond any "individual gravel pits . . . excavated from upland areas unless inactive for five or more consecutive years" (310 CMR 10.04: definition of Pond).

As currently understood, the southeastern pond has been inactive as part of the gravel pit operations for at least five or more consecutive years, and therefore would be considered a Pond under the MWPA regulations (*ibid*). As such, this area would contain Land Under a Waterbody (LUW) and Bank resource areas (310 CMR 10.56 and 10.54, respectively). Specifically, the: LUW encompasses the pond up to the mean low water level (which here is approximated by the lower limit of marsh emergent plant growth, which is primarily the invasive plant *Phragmites australis*); and the Bank of the pond extends from mean low water up to the first observable break in slope or the mean annual flood level, whichever is lower. This upper limit of Bank (i.e., top of bank) is delineated at this pond by the upper limit of the marsh emergent plant growth, which corresponds to the mean annual flood level (given that there is no discernible break in slope above mean low water within the ponded water regime). Erosion from the steep side-slopes around the southern, eastern, and northern sides of the pond has been gradually filling in the edges of the pond for many years, resulting in a long, gradual slope of silty-sand mineral deposition extending from outside to well inside the pond.

Based on the UDF Conceptual Design Plan, it is anticipated that the southeastern gravel pit ponded area will be filled to accommodate the grading around the northern side of the containment area. Considering the man-made, degraded conditions of the pond, wildlife habitat functional impacts resulting from filling of this ponded area will be minimal. To the extent warranted, either on-site or off-site mitigation options could be considered to mitigate any loss of wildlife habitat function. On-site mitigation options under consideration include the creation of additional wetland/water habitat near the two western ponds at the GE Parcel, or wetland creation in several of the low-lying areas within the property. Off-site wetland/water mitigation is also under consideration, possibly in open/ disturbed habitat north of the GE parcel and near the Housatonic River. Mitigation options for filling this pond will be addressed in the UDF Final DesignPlan.

4.4 Vernal Pool Findings

During the field investigations in mid- to late April and early May of 2022, three seasonally flooded areas identified during the desktop analysis phase were inspected for the presence of obligate vernal pool breeding amphibians (e.g., wood frogs [*Lithobates sylvatica*] and spotted salamanders [*Ambystoma maculatum*]) to determine whether they may function as vernal pool amphibian breeding habitat; all three of these areas were located within the larger palustrine forested wetland in the northeastern part of the GE Parcel. Only one seasonally flooded depression located within the larger palustrine forested wetland along the northeastern portion of the GE Parcel adjacent to

Woodland Road contained evidence of breeding by obligate vernal pool species. On April 11, 2022, two wood frog egg masses were found within this pool. During both the April 27 and May 19, 2022 inspections, wood frog tadpoles were observed swimming in shallow water areas along the eastern pool edge and in deeper pockets located in the southern portion of the pool. Water levels were very low during the last two inspections and the pool was completely dry by early July; it is noted that the summer of 2022 was very dry, near or at drought conditions depending on locale. Based upon the findings of 2022, this pool appears to meet the NHESP criteria for vernal pool certification. The MNHESP Vernal Pool Field Observation Form was completed for the identified vernal pool and is provided in Attachment E. The full limits of the seasonally flooded depression were delineated in the field with GPS instrumentation, and these limits of the vernal pool are indicated on Figure 5.

As noted above, most of this 2022 period of monitoring was abnormally dry. Precipitation in Pittsfield from May through August 2022 was consistently below normal, with only 9.88 inches of precipitation falling during these four months, 6.49 inches below the normal precipitation of 16.37 inches (Pittsfield MA: Local Climatological Data (weather.gov)). Western Massachusetts was in a declared drought from June through August 2022; June and July were in a "Level 1-Mild Drought," while August was in a "Level 2-Significant Drought" (Mass.gov 2023: Drought Status | Mass.gov). Accordingly, water levels during this period would also be expected to be significantly below the normal condition.

Below-normal precipitation conditions were again observed during the period from April 20 to May 24, 2023. Precipitation during these two months was only 68% of normal (5.71 inches vs. 8.41 inches). A field survey of the vernal pool on May 4, 2023 observed wood frog larvae in the pool, which had up to two feet of water depth at that time. By May 11, 2023, water levels had dropped roughly 10 inches from the May 4 conditions, and by May 18 the pool was completely dry and no tadpoles were found. May 2023 precipitation was only 58% of normal (2.18 inches vs. 3.73 inches). Despite rainfall in late May resulting in renewed flooding of the pool, no additional observations of wood frog larvae were noted in a field survey on May 24, 2023. Berkshire County was again in a designated Level 1 drought in June of 2023 (Mass.gov 2023: Drought Status | Mass.gov).

In summary, surveys during both 2022 and 2023 found that the duration of flooding in the UDF vernal pool was not sufficient to allow wood frog metamorphosis to proceed to its final stage of adult emigration from the pool. The pool appears to fill reliably early in the spring to provide suitable conditions for egg deposition and larvae development; however, the pool is subject to inadequate hydroperiods for sustained larvae metamorphosis to adult wood frog stage. It appears likely that the high permeability of the underlying glacial outwash (e.g., sand and gravel) results in high infiltration rates of surface water, such that only wetter years with sustained precipitation in the April into early July period would support full development of wood frog larvae to adult emigration.

4.5 Rare Species Habitat Findings

As discussed in Section 3.4, the occurrence of any federally listed or state-listed rare or their habitat on the GE Parcel was assessed. This section describes the findings of that assessment. Attachment F provides supporting documentation relative to the rare species investigations.

On-line mapping tools that gauge the potential habitat of areas within Massachusetts can be found through the MassGIS Data Layers. The MassMapper interactive map, available data layers, and active data layers specific to potential and documented habitats indicated that the GE Parcel does not contain any MNHESP Estimated Habitats of rare (wetlands) wildlife or Priority Habitats of rare species. The nearest Priority Habitat of rare species was located 0.15 mile to the north. MNHESP provided email correspondence on October 12, 2022 confirming that it has no records of state-listed species occurrences on the GE Parcel.

A review of the USFWS IPaC on-line mapping tool (USFWS 2021) for the GE Parcel revealed potential habitat for northern long-eared bat (NLEB) (which was recently listed by the USFWS as an endangered species and is also a state-listed endangered species) and monarch butterfly (a candidate for federal listing) in the general area; these are discussed below. To the extent practicable, the results of these reviews were assessed during field investigations. In addition to recording observations of all identified wildlife during the field surveys, the field verification consisted of evaluating the habitat requirements of any potential state-listed or federally listed species relative to the identified habitat characteristics on the GE Parcel. Based upon the results of the current biological survey and habitat assessment, the NLEB is the only state-listed or federally listed species with potentially suitable habitat characteristics on the GE Parcel, as discussed further below.

Northern Long-Eared Bat

The NLEB has experienced severe population declines throughout its range due to white-nose syndrome (WNS). WNS is a fungus that grows on the nose or other hairless body parts of bats while they are hibernating during the winter. This damages the skin to the extent that bats warm up and become active, wasting energy they need to make it through the winter (WNS 2022).

The NLEB winters in caves or underground mines and uses dead trees and trees with loose bark in forested areas for summer roosting sites and for small nursery/maternity colonies. According to the most recent available mapping (Mass.gov January 2021), the nearest documented NLEB hibernacula is located approximately 7.6 miles east-southeast of the GE Parcel, near Rockdale Mills in the town of Stockbridge, MA. No known maternity roosts are mapped on or near the GE Parcel, although mature forested areas located along the eastern portions of the GE Parcel may potentially be suitable for

summer roosting and maternity colonies. No observations of NLEB on or near to the GE Parcel were made during the field investigations described herein, nor are any documented observations known on or near to the GE Parcel.

Monarch Butterfly

The monarch butterfly migrates each year from as far as Canada and across the United States to a few forested overwintering sites in the mountains of central Mexico and coastal California (USFWS 2022b). Over the last two decades, numbers have declined, and therefore this species is a candidate for listing by the USFWS. Primary threats to this species appear to be conversion of grasslands to agriculture, urban development, widespread use of herbicides, logging/thinning at overwintering sites in Mexico, unsuitable management of overwintering groves in California, drought, continued exposure to insecticides, and effects of climate change (USFWS 2022b). The monarch butterfly is not currently a state-listed species in Massachusetts.

Adult monarchs are pollinators, feeding on a variety of native wildflowers. Milkweed (*Asclepias syriaca*) is the only host plant used during the larval stage (caterpillars) for this species. The adults lay their eggs on the underside of the leaf and the larva feeds on the leaves as it grows before entering the pupa stage and eventually emerging as an adult butterfly. Primary habitat for the monarch butterfly on the GE Parcel would be the Upland Field areas regenerating on portions of the site that were formerly mined for gravel. Milkweed was observed on the GE Parcel within the former gravel pit areas. Most observations were of scattered individual or small groups of plants; however, one approximately 0.14-acre patch dominated by milkweed was observed and the limits were GPS-located during the surveys (see Figure 5 and Photo No. 36 in Attachment A). In addition, a monarch butterfly was observed feeding within this patch of milkweed during the field surveys. It is possible that some incidental use of this area by monarch butterflies could occur late in the summer as migration commences; however, no significant use of the GE Parcel by this species is anticipated based upon the habitat conditions.

4.6 Ecological Functions and Values Assessment

4.6.1 Wetland Functions and Values Assessment

As noted in Section 3.6, an assessment of wetland functions and values was conducted in accordance with USACE Highway Methodology Workbook Supplement (USACE 1999). The primary wetland function for the palustrine wetlands on the GE Parcel, including the swamp hardwoods-red maple swamp, shrub-swamp, and vernal pool located in the east-central portion of the GE Parcel, is groundwater recharge. Due to the sandy and gravelly glaciofluvial deposits underlying these wetlands on the GE Parcel, hydrologic input from surface runoff and direct precipitation will likely

infiltrate into the ground and recharge the local aquifer. Although there is relatively little storage capacity directly within this wetland (i.e., no impounding feature and an intermittent stream draining the wetland eastward into the gravel pit), surface waters leaving the wetland enter into a small ponded area upgradient of a sandy/gravelly berm and all surface water appears to infiltrate into the ground at this point. The wetland also serves a groundwater discharge function related to forming the intermittent streamflow from seasonal groundwater discharging to the surface. Wildlife habitat is also considered an important function given the presence of a documented vernal pool within this system. Secondary functions likely include floodflow alteration and water quality improvement functions related to sediment/toxicant/pathogen retention. These wetland areas provide very limited value for recreation or educational/scientific value, and they are not unique habitats in the local or regional area.

4.6.2 Upland Habitats Functions and Values Assessment

Ecological functions provided by the upland habitats on the GE Parcel are closely related to the habitat cover types. As described in previous sections, the mature forested areas, primarily in the eastern part of the parcel, provide more significant habitat for a broader array of wildlife species than the more disturbed early successional habitats in the areas associated with previous earth removal. In addition to the vegetative structural diversity and complexity in the mature forest zones, which give rise to habitat and species diversity, the rich organic composition (both living and detrital) support complex biotic assemblages from the forest floor to the canopy, and these more complex habitats are generally considered to give rise to greater biodiversity than structurally simpler habitats such as the disturbed early successional habitats on the GE Parcel. Other functions of the site's uplands are also related to the surficial geologic materials: the glacial outwash deposits are generally conducive to groundwater recharge, and this function is similarly likely to be greater in the undisturbed forests than in the previously disturbed borrow-pit portions of the parcel.

5.0 References

Barbour, M.G., J.H. Burk, W.D. Pitts, F.S. Gilliam and M.W. Schwartz. 1999. *Terrestrial Plant Ecology*, Third Edition. Benjamin-Cummings Publishing Company. USA. 688 pages.

DeGraaf, R.M., M. Yamasaki, W.B. Leak, and J.W. Lanier. 1992. *New England Wildlife: Management of Forested Habitats*. USDA Northeastern Forest Experiment Station. General Technical Report NE-144. 271 Pp.

DeGraaf, R.M., and M. Yamasaki. 2001. *New England Wildlife: Habitats, Natural History, and Distribution*. University Press of New England, Hanover, NH. USA.Terrestrial Plant Ecology, 3rd Edition.

Jones, C., J. McCann, and S. McConville. 2001. *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area*.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The national wetland plant list: 2014 update of wetland ratings. Phytoneuron, 41:1-42.

MassGIS 2021-2022. Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services

MassGIS 2004. Bedrock Lithology. Available URL: https://www.mass.gov/info-details/massgis-data-bedrock-lithology. [Accessed 11/6/2022].

MassGIS 2022. USGS 1:24,000 Surficial Geology. Available URL: https://www.mass.gov/info-details/massgis-data-usgs-124000-surficial-geology. [Accessed 11/6/2022].

Mass.gov. January 2021. The Northern Long-eared Bat. Available URL: https://www.mass.gov/service-details/the-northern-long-eared-bat. [Accessed 11/11/2022].

Mass.gov. 2023. Massachusetts Drought Status. Drought Status | Mass.gov. [Accessed July 2023].

MassDFW (Massachusetts Division of Fisheries and Wildlife) NHESP (Natural Heritage and Endangered Species Program), 2009. *Natural Heritage & Endangered Species Program's Guidelines for the Certification of Vernal Pool Habitat.* Massachusetts Division of Fisheries and Wildlife, Natural Heritage & Endangered Species Program. March 2009.

MassDFW NHESP (Natural Heritage and Endangered Species Program), 2010. *Rare Species and Natural Community Surveys in the Housatonic River Watershed of Western Massachusetts*.

USFWS, 2022a. Information, Planning, and Consultation System (IPaC). Available on-line at: https://ecos.fws.gov/ipac.

USFWS. 2022b. Monarchs. Available URL: https://www.fws.gov/initiative/pollinators/monarchs. [Accessed 11/11/2022].

Woodlot (Woodlot Alternatives, Inc.), 2002. *Ecological Characterization of the Housatonic River.* Prepared for EPA Region 1, Boston. Contract No. DACW33-94-D-0009/032. September 2002.

USACE (U.S. Army Corps of Engineers), New England Division, 1995. *The Highway Methodology Workbook Supplement, Wetland Functions and Values, A Descriptive Approach*, NEDEP-360-1-30a.

USACE, Engineer Research and Development Center, 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0). ERDC/EL TR-12-1.

USDA NRCS (U.S, Department of Agriculture Natural Resource Conservation Service), 1988. Soil Survey of Berkshire County, MA. Available on-line at: https://websoilsurvey.nrcs.usda.gov/app/HomePage.htm.

WNS 2022. White-nose syndrome response team. Available URL: https://www.whitenosesyndrome.org/static-page/the-fungus. [Accessed 11/11/2022].

Tables

Table1. Cover type comparison: DeGraaf and Yamasaki (2001) versus Woodlot (2002)

Cover Type per DeGraaf and Yamasaki (2001)	Cover Type per Woodlot (2002)
Aspen/Birch Successional	Successional Northern Hardwoods
Eastern White Pine	Northern Hardwoods-Hemlock-White Pine Forest
Northern Hardwoods	Red Oak-Sugar Maple Transition Forest and Northern Hardwoods-Hemlock-White Pine Forest
Palustrine - Swamp Hardwoods	Red Maple Swamp
Palustrine - Pond	Moderately Alkaline Lake/Pond
Palustrine - Shallow Marsh	Shallow Emergent Marsh
Palustrine - Shrub Swamp	Shrub Swamp
Upland Field - Forbs	Cultural Grasslands
Upland Field - Grass	Cultural Grasslands
Upland Field - Grass/Forbs	Cultural Grasslands
Upland Field - Shrub/Old Field	Cultural Grasslands
Non-Vegetated	N/A

Table 2. Mapped plant communities within the GE Parcel

Cover Type	Acres	Percent
Forest Matrix		
Aspen/Birch	1.4	1.8
Eastern White Pine	10.3	13.6
Northern Hardwoods	15.4	20.4
Palustrine - Swamp Hardwoods	3.9	5.1
Nonforested Matrix		
Palustrine - Pond	3.5	4.6
Palustrine - Shallow Marsh	0.6	0.8
Palustrine - Shrub Swamp	0.8	1.1
Upland Field - Forbs	9.1	12.1
Upland Field - Grass	1.7	2.2
Upland Field - Grass/Forbs	9.5	12.5
Upland Field - Shrub/Old Field	8.9	11.8
Non-Vegetated	10.6	14.0
Grand Total	*75.6*	*100.0*

*Cover types follow those of DeGraaf and Yamasaki (2001).

Table 3. Mapped plant communities within the Consolidation Area versus the rest of the GE Parcel

Cover Type	Acres	Percent
Inside Limits of Consolidation Area		
Forested Matrix		
Aspen/Birch	0.98	6.34
Eastern White Pine	0.07	0.44
Northern Hardwoods	0.17	1.12
Non-Forested Matrix		
Upland Field - Forbs	0.99	6.42
Upland Field - Grass	0.78	5.02
Upland Field - Grass/Forbs	8.14	52.66
Upland Field - Shrub/Old Field	1.67	10.80
Non-Vegetated	2.66	17.22
	15.46	100.00
Outside Limits of Consolidation Area		
Forested Matrix		
Aspen/Birch	0.39	0.64
Eastern White Pine	10.21	16.97
Northern Hardwoods	15.27	25.37
Palustrine - Swamp Hardwoods	3.87	6.44
Non-Forested Matrix		
Palustrine - Pond	3.50	5.81
Palustrine - Shallow Marsh	0.62	1.03
Palustrine - Shrub Swamp	0.80	1.32
Upland Field - Forbs	8.14	13.52
Upland Field - Grass	0.90	1.50
Upland Field - Grass/Forbs	1.32	2.20
Upland Field - Shrub/Old Field	7.25	12.05
Non-Vegetated	7.91	13.14
	60.18	100.00

Table 4. Vascular plant species observed on the GE Parcel

Scientific Name	Common Name	Scientific Name	Common Name
Herbaceous Sedges, Rushes, Grasses and Forbs		Herbaceous (cont.)	
Achillea millefolium	common yarrow	*Solidago canadensis*	Canada goldenrod
Actaea pachypoda	white baneberry	*Solidago gigantea*	giant goldenrod
Agrostis gigantea	redtop	*Solidago rugosa*	wrinkleleaf goldenrod
Agrostis sp.	bentgrass	*Sparganium sp.*	bur-reed
[INV]Alliaria petiolata	garlic mustard	*Stellaria sp.*	chickweed
Anemone virginiana	tall anemone	*Symphyotrichum novae-angliad*	New England aster
Aquilegia canadensis	red columbine	*Symphyotrichum puniceum*	purple-stemmed American-aster
Aralia nudicaulis	wild sarsaparilla	*Tanacetum vulgare*	tansy
Arisaema triphyllum	Jack in the pulpit	*Taraxacum officinale*	dandelion
Artemisia vulgaris	mugwort	*Thalictrum sp.*	meadow rue
Asclepias syriaca	common milkweed	*Thelypteris palustris*	marsh fern
Asplenium sp.	spleenwort	*Thymus pulegioides*	lemon thyme
Botrychium virginianum	rattlesnake fern	*Trientalis borealis*	startflower
Cardamine anomala	bittercress	*Trillium erectum*	red trillium
Carex pensylvanica	Pennsylvania sedge	*Vicia cracca*	cow vetch
Carex rostrata	beaked sedge	*Verbascum thapsus*	common mullein
Carex stricta	upright sedge	*Viola pubescens*	yellow forest violet
Carex umbellata	umbrella sedge	*Viola sororia*	woolly blue violet
Caulophyllum thalictroides	blue cohosh	*Viola sagittata*	arrowhead violet
[LNV]Centaurea stoebe	spotted knapweed	Woody Shrubs	
Cicuta maculata	spotted water-hemlock	*Alnus incana*	speckled alder
Circaea canadensis	enchanter's nightshade	*Berberis vulgaris*	common barberry
Cirsium arvense	Canada thistle	*Cornus amomum*	silky dogwood
Daucus carota	Queen Anne's lace	*Crataegus sp.*	hawthorn

Dennstaedtia punctilobula	hayscented fern	*[INV]Elaeagnus umbellata*	Autumn olive
Dryopteris carthusiana	spinulose wood fern	*[INV]Euonymus alatus*	burning-bush
Epipactis helleborine	broad-leaved helleborine	*Hamamelis ovalis*	witch hazel
Equisetum hyemale	tall scouring rush	*[INV]Lonicera morrowii*	Morrow's honeysuckle
Erigeron sp.	fleabane	*[INV]Rhamnus cathartica*	common buckthorn
Erythronium rostratum	troutlily	*Rhus hirta*	staghorn sumac
Eurybia divaricata	white wood aster	*[INV]Rosa multiflora*	multiflora rosa
Euthamia graminifolia	flat-top goldentop	*Rubus allegheniensis*	allegheny blackberry
Eutrochium maculatum	Joe-pye-weed	*Rubus flagellaris*	northern dewberry
Fescue sp.	fescue	*Spirea alba*	meadowsweet
Fragaria sp.	wild strawberry	*Taxus sp.*	yew
Galium aparine	bedstraw	*Vaccinium corymbosum*	highbush blueberry
Geranium sp.	wild geranium	Trees	
Geum canadense	white avens	*Acer pensylvanicum*	striped maple
Glyceria sp.	manna grass	*Acer rubrum*	red maple
Hydrophyllum virginianum	eastern waterleaf	*Acer saccharum*	sugar maple
Impatiens capensis	jewleweed	*Betula alleghaniensis*	yellow birch
Iris versicolor	blueflag iris	*Betula lenta*	sweet birch
Juncus effusus	soft rush	*Betula papyrifera*	paper birch
Lilium lancifolium	tiger lily	*Betula populifolia*	gray birch
Lysimachia ciliata	fringed loosestrife	*Carya glabra*	pignut hickory
Maianthemum canadense	canada mayflower	*Carya ovata*	shagbark hickory
Maianthemum racemosum	feathery false Solomon's-seal	*Cornus florida*	flowering dogwood
Mimulus ringens	monkey-flower	*Fagus grandifolia*	American beech
Mitchella repens	partridge-berry	*Fraxinus americana*	white ash
Onoclea sensibilis	sensitve fern	*Fraxinus pennsylvanica*	green ash
Osmunda cinnamomea	cinnamon fern	*Malus sp.*	apple tree
Osmunda regalis	royal fern	*Pinus strobus*	white pine
Panax quinquefolius	American ginseng	*Populus deltoides*	cottonwood
Panicum virgatum	switchgrass	*Populus tremuloides*	quaking aspen

Parathelypteris noveboracensis	New York fern	*Prunus serotina*	black cherry
[INV]Phragmites australis	common reed	*Pyrus calleryana*	callery pear
Plantago lanceolata	narrowleaf plantain	*Quercus rubra*	red oak
Polygonatum biflorum	King Solomon's-seal	*Quercus velutina*	black oak
Polygonum hydropiper	common smartweed	*Salix nigra*	black willow
Polystichum acrostichoides	Christmas fern	*Tilia americana*	basswood
Potentilla simplex	common cinquefoil	*Tsuga canadensis*	hemlock
Rudbeckia hirta	black-eyed susan	*Ulmus rubra*	slippery elm
Rumex acetosella	common sheep sorrel	Woody Vines	
Schizachyrium scoparium	little bluestem	*[INV]Celastrus orbiculatus*	Asiatic bittersweet
Securigera varia	purple crown vetch	*Parthenocissus quinquefolia*	Virginia creeper
Setaria pumila	yellow foxtail	*Toxicodendron radicans*	poison ivy
Silene latifolia	bladder campion	*Vitis riparia*	riverbank grape

INV = Listed by MIPAG as invasive species

LNV = Listed by MIPAG as likely invasive species

Table 5. Vascular plant species observed in vegetative plots in the Consolidation Area

Scientific Name	Common Name
Herbaceous	
Achillea millefolium	common yarrow
Agrostis gigantea	redtop bentgrass
Carex umbellata	umbrella sedge
Centaurea stoebe	spotted knapweed
Erigeron sp.	fleabane
Fragaria sp.	wild strawberry
Galium aparine	bedstraw
Panicum virgatum	switchgrass
Rudbeckia hirta	black-eyed susan
Schizachyrium scoparium	little bluestem
Silene latifolia	bladder campion
Solidago gigantea	giant goldenrod
Solidago rugosa	wrinkleleaf goldenrod
Tanacetum vulgare	tansy
Thymus pulegioides	lemon thyme
Verbascum thapsus	common mullein
Woody Shrubs and Vines	
Celastrus orbiculata	Asian bittersweet
Lonicera morrowii	Morrow's honeysuckle
Trees	
Betula papyrifera	paper birch
Fraxinus americana	white ash
Pinus strobus	white pine
Populus deltoides	cottonwood

Table 6. Ranked IV_{ave} values for the entire GE Parcel

Scientific Name	Common Name	# Plots	D_R	F_R	IV_{ave}
Schizachyrium scoparium	little bluestem	4	15.44	9.09	12.27
Panicum virgatum	switchgrass	3	16.11	6.82	11.46
Thymus pulegioides	lemon thyme	3	13.72	6.82	10.27
Celastrus orbiculata	Asiatic bittersweet	3	12.77	6.82	9.79
Populus deltoides	cottonwood	2	12.01	4.55	8.28
Silene latifolia	bladder campion	5	5.00	11.36	8.18
Lonicera morrowii	Morrow's honeysuckle	2	7.96	4.55	6.25
Erigeron sp.	fleabane	3	3.00	6.82	4.91

Rudbeckia hirta	black-eyed susan	3	3.00	6.82	4.91
Solidago rugosa	wrinkleleaf goldenrod	3	2.29	6.82	4.55
Carex umbellata	umbrella sedge	1	3.62	2.27	2.95
Galium aparine	bedstraw	2	1.29	4.55	2.92
Centaurea stoebe	spotted knapweed	2	1.05	4.55	2.80
Achillea millefolium	common yarrow	2	0.57	4.55	2.56
Verbascum thapsus	common mullein	2	0.33	4.55	2.44
Fraxinus americana	white ash	1	0.97	2.27	1.62
Betula papyrifera	paper birch	1	0.29	2.27	1.28
Fragaria sp.	wild strawberry	1	0.29	2.27	1.28
Pinus strobus	white pine	1	0.29	2.27	1.28

Table 7. Ranked IV_{ave} values for the entire GE Parcel

Scientific Name	Common Name	# Plots	D_R	F_R	IV_{ave}
Lonicera morrowii	Morrow's honeysuckle	20	15.96	11.49	13.73
Acer saccharum	sugar maple	13	12.14	7.47	9.81
Pinus strobus	white pine	12	12.71	6.90	9.80
Celastrus orbiculatus	Asiatic bittersweet	12	4.79	6.90	5.84
Prunus serotina	black cherry	10	5.54	5.75	5.64
Fraxinus americana	white ash	12	3.88	6.90	5.39
Quercus rubra	red oak	5	3.73	2.87	3.30
Schizachyrium scoparium	little bluestem	4	4.17	2.30	3.23
Panicum virgatum	switchgrass	3	4.35	1.72	3.04
Onoclea sensibilis	sensitve fern	5	2.77	2.87	2.82
Thymus pulegioides	lemon thyme	3	3.71	1.72	2.72
Maianthemum canadense	canada mayflower	7	1.31	4.02	2.67
Populus deltoides	cottonwood	3	3.51	1.72	2.62
Tsuga canadensis	hemlock	4	2.75	2.30	2.53
Galium sp.	bedstraw	5	1.35	2.87	2.11
Populus tremuloides	quaking aspen	4	1.85	2.30	2.08
Achillea millefolium	common yarrow	5	1.22	2.87	2.05
Alliaria petiolata	garlic mustard	3	2.23	1.72	1.98
Rudbeckia hirta	black-eyed susan	4	1.34	2.30	1.82
Acer rubrum	red maple	4	1.21	2.30	1.75
Solidago sp.	goldenrod	3	1.78	1.72	1.75
Mitchella repens	partridge-berry	4	1.08	2.30	1.69
Erigeron sp.	fleabane	4	0.89	2.30	1.59
Galium aparine	bedstraw	3	1.33	1.72	1.53
Solidago rugosa	wrinkleleaf goldenrod	3	1.33	1.72	1.53

Dryopteris carthusiana	spinulose wood fern	3	1.20	1.72	1.46
Silene latifolia	bladder campion	4	0.37	2.30	1.34
Eurybia divaricata	white wood aster	3	0.81	1.72	1.27
Vitis riparia	riverbank grape	3	0.42	1.72	1.07
Rhamnus cathartica	common buckthorn	3	0.17	1.72	0.95
Polygonatum biflorum	King Solomon's-seal	3	0.10	1.72	0.91

Table 8. Ranked IV_{ave} values for Northern Hardwood Forest

Scientific Name	Common Name	D_R	F_R	IV_{ave}
Acer saccharum	sugar maple	24.83	8.96	16.89
Lonicera morrowii	Morrow's honeysuckle	16.23	10.45	13.34
Quercus rubra	red oak	10.89	7.46	9.18
Fraxinus americana	white ash	7.18	8.96	8.07
Prunus serotina	black cherry	8.64	7.46	8.05
Tsuga canadensis	hemlock	5.71	2.99	4.35
Alliaria petiolata	garlic mustard	4.96	2.99	3.97
Tilia americana	basswood	4.40	2.99	3.69
Populus tremuloides	quaking aspen	3.08	2.99	3.03
Pinus strobus	white pine	1.24	4.48	2.86
Acer rubrum	red maple	1.77	2.99	2.38
Eurybia divaricata	white wood aster	1.58	2.99	2.28
Fagus grandifolia	American beech	1.01	2.99	2.00
Galium sp.	bedstraw	1.01	2.99	2.00
Celastrus orbiculata	Asiatic bittersweet	0.45	2.99	1.72
Carya ovata	shagbark hickory	1.54	1.49	1.52
Aralia nudicaulis	wild sarsaparilla	0.79	1.49	1.14
Dennstaedtia punctilobula	hayscented fern	0.79	1.49	1.14
Mitchella repens	partridge-berry	0.79	1.49	1.14
Onoclea sensibilis	sensitve fern	0.79	1.49	1.14
Carex pensylvanica	Pennsylvania sedge	0.23	1.49	0.86
Cornus florida	flowering dogwood	0.23	1.49	0.86
Crataegus sp.	hawthorn	0.23	1.49	0.86
Maianthemum racemosum	feathery false Solomon's-seal	0.23	1.49	0.86
Quercus velutina	black oak	0.23	1.49	0.86
Taxus sp.	yew	0.23	1.49	0.86
Thalictrum sp.	meadow rue	0.23	1.49	0.86
Trientalis borealis	startflower	0.23	1.49	0.86
Ulmus rubra	slippery elm	0.23	1.49	0.86
Viola sororia	woolly blue violet	0.23	1.49	0.86

Circaea canadensis	enchanter's nightshade	0.04	1.49	0.77
Rhamnus cathartica	common buckthorn	0.04	1.49	0.77

Table 9. Ranked IV_{ave} values for Eastern White Pine Forest

Scientific Name	Common Name	D_R	F_R	IV_{ave}
Pinus strobus	white pine	28.99	8.79	18.89
Lonicera morrowii	Morrow's honeysuckle	15.20	7.69	11.45
Acer saccharum	sugar maple	12.84	7.69	10.27
Maianthemum canadense	canada mayflower	3.12	7.69	5.41
Prunus serotina	black cherry	4.86	4.40	4.63
Fraxinus americana	white ash	2.75	5.49	4.12
Celastrus orbiculata	Asiatic bittersweet	1.99	5.49	3.74
Dryopteris carthusiana	spinulose wood fern	2.84	3.30	3.07
Mitchella repens	partridge-berry	1.93	3.30	2.61
Parathelypteris noveboracensis	New York fern	2.81	2.20	2.51
Populus tremuloides	quaking aspen	1.90	2.20	2.05
Tsuga canadensis	hemlock	1.90	2.20	2.05
Galium sp.	bedstraw	1.74	2.20	1.97
Polygonatum biflorum	King Solomon's-seal	0.24	3.30	1.77
Toxicodendron radicans	poison ivy	1.31	2.20	1.76
Berberis vulgaris	common barberry	1.28	2.20	1.74
Aralia nudicaulis	wild sarsaparilla	2.32	1.10	1.71
Acer pensylvanicum	striped maple	0.83	2.20	1.51
Parthenocissus quinquefolia	Virginia creeper	0.37	2.20	1.28
Rhamnus cathartica	common buckthorn	0.37	2.20	1.28
Alliaria petiolata	garlic mustard	1.25	1.10	1.18
Betula papyrifera	paper birch	1.25	1.10	1.18
Hamamelis virginiana	witch hazel	1.25	1.10	1.18
Quercus velutina	black oak	1.25	1.10	1.18
Anemone virginiana	tall anemone	0.64	1.10	0.87
Carya glabra	pignut hickory	0.64	1.10	0.87
Caulophyllum thalictroides	blue cohosh	0.64	1.10	0.87
Populus deltoides	cottonwood	0.64	1.10	0.87
Acer rubrum	red maple	0.18	1.10	0.64
Betula alleghaniensis	yellow birch	0.18	1.10	0.64
Botrychium virginianum	rattlesnake fern	0.18	1.10	0.64
Crataegus sp.	hawthorn	0.18	1.10	0.64
Erigeron sp.	fleabane	0.18	1.10	0.64
Euonymus alatus	burning-bush	0.18	1.10	0.64

Malus sp.	apple tree	0.18	1.10	0.64
Symphyotrichum novae-angliad	New England aster	0.18	1.10	0.64
Epipactis helleborine	broad-leaved helleborine	0.03	1.10	0.56
Symphyotrichum puniceum	purple-stemmed American-aster	0.03	1.10	0.56
Trillium erectum	red trillium	0.03	1.10	0.56

Table 10. Ranked IV_{ave} values for Aspen/Birch Successional Forest

Scientific Name	Common Name	D_R	F_R	IV_{ave}
Populus deltoides	cottonwood	30.64	15.38	23.01
Celastrus orbiculata	Asiatic bittersweet	30.03	15.38	22.71
Lonicera morrowii	Morrow's honeysuckle	20.31	15.38	17.85
Carex umbellate	umbrella sedge	9.24	7.69	8.47
Galium aparine	bedstraw	2.55	7.69	5.12
Solidago rugosa	wrinkleleaf goldenrod	2.55	7.69	5.12
Fraxinus americana	white ash	2.48	7.69	5.09
Betula papyrifera	paper birch	0.73	7.69	4.21
Fragaria sp.	wild strawberry	0.73	7.69	4.21
Pinus strobus	white pine	0.73	7.69	4.21

Table 11. Ranked IV_{ave} values for Palustrine Wetland

Scientific Name	Common Name	D_R	F_R	IV_{ave}
Cornus amomum	silky dogwood	20.78	4.35	12.57
Onoclea sensibilis	sensitve fern	16.12	8.70	12.41
Alnus incana	speckled alder	10.29	8.70	9.49
Lilium lancifolium	tiger lily	8.06	4.35	6.20
Sparganium sp.	bur-reed	8.06	4.35	6.20
Thelypteris palustris	marsh fern	2.86	8.70	5.78
Acer rubrum	red maple	4.35	4.35	4.35
Eutrochium maculatum	Joe-pye-weed	4.35	4.35	4.35
Prunus serotina	black cherry	4.35	4.35	4.35
Salix nigra	black willow	4.35	4.35	4.35
Solidago sp.	goldenrod	4.35	4.35	4.35
Carex rostrata	beaked sedge	2.23	4.35	3.29
Carex stricta	upright sedge	2.23	4.35	3.29
Osmunda cinnamomea	cinnamon fern	2.23	4.35	3.29
Ulmus rubra	slippery elm	2.23	4.35	3.29
Glyceria sp.	manna grass	0.64	4.35	2.49
Lonicera morrowii	Morrow's honeysuckle	0.64	4.35	2.49

Mimulus ringens	monkey-flower	0.64	4.35	2.49
Rumex acetosella	common sheep sorrel	0.64	4.35	2.49
Vitis riparia	riverbank grape	0.64	4.35	2.49

Table 12. Ranked IV_{ave} values for Upland Field

Scientific Name	Common Name	D_R	F_R	IV_{ave}
Schizachyrium scoparium	little bluestem	14.65	6.45	10.55
Panicum virgatum	switchgrass	15.28	4.84	10.06
Thymus pulegioides	lemon thyme	13.02	4.84	8.93
Silene latifolia	bladder campion	4.75	8.06	6.41
Achillea millefolium	common yarrow	4.29	8.06	6.18
Rudbeckia hirta	black-eyed susan	4.70	6.45	5.58
Lonicera morrowii	Morrow's honeysuckle	6.24	4.84	5.54
Galium aparine	bedstraw	4.66	4.84	4.75
Erigeron sp.	fleabane	2.85	4.84	3.84
Solidago canadensis	Canada goldenrod	5.70	1.61	3.65
Celastrus orbiculata	Asiatic bittersweet	2.17	4.84	3.50
Solidago rugosa	wrinkleleaf goldenrod	3.71	3.23	3.47
Rubus flagellaris	northern dewberry	2.80	3.23	3.01
Onoclea sensibilis	sensitve fern	1.90	3.23	2.56
Vitis riparia	riverbank grape	1.22	3.23	2.22
Centaurea stoebe	spotted knapweed	0.99	3.23	2.11
Cirsium arvense	Canada thistle	0.54	3.23	1.88
Verbascum thapsus	common mullein	0.32	3.23	1.77
Eurybia divaricata	white wood aster	0.95	1.61	1.28
Fescue sp.	fescue	0.95	1.61	1.28
Plantago lanceolata	narrowleaf plantain	0.95	1.61	1.28
Rubus allegheniensis	allegheny blackberry	0.95	1.61	1.28
Solidago gigantea	giant goldenrod	0.95	1.61	1.28
Asclepias syriaca	common milkweed	0.27	1.61	0.94
Euthamia graminifolia	flat-top goldentop	0.27	1.61	0.94
Fragaria sp.	wild strawberry	0.27	1.61	0.94
Vicia sp.	vetch	0.27	1.61	0.94

Table 13. Wildlife species observations

Scientific Name	Common Name	Scientific Name	Common Name
Amphibians and Reptiles		Birds (cont.)	
Dryophytes versicolor	grey tree frog	*Phylloscopus castaniceps*	chestnut warbler
Lithobates sylvaticus	wood frog	*Pipilo erythrophthalmus*	eastern towhee
Lithobates catesbeiana	bullfrog	*Quiscalus quiscula*	common grackle
Lithobates clamitans	greenfrog	*Seiurus aurocapilla*	ovenbird
Thamnophis sirtalis	eastern garter snake	*Sialia sialis*	eastern bluebird
Chelydra serpentina	common snapping turtle	*Vireo olivaceus*	red-eyed vireo
Birds		*Zenaida macroura*	morning dove
Agelaius phoeniceus	red-winged blackbird	Invertebrates	
Archilochus colubris	ruby-throated hummingbird	*O: Coleoptera F: Gyrinidae*	whirligig beetle
Beteo jamaicensis	red-tailed hawk	*O: Coleoptera F: Hydrophilidae*	water scavenger beetle
Bonasa umbellus	rough grouse	*O: Heteroptera F: Gerridae*	water strider
Catharus fuscescens	veery	*O: Odonata F: Aeshnidae*	Darners
Corvus brachyrhynchos	American crow	*O: Plecoptera*	stonefly
Dryocopus pileatus	pileated woodpecker	*O: Odonata S: Zygoptera*	damselfly
Dumetella carolinensis	gray catbird	*O: Isopoda*	Isopods
Falco sparverius	american kestrel	*Danaus plexippus*	monarch butterfly
Geothypis trichas	yellow throat	*Papilio glaucus*	tiger swallowtail
Hylocichla mustelina	wood thrush	Mammals	
Megaceryle alcyon	belted kingfisher	*Canis latrans*	coyote
Melanerpes carolinus	red bellied woodpecker	*Castor canadensis*	beaver
Meleagris gallopave	wild turkey	*Odocoileus virginianus*	white-tailed deer
Melospiza melodia	song sparrow	*Ondatra zibethicus*	muskrat
		Sylvilagus floridanus	eastern cottontail
		Ursus americanus	black bear

Table 14. **Observed and potential bird species presence**

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Large Wading Birds													
Great Blue Heron	*Ardea herodias*										□		□
Green Heron	*Butorides virescens*						□				■		□
Ducks and Geese													
Canada Goose	*Branta canadensis*												□
Wood Duck	*Aix sponsa*		□				□				■		■
Mallard	*Anas platyrhynchos*												■
Raptors													
American kestrel	*Falco sparverius*		□		□		□	■			□		
Turkey Vulture	*Cathartes aura*				■				■				
Red-shouldered Hawk	*Buteo Lineatus*				□		□				■		
Broad-winged Hawk	*Buteo platpterus*		□				■		■		■		
Red-tailed Hawk	*Buteo jamaicensis*		□		□			■			■		
Game Birds													
Ring-necked Pheasant	*Phasianus colchicus*								■				
Ruffed Grouse	*Bonasa umbellus*		■		□	□		□			□		
Wild Turkey	*Meleagris gallopavo*	□			□	■		□			□		
Northern Bobwhite	*Colinus virginianus*				□				■				
American Woodcock	*Scolopax minor*		■				■		■		■		
Shorebirds													
Killdeer	*Charadrius vociferus*								■				
Non-passerine Perching Birds													
Mourning Dove	*Zenaida macroura*		□		□		□	■			□		

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Black-billed Cuckoo	*Coccyzus erthropthalmus*		□		□		□		□		□		
Yellow-billed Cuckoo	*Coccyzus americanus*		□				□				□		
Chimney Swift	*Chaetura pelagica*								□				
Ruby-throated Hummingbird	*Archilochus colubris*		□		□	■		□			■		
Belted Kingfisher	*Ceryle alcyon*							□				□	
Owls													
Eastern Screech Owl	*Otus asio*		□		□		□		□		■		
Great Horned Owl	*Bubo virginianus*		□		□		□		□		■		
Barred Owl	*Strix varia*				□		■		□		■		
Woodpeckers													
Red-bellied Woodpecker	*Melanerpes carolinus*		□	□						■			
Downy Woodpecker	*Picoides pubescens*		□		□		■		□		■		
Hairy Woodpecker	*Picoides villosus*				□		□		□		■		
Northern Flicker	*Colaptes auratus*		■		■		■		■		□		
Pileated Woodpecker	*Dryocopus pileatus*		□	■		■				■			
Tyrant Flycatchers													
Eastern Wood-pewee	*Contopus virens*		□		□		□				□		
Least Flycatcher	*Empidonax minimus*		□		□		■				■		
Eastern Pheobe	*Sayornis pheobe*		□		□		□		□		□		
Great Crested Flycatcher	*Myiarchus crinitus*				□		□				□		
Eastern Kingbird	*Tyrannus tyrannus*		□				□		□				
Swallows													
Tree Swallow	*Tachycineta bicolor*		□		□		□		□		■		
Bank Swallow	*Riparia riparia*								■				
Barn Swallow	*Hirundo rustica*								■				
Corvids													
Blue Jay	*Cyanocitta cristata*		□		□		□		□		□		

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
American Crow	*Corvus brachyrhynchos*		□		■		□	■			□		
Titmice													
Black-capped Chickadee	*Parus atricapillus*		□		□		■		□		■		
Tufted Titmouse	*Parus bicolor*				□		□		□		□		
Nuthatches & Creepers													
Red-breasted nuthatch	*Sitta canadensis*				■		■						
White-breasted Nuthatch	*Sitta carolinensis*		□		□		■		□		□		
Brown Creeper	*Certhia americana*				□		□				□		
Wrens													
Carolina Wren	*Thryothorus ludovicianus*								□		■		
House Wren	*Troglodytes aedon*		□				□		□		□		
Gnatcatchers													
Blue-gray Gnatcatcher	*Polioptila caerulea*		□				□		□		■		
Thrushes													
Eastern Bluebird	*Sialia sialis*						■	□					
Veery	*Catharus fuscescens*		□		□	□				■			
Wood Thrush	*Hylocichla mustelina*				□	□					□		
American Robin	*Turdus migratorius*		□		□		□		□		□		
Mimic Thrushes													
Gray Catbird	*Dumetella carolinensis*				□		■	□			■		
Northern Mockingbird	*Mimus polyglottos*								■		■		
Brown Thrasher	*Toxostoma rufum*								■				
Waxwings													
Cedar Waxwing	*Bombycilla cedrorum*		□		□		□		□		■		
Starlings													
European Starling	*Sturnus vulgaris*				□		□		■		□		
Vireos													

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Yellow-throated Vireo	*Vireo flavifrons*		□		□		□				■		
Warbling Vireo	*Vireo gilvus*		□				□				■		
Red-eyed Vireo	*Vireo olivaceus*		□	□		■					□		
Wood Warblers													
Blue-winged Warbler	*Vermivora pinus*								■		□		
Yellow Warbler	*Dendroica petechia*								□		■		
Chestnut-sided Warbler	*Dendroica pensylvanica*					□			□	■			
Yellow-rumped Warbler	*Dendroica coronata*				□		□		□		□		
Black-throated Green Warbler	*Dendroica virens*		□		□		■				□		
Blackburnian Warbler	*Dendroica fusca*				□		□						
Pine Warbler	*Dendroica pinus*				□								
Prarie Warbler	*Dendroica discolor*				□				■				
Black-and-white Warbler	*Mniotilta varia*		□		□		■		□		□		
American Redstart	*Setophaga ruticilla*		□		□		□		□		□		
Ovenbird	*Seiurus aurocapillus*		□		□	■					□		
Northern Waterthrush	*Seiurus noveboracensis*						□				■		
Louisiana Waterthrush	*Seiurus motacilla*										■		
Common Yellowthroat	*Geothlypis trichas*		□				□		■	■		□	
Tanagers													
Scarlet Tanager	*Piranga olivacea*		□		□		■				□		
Cardinals & Grosbeaks													
Northern Cardinal	*Cardinalis cardinalis*								□		■		
Rose-breasted Grosbeak	*Pheucticus ludovicianus*		□		□		□		□		□		
Indigo Bunting	*Passerina cyanea*								■		□		
Sparrows													
Rufus-sided Towhee	*Pipilo erythrophthalmus*			■				□	□		□		
Chipping Sparrow	*Spizella passerina*				□				□				

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Field Sparrow	*Spizella pusilla*								■				
Song Sparrow	*Melospiza melodia*						□	■		■			
Swamp Sparrow	*Melospiza georgiana*												□
Icterids													
Red-winged Blackbird	*Agelaius phoeniceus*								■	□		□	
Common Grackle	*Quiscalus quiscula*							□			□		
Brown-headed Cowbird	*Molothrus ater*		□		□		□		■		□		
Orioles													
Baltimore Oriole	*Icterus galbula*		□				□		□		□		
Finches													
Purple Finch	*Carpodacus purpureus*		□		□		□		□		□		
American Goldfinch	*Cardeulis tristis*				□		□		□		□		
Old World Sparrows													
House Sparrow	*Passer domesticus*								■				

Obsv = observed; Potn = potential
1. Cover type categories based on DeGraaf and Yamasaki (2001).
2. Upland field category includes, Forbs, Grasses, and Shrub-old Field.
3. Palustrine wetland category includes, Swamp Hardwood – Red Maple, shrub swamp, and shallow marsh.
4. ■ Preferred Habitat; □ Utilized Habitat

Table 15. **Observed and potential amphibian, reptile, and mammal presence.**

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Amphibians													
Spotted salamander	*Ambystoma maculatum*		□		□		□				■		■
Red-spotted newt	*Notophthalmus v. viridescens*		□		□		□				□		■
Redback salamander	*Plethodon cinereus*		□		□		□				□		
Northern two-lined salamander	*Eurycea bislineata*				□						□		
American toad	*Anaxyrus americanus*				□		□		□		□		□
Spring peeper	*Pseudacris crucifer*						□				■		
Gray tree frog	*Dryophytes versicolor*					□	□			□	■	□	
Green frog	*Lithobates clamitans*									□		□	
Bullfrog	*Lithobates catesbeiana*									■		■	
Pickerel frog	*Lithobates palustris*						□		□				□
Wood frog	*Lithobates sylvaticus*					■				■			
Reptiles (snakes and turtles)													
Painted turtle	*Chrysemys picta*				□		□				□	■	□
Common snapping turtle	*Chelydra s. serpentina*										□	■	
Spotted turtle	*Clemmys guttata*										■		□
Wood turtle	*Glyptemys insculpta*		□		□		□		□		□		□
Northern redbelly snake	*Storeria occipitomaculata*		■		■		■		□		■		
Eastern garter snake	*Thamnophis s. sirtalis*		□		□		□	□		□			
Ribbon snake	*Thamnophis sauritus*				□		□				■		□
Eastern milksnake	*Lampropeltis triangulum*		□		□		□		□				
Ring-necked snake	*Diadophis punctatus*		□		□		□		□		■		
Northern black racer	*Coluber constrictor*		□		□		□				□		
Northern Water snake	*Nerodia Sipedon*										■		□

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Mammals													
Virginia opossum	*Didelphus virginiana*		□						□		■		
Masked shrew	*Sorex cinereus*		□		□		□		□		□		
Short-tailed shrew	*Blarina brevicauda*		□		□		□		□		□		
Eastern mole	*Scolophus aquaticus*								■		□		
Star-nosed mole	*Condylura cristata*						□				□		□
Eastern cottontail	*Sylvilagus floridanus*							■					
Eastern chipmunk	*Tamias striatus*		□		□		□		□		□		
Woodchuck	*Marmota monax*		□				□		■		□		
Gray squirrel	*Sciurus carolinensis*				□		□				□		
Red squirrel	*Tamasciurus hudsonicus*		□		■		□		□		□		
Beaver	*Castor canadensis*		■				■			■		■	
Deer mouse	*Peromyscus maniculatus*		□		■		□		□		□		
White footed mouse	*Peromyscus luecopus*		□		□		■		■		□		
Meadow vole	*Microtus pennsylvanicus*								■				
Muskrat	*Ondatra zibethicus*									■		□	
Meadow jumping mouse	*Zapus hudsonius*		□		□		□		■		□		
Woodland jumping mouse	*Napaeozapus insignis*		□		□		■		□		■		■
Northern long-eared bat	*Myotis septentrionalis*		□		□		□		□		■		■
Eastern pipistrelle	*Pipistrellus subflavus*		□		□		□		□		■		■
Big brown bat	*Eptesicus fuscus*		□		□		□		□		■		■
Hoary bat	*Lasiurus cinereus*		□		□		□		□		■		■
Porcupine	*Erethizon dorsatum*		□		□		■		□		□		
Coyote	*Canis latrans*		□	□		□		□			□		
Red fox	*Vulpes vulpes*		□		□		□		■		□		
Gray fox	*Urocyon cinereoargenteus*		□		□		■		□		■		
Black bear	*Ursus americanus*		□		□	■			□	■			

Common Name	Scientific Name	Aspen Birch[1]		Eastern White Pine Forest		Northern Hardwoods		Upland Field[2]		Palustrine Wetland[3]		Pond	
		Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn	Obsv	Potn
Raccoon	*Procyon lotor*		□		□		□		■		■		
Striped skunk	*Mephitis mephitis*		□		□		□		■		□		
White-tailed deer	*Odocoileus virginianus*	□		■		□		■		□			□

Obsv = observed; Potn = potential
1. Cover type categories based on DeGraaf and Yamasaki (2001).
2. Upland field category includes, Forbs, Grasses, and Shrub-old Field.
3. Palustrine wetland category includes, Swamp Hardwood – Red Maple, shrub swamp, and shallow marsh.
4. ■ Preferred Habitat; □ Utilized Habitat

Figures

Figure 1. Location of the GE Parcel in Lee, Massachusetts.

Figure 2. General Layout of the Upland Disposal Facility in Lee, Massachusetts.

Figure 3. 2021 East Lee Topographic Quadrangle Map.

Figure 4. NRCS Soils.

Figure 5. Habitat Cover Types



MA

USGS 15 MINUTE TOPOGRAPHIC QUADRANGLE PITTSFIELD EAST, MA

Legend

GE Parcel Boundaries

0 850 1,700 3,400 Feet

LOCATION OF GE PARCEL

Upland Disposal Facility Site
Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:20,400	11/17/2022	04191406

AECOM

Figure Number

1



Legend

- GE Parcel Boundaries
- Consolidation Area Limits
- Operational Area
- Existing Overhead Transmission Easement

0 250 500 1,000 Feet

CONCEPTUAL SITE PLAN

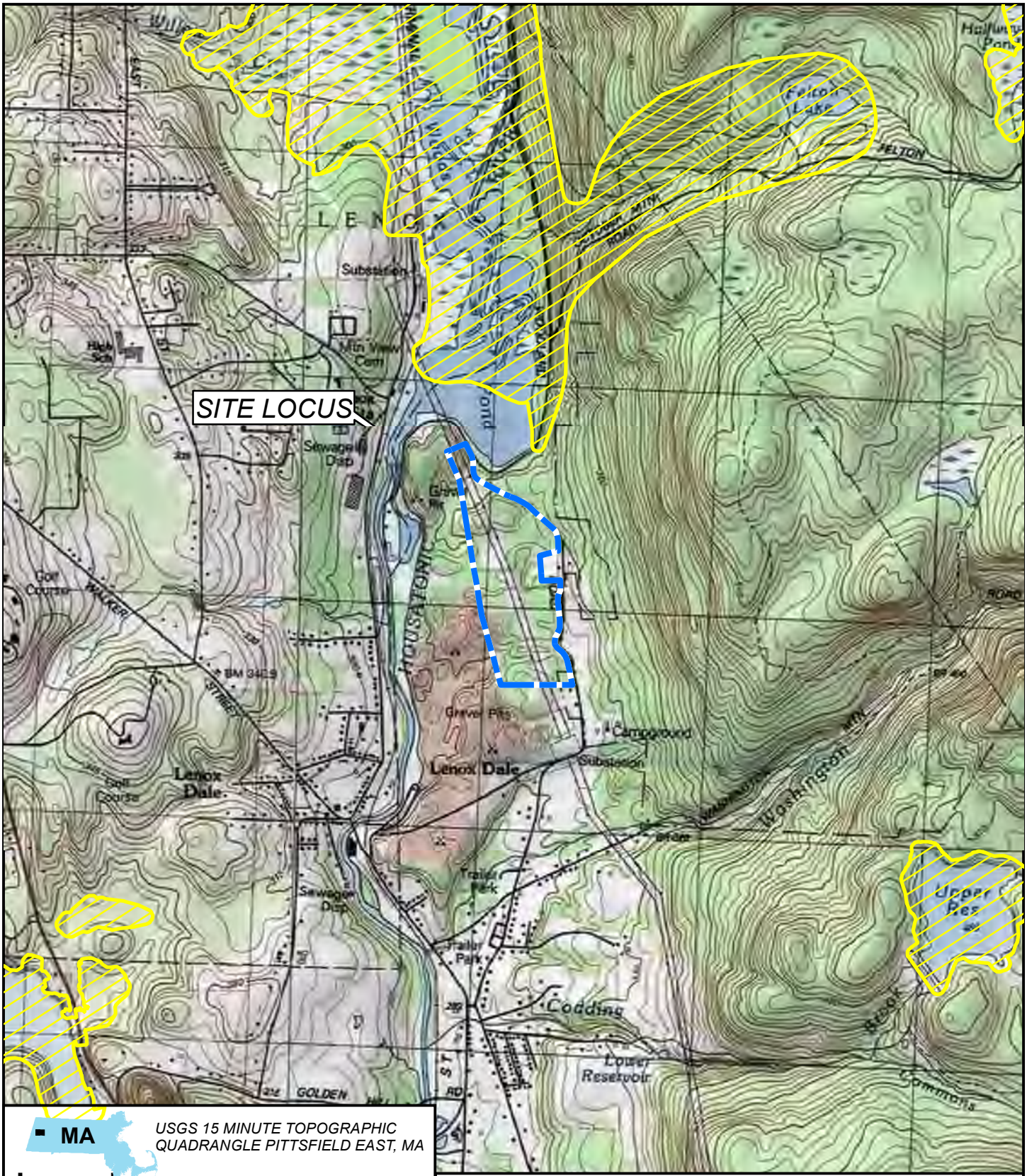
Upland Disposal Facility Site
Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:6,000	12/5/2022	04191406

AECOM

Figure Number

2



SITE LOCUS and NHESP PRIORITY HABITATS

Upland Disposal Facility Site
Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:24,000	11/17/2022	04191406

AECOM

Figure Number

3



Symbol	Map Unit Name
1	Cwater
267B	Copake fine sandy loam, 3 to 8 percent slopes
267C	Copake fine sandy loam, 8 to 15 percent slopes
267D	Copake fine sandy loam, 15 to 25 percent slopes
270B	Hero loam, 3 to 8 percent slopes
298E	Groton and Hinckley soils, 25 to 35 percent slopes
34A	Fredon fine sandy loam, 0 to 3 percent slopes
500B	Amenia silt loam, 3 to 8 percent slopes
500C	Amenia silt loam, 8 to 15 percent slopes
511C	Pittsfield loam, 8 to 15 percent slopes, very stony
512D	Pittsfield loam, 15 to 25 percent slopes, extremely stony
514E	Pittsfield and Nellis loams, 25 to 35 percent slopes, extremely stony
600	Pits, gravel
651	Udorthents, smoothed
76B	Kendaia silt loam, 3 to 8 percent slopes
901E	Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony
904E	Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony

NRCS Soils

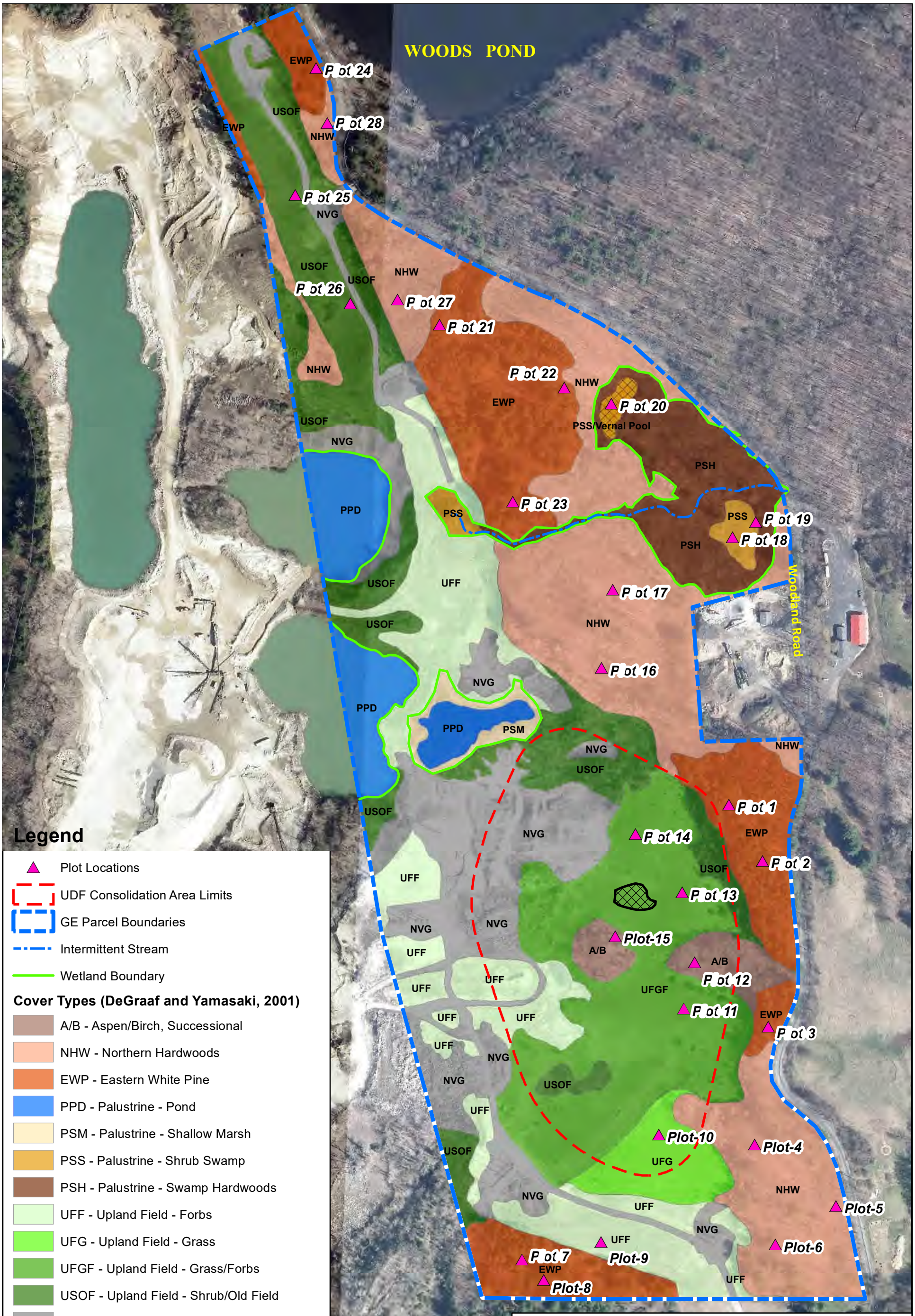
Upland Disposal Facility Site
Woodland Road, Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:6,000	11/17/2022	60681577

AECOM

Figure

4



Habitat Cover Types

Upland Disposal Facility Site
Woodland Road, Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:3,000	7/3/2023	60681577

AECOM

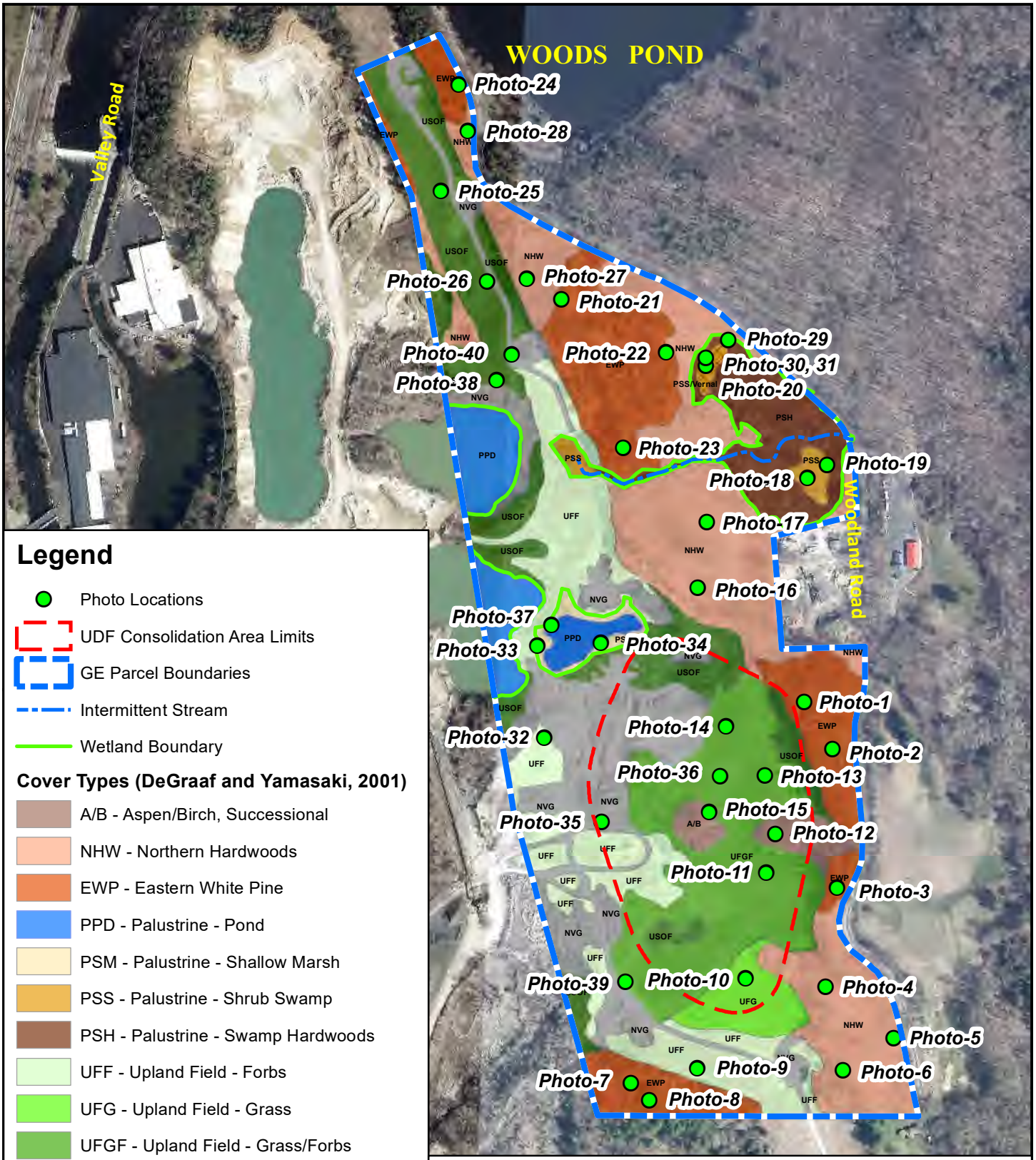
Figure

5

Attachments

Attachment A

Representative Photographs



Legend

- Photo Locations
- UDF Consolidation Area Limits
- GE Parcel Boundaries
- Intermittent Stream
- Wetland Boundary

Cover Types (DeGraaf and Yamasaki, 2001)

- A/B - Aspen/Birch, Successional
- NHW - Northern Hardwoods
- EWP - Eastern White Pine
- PPD - Palustrine - Pond
- PSM - Palustrine - Shallow Marsh
- PSS - Palustrine - Shrub Swamp
- PSH - Palustrine - Swamp Hardwoods
- UFF - Upland Field - Forbs
- UFG - Upland Field - Grass
- UFGF - Upland Field - Grass/Forbs
- USOF - Upland Field - Shrub/Old Field
- NVG - Non-Vegetated
- PSS/Vernal Pool Habitat

N

1 inch = 450 feet

0 125 250 500 750 Feet

Photograph Locations

Upland Disposal Facility Site
Woodland Road, Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:5,400	7/8/2023	60681577

AECOM

Figure

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 1	**Date: July 6, 2022**	**Photo No. 2**	**Date: July 6, 2022**
Description: Plot 1: Eastern White Pine cover type with red maple saplings in the understory.		**Description: Plot 2: Eastern White Pine cover type with red maple saplings and honeysuckle shrubs in the understory.**	
			

Photo No. 3	**Date: July 6, 2022**	**Photo No. 4**	**Date: July 6, 2022**
Description: Plot 3: Eastern White Pine cover type with sugar maple saplings and honeysuckle in the understory.		**Description: Plot 4: Northern Hardwoods cover type with a sparse understory of honeysuckle.**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 5	**Date: July 6, 2022**	**Photo No. 6**	**Date: July 6, 2022**
Description: Plot 5: Northern Hardwood cover type with honeysuckle and garlic mustard in the understory.		**Description: Plot 6: Northern Hardwood cover type with a sparse understory.**	
			

Photo No. 7	**Date: July 6, 2022**	**Photo No. 8**	**Date: July 6, 2022**
Description: Plot 7: Eastern White Pine cover type with a sparse understory.		**Description: Plot 8: Eastern White Pine cover type with a sparse understory.**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 9	**Date: July 6, 2022**	**Photo No. 10**	**Date: July 6, 2022**
Description: Plot 9: Upland Field – Forbs cover type dominated by honeysuckle and goldenrods.		**Description: Plot 10: Upland Field – Grass cover type.**	
			

Photo No. 11	**Date: July 6, 2022**	**Photo No. 12**	**Date: July 6, 2022**
Description: Plot 11: Upland Field – Grass/Forbs cover type with flowering Rudbekia and yarrow.		**Description: Plot 12: Aspen/Birch, Successional cover type with vines of bittersweet.**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 13	**Date: July 6, 2022**	**Photo No. 14**	**Date: July 6, 2022**
Description: Plot 13: Upland Field – Grass/Forbs cover type with flowering Rudbekia.		**Description: Plot 14: Upland Field – Grass/Forbs cover type with flowering Rudbekia and yarrow.**	
			

Photo No. 15	**Date: July 6,**	**Photo No. 16**	**Date: July 6, 2022**
Description: Plot 15: Aspen/Birch, Successional cover type.		**Description: Plot 16: Northern Hardwoods cover type.**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 17	**Date: July 6, 2022**	**Photo No. 18**	**Date: July 6, 2022**
Description: Plot 17: Northern Hardwoods cover type with honeysuckle and herbaceous vegetation in the understory.		**Description: Plot 18: Palustrine – Shrub Swamp cover type with speckled alder, upright sedge and bur-reed.**	
			

Photo No. 19	**Date: July 6, 2022**	**Photo No. 20**	**Date: July 6, 2022**
Description: Plot 19: Palustrine – Shrub Swamp cover type with speckled alder, sensitive fern, and orange daylily.		**Description: Plot 20: Palustrine – Shrub Swamp and Vernal Pool**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 21	**Date: July 6, 2022**	**Photo No. 22**	**Date: July 6, 2022**
Description: Plot 21: Eastern White Pine cover type with an understory of honeysuckle.		**Description: Plot 22: Eastern White Pine cover type with an understory of honeysuckle.**	
			

Photo No. 23	**Date: July 6, 2022**	**Photo No. 24**	**Date: July 6, 2022**
Description: Plot 23: Eastern White Pine cover type with a sparse understory of bittersweet vines and honeysuckle.		**Description: Plot 24: Eastern White Pine cover type with a sparse understory of wood fern and saplings.**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 25	**Date: July 6, 2022**	**Photo No. 26**	**Date: July 6, 2022**
Description: Plot 25: Upland Field – Shrub/Old Field cover type with honeysuckle, goldenrods, and flowering Rudbekia and yarrow.		**Description: Plot 26: Upland Field – Grass/Forbs cover type with a dominance of honeysuckle and goldenrod.**	
			

Photo No. 27	**Date: July 6, 2022**	**Photo No. 28**	**Date: July 6, 2022**
Description: Plot 27: Northern Hardwood cover type with honeysuckle and hickory saplings dominating the understory.		**Description: Plot 28: Northern Hardwood cover type with honeysuckle and hickory saplings dominating the understory.**	
			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 29	**Date: May 9, 2022**	**Photo No. 30**	**Date: May 9, 2022**
Description: View west, vernal pool (VP-1) located on eastern property boundary along Woodland Road.		**Description: Wood frog egg mass observed in VP-1 on 5/9/22.**	
			

Photo No. 31	**Date:**	**Photo No. 32**	**Date: July 6, 2022**
Description: Wood frog tadpoles observed in VP-1 on 4/27/22 (left) and 5/19/22 (right).		**Description: View north, Gravel pit ponds located on the GE Parcel (southeast and southwest ponds).**	
 			

PHOTOGRAPHIC LOG

Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 33	**Date: April 27, 2022**	**Photo No. 34**	**Date: April 27, 2022**
Description: Predated snapping turtle nest observed adjacent to the gravel pit pond.		**Description: Red-winged blackbird nests constructed in sapling willows and cottonwoods growing within a stand of phragmites around the gravel pit pond.**	
			

Photo No. 35	**Date: July 6, 2022**	**Photo No. 36**	**Date: July 6, 2022**
Description: View north, one of several concrete rubble piles located within the former gravel pit area.		**Description: View northwest, approximately 0.14-acre stand of common milkweed (*Asclepias syriaca*).**	
			

PHOTOGRAPHIC LOG

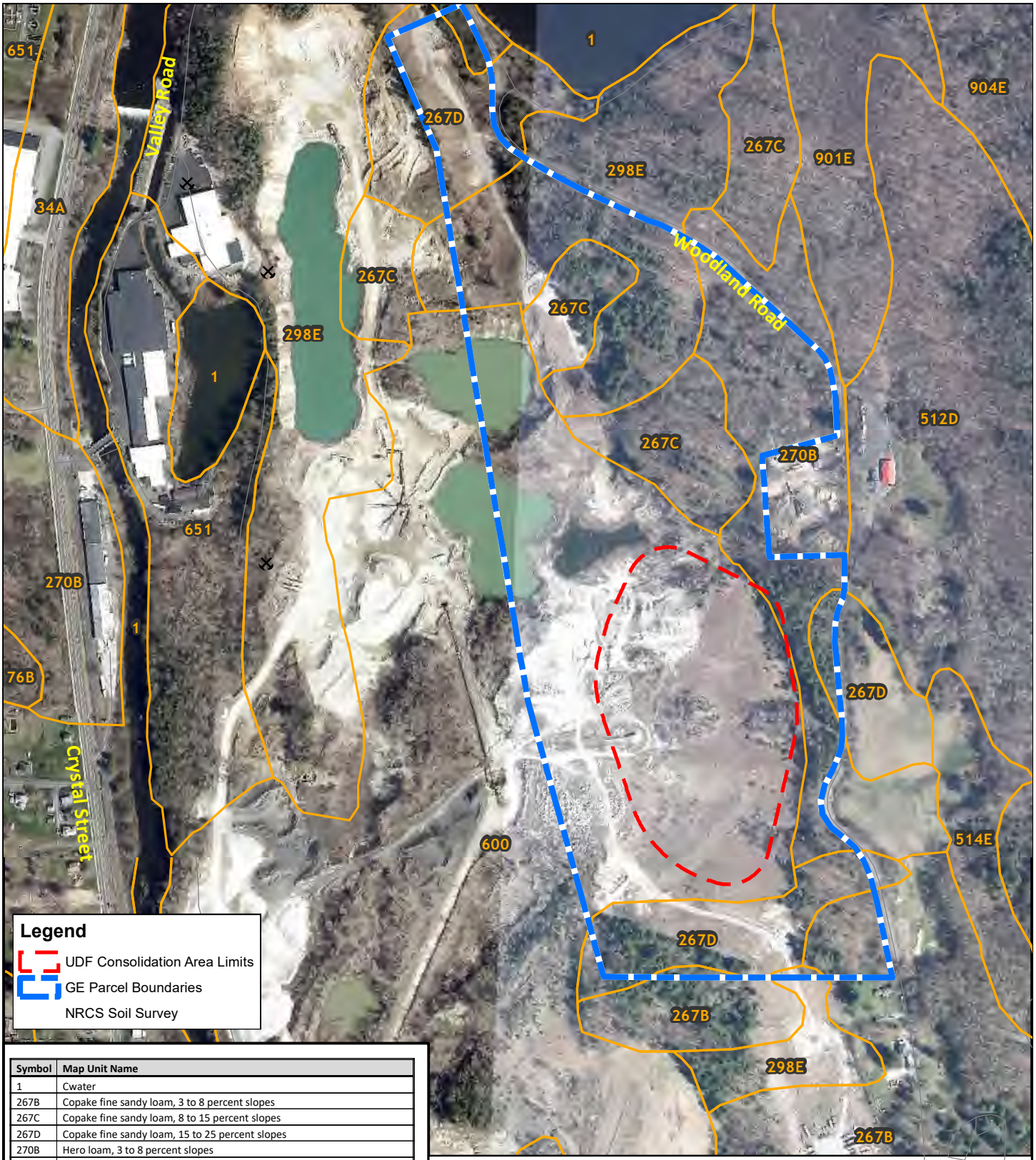
Client Name: **Housatonic River – Upland Disposal Facility**	**Site Location:** Woodland Road Lee, Massachusetts	**Project No.** 60681577

Photo No. 37	**Date: June 29, 2023**	**Photo No. 38**	**Date: May 9, 2022**
Description: View southeast, of gravel pit wash pond (southeast pond) showing palustrine shallow marsh habitat.		**Description: View south of gravel pit wash pond (northwest pond).**	
			

Photo No. 39	**Date: July 6, 2022**	**Photo No. 40**	**Date: May 9, 2022**
Description: View northeast of upland shrub/old field habitat		**Description: View north, existing powerline ROW and gravel access roads**	
			

Attachment B

USDA NRCS Soils Mapping and Descriptions



Symbol	Map Unit Name
1	Cwater
267B	Copake fine sandy loam, 3 to 8 percent slopes
267C	Copake fine sandy loam, 8 to 15 percent slopes
267D	Copake fine sandy loam, 15 to 25 percent slopes
270B	Hero loam, 3 to 8 percent slopes
298E	Groton and Hinckley soils, 25 to 35 percent slopes
34A	Fredon fine sandy loam, 0 to 3 percent slopes
500B	Amenia silt loam, 3 to 8 percent slopes
500C	Amenia silt loam, 8 to 15 percent slopes
511C	Pittsfield loam, 8 to 15 percent slopes, very stony
512D	Pittsfield loam, 15 to 25 percent slopes, extremely stony
514E	Pittsfield and Nellis loams, 25 to 35 percent slopes, extremely stony
600	Pits, gravel
651	Udorthents, smoothed
76B	Kendaia silt loam, 3 to 8 percent slopes
901E	Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony
904E	Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony

NRCS Soils

Upland Disposal Facility Site
Woodland Road, Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:6,000	11/17/2022	60681577

AECOM

Figure

4

Descriptions of Soils Series on UDF Site

The following information is generated from the USDA NRCS Web Soil Survey (Web Soil Survey (usda.gov)) and characterizes the soil conditions on the GE Parcel as well as immediately surrounding area. The area of interest described encompasses 130.6 acres, comprising 85 acre GE Parcel as well as 45 acres adjoining the GE Parcel. NRCS classifies soils into soil series. The following are the major soil series identified on this site with 6 additional minor soil series mentioned below:

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Cwater		0.5	0.2%
267B	Copake fine sandy loam, 3 to 8 percent slopes	Well drained	1.6	1.2%
267C	Copake fine sandy loam, 8 to 15 percent slopes	Well drained	10.7	8.2%
267D	Copake fine sandy loam, 15 to 25 percent slopes	Well drained	14.1	10.8%
270B	Hero loam, 3 to 8 percent slopes	Moderately well drained	13.4	10.2%
298E	Grolton and Hinckley soils, 25 to 35 percent slopes	Excessively drained	32.9	25.2%
600	Pits, gravel		57.7	44.1%
901E	Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony	Well drained	0.0	0.0%
Totals for Area of Interest			130.6	100.0%

Component Text Descriptions---Berkshire County, Massachusetts UDF NRCS Soil Series Description

Copake:

The Copake component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on slightly convex ridges on outwash plains. The parent material consists of friable coarse-loamy eolian deposits over loose sandy and gravelly glaciofluvial deposits derived from limestone and/or loose sandy glaciofluvial deposits derived from limestone. Depth to a root restrictive layer, strongly contrasting textural stratification, inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. This component is in the Semi-rich Till Slope ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Hero:

The Hero component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on terraces on outwash plains. The parent material consists of friable coarse-loamy eolian deposits over friable sandy glaciofluvial deposits derived from limestone and/or friable sandy and gravelly glaciofluvial deposits derived from limestone. Depth to a root restrictive layer, strongly contrasting textural stratification, inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Groton:

The Groton component makes up 50 percent of the map unit. Slopes are 25 to 35 percent. This component is on outwash terraces on valleys. The parent material consists of sandy and gravelly glaciofluvial deposits derived from limestone and dolomite and/or schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent.

Hinckley:

The Hinckley component makes up 40 percent of the map unit. Slopes are 25 to 35 percent. This component is on kame terraces on valleys. The parent material consists of sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 95 percent. Below this thin organic horizon the organic matter content is about 6 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Merrimac: 5 percent

Generated brief soil descriptions are created for major soil components. The Merrimac soil is a minor component.

Map Unit: 600—Pits, gravel

Pits, gravel: 100 percent

Generated brief soil descriptions are created for major soil components. The Pits is a miscellaneous area.

Map Unit: 901E—Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony

Berkshire, extremely stony:

The Berkshire, extremely stony component makes up 55 percent of the map unit. Slopes are 15 to 45 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy supraglacial meltout till derived from phyllite and/or granite and gneiss and/or mica schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. Below this thin organic horizon the organic matter content is about 11 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Marlow, extremely stony:

The Marlow, extremely stony component makes up 30 percent of the map unit. Slopes are 15 to 45 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy lodgment till derived from mica schist and/or granite and/or phyllite. Depth to a root restrictive layer, densic material, is 20 to 41 inches (depth from the mineral surface is 20 to 39 inches). The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. Below this thin organic horizon the organic matter content is about 13 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Lyman, extremely stony: 9 percent

Generated brief soil descriptions are created for major soil components. The Lyman, extremely stony soil is a minor component.

Peru, extremely stony: 4 percent

Generated brief soil descriptions are created for major soil components. The Peru, extremely stony soil is a minor component.

Pillsbury, extremely stony: 1 percent

Generated brief soil descriptions are created for major soil components. The Pillsbury, extremely stony soil is a minor component.

Peacham, extremely stony: 1 percent

Generated brief soil descriptions are created for major soil components. The Peacham, extremely stony soil is a minor component.

Attachment C

Habitat Inventory Forms

Note: Field investigations and forms were completed by AECOM between April and July of 2022; staff initials on the forms are as follows:

SE: Scott Egan
JS: Julia Stearns
DL: Dennis Lowry

Attachment C1

Upland Disposal Facility and GE Parcel Habitat Inventory Form for Upland Field/Grassland Cover Types (Includes all Upland Field cover types: UFF, UFG, UFGF, and USOF)

General Electric Housatonic Rest of River
Upland Disposal Facility and GE Parcel Habitat Inventory Form for Upland Field/Grassland Cover Types

I. General Information

Upland Disposal Facility
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL
Field Staff Performing Evaluation

11/16/22
Date this form was completed

II. Site Description

A. Hydrology/Water Regime

- ☐ Permanently flooded
- ☐ Intermittently exposed
- ☐ Semi-permanently flooded
- ☐ Seasonally flooded
- ☒ Upland
- ☐ Saturated
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Artificially flooded

B. Community Cover Type(s)

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow

Upland

- ☐ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☒ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☐

Bordering Riverine/Aquatic Habitat

- ☐ High-gradient stream
- ☐ Medium-gradient stream
- ☐ Low-gradient stream
- ☐ Moderately alkaline lake/pond

☐ Backwater ☒ Gravel Pit Pond

C. Inventory (Plant community)

% Cover:	0	6-15	1-5	0	76-95
	Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
Shrub	Lonicera morrowii	Herbaceous	Thymus pulegioides
Shrub	Rubus flagellaris	Herbaceous	Schizachyrium scoparium
Shrub	Rubus allegheniensis	Herbaceous	Solidago rugosa
Woody vines	Celastrus orbiculata	Herbaceous	Rudbeckia hirta
Herbaceous	Solidago canadensis	Herbaceous	Solidago gigantea
Herbaceous	Panicum virgatum	Herbaceous	Achillea millefolium

D. Inventory (Soils)

Pits, Gravel (Udorthents)	Well Drained to Excessively Drained
Soil Survey Unit	Drainage Class
Sandy/Gravelly	16 inches
Texture (upper part)	Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
A	0-5	10YR 4/4	Loamy fine sand	
B1	5-16	2.5Y 5/4	Loamy sand. 10% Gravelly	
Notes: Coarse gravel at 16 inches, compact layer				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing water present at least part of the growing season, suitable for use by

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

☐ Breeding amphibians ☐ Non-breeding amphibians (foraging, re-hydration)

☐ Turtles ☐ Foraging waterfowl

Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important habitat characteristics

Medium to large (> 6”), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Vertical sandy banks (bank swallow, kingfisher)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Areas of ice-free open water in winter

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Mud flats

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Wildlife dens/nests (if observed)

Turtle nesting sites

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Bank swallow colony

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☐ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

V. Habitat Degradation

☒ Evidence of significant levels of dumping

☐ Evidence of significant erosion or sedimentation problems

☒ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☐ Disturbance from roads or highways ☐ Evidence of fire

☒ Evidence of other human disturbance

Attachment C2

Upland Disposal Facility and GE Parcel Habitat Inventory Form for Successional Northern Hardwoods (Includes A/B Aspen/Birch Successional Forest cover type)

General Electric Housatonic Rest of River
Upland Disposal Facility and GE Parcel Habitat Inventory Form for A/B Successional Northern Hardwoods

I. General Information

Upland Disposal Facility
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL
Field Staff Performing Evaluation

11/16/22
Date this form was completed

II. Site Description

A. Hydrology/Water Regime

- ☐ Permanently flooded
- ☐ Intermittently exposed
- ☐ Semi-permanently flooded
- ☐ Seasonally flooded
- ☒ Upland
- ☐ Saturated
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Artificially flooded

B. Community Cover Type(s)

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow

Upland

- ☐ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☐ Cultural grassland
- ☒ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☐

Bordering Riverine/Aquatic Habitat

- ☐ High-gradient stream
- ☐ Medium-gradient stream
- ☐ Low-gradient stream
- ☐ Moderately alkaline lake/pond

☐ Backwater ☒ Former Gravel Pit Pond

C. Inventory (Plant community)

% Cover:	51-75	26-50	51-75	0	16-25
	Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
Tree	Pinus strobus	Herbaceous	Solidago rugosa
Tree	Betula papyrifera	Herbaceous	Galium aparine
Tree	Populus deltoides	Herbaceous	Carex umbellata
Tree	Fraxinus americana		
Shrub	Lonicera morrowii		
Woody vines	Celastrus orbiculata		

D. Inventory (Soils)

Pits, Gravel (Udorthents)	Well drained to excessively drained
Soil Survey Unit	Drainage Class
Sandy/Gravelly	16 inches
Texture (upper part)	Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
A	0-5	10YR 4/4	Loamy fine sand	
B1	5-16	2.5Y 5/4	Loamy sand. 10% Gravelly	
Notes: Coarse gravel at 16 inches, compact layer				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing water present at least part of the growing season, suitable for use by

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

☐ Breeding amphibians ☐ Non-breeding amphibians (foraging, re-hydration)

☐ Turtles ☐ Foraging waterfowl

Sphagnum hummocks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important habitat characteristics

Medium to large (> 6”), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Vertical sandy banks (bank swallow, kingfisher)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Areas of ice-free open water in winter

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Mud flats

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Wildlife dens/nests (if observed)

Turtle nesting sites

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Bank swallow colony

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☐ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

V. Habitat Degradation

☒ Evidence of significant levels of dumping

☐ Evidence of significant erosion or sedimentation problems

☒ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☐ Disturbance from roads or highways ☐ Evidence of fire

☒ Evidence of other human disturbance

Attachment C3

Upland Disposal Facility and GE Parcel Habitat Inventory Form- Northern Hardwoods-Hemlock-White Pine Forest (Includes NHW and EWP cover types and Associated Mixed Forests).

General Electric Housatonic Rest of River
Upland Disposal Facility and GE Parcel Habitat Inventory Form- Northern Hardwoods-Hemlock-White Pine Forest

I. General Information

Upland Disposal Facility
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL
Field Staff Performing Evaluation

11/16/22
Date this form was completed

II. Site Description

A. Hydrology/Water Regime

- ☐ Permanently flooded
- ☐ Intermittently exposed
- ☐ Semi-permanently flooded
- ☐ Seasonally flooded
- ☒ Upland
- ☐ Saturated
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Artificially flooded

B. Community Cover Type(s)

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow

Upland

- ☒ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☐ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☐

Bordering Riverine/Aquatic Habitat

- ☐ High-gradient stream
- ☐ Medium-gradient stream
- ☐ Low-gradient stream
- ☐ Moderately alkaline lake/pond

☐ Backwater ☒ Former Gravel Pit

C. Inventory (Plant community)

% Cover:	76-95	26-50	6-15	0	16-25
	Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
Tree	Pinus strobus	Shrub	Berberis vulgaris
Tree	Betula papyrifera	Woody vines	Toxicodendron radicans
Tree	Acer saccharum	Herbaceous	Aralia nudicaulis
Tree	Quercus rubra	Herbaceous	Parathelypteris noveboracensis
Shrub	Lonicera morrowii	Herbaceous	Alliaria petiolata
Shrub	Hamamelis virginiana	Herbaceous	Dryopteris carthusiana

D. Inventory (Soils)

Groton, Hinkley and Copake	Well drained to excessively drained
Soil Survey Unit	Drainage Class
Fine Sandy Loam	16 inches
Texture (upper part)	Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
A	0-7	10YR 3/2	Fine sandy loam. 5% Gravel	
B1	7-16	10YR 5/4	Fine sandy loam. 10% Gravelly	
Notes: refusal at approx. 16 inches, compact gravely layer.				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing water present at least part of the growing season, suitable for use by

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

☐ Breeding amphibians ☐ Non-breeding amphibians (foraging, re-hydration)

☐ Turtles ☐ Foraging waterfowl

Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important habitat characteristics

Medium to large (> 6"), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Vertical sandy banks (bank swallow, kingfisher)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Areas of ice-free open water in winter

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Mud flats

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Wildlife dens/nests (if observed)

Turtle nesting sites

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Bank swallow colony

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☐ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

V. Habitat Degradation

☐ Evidence of significant levels of dumping

☐ Evidence of significant erosion or sedimentation problems

☒ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☐ Disturbance from roads or highways ☐ Evidence of fire

☒ Evidence of other human disturbance

Attachment C4

Upland Disposal Facility and GE Parcel Habitat Inventory Form--Northern Hardwood Red Oak Sugar Maple Forest (Includes NHW cover type)

General Electric Housatonic Rest of River
Upland Disposal Facility and GE Parcel Habitat Inventory Form--Northern Hardwood Red Oak Sugar Maple Forest

I. General Information

Upland Disposal Facility
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL
Field Staff Performing Evaluation

11/16/22
Date this form was completed

II. Site Description

A. Hydrology/Water Regime

- ☐ Permanently flooded
- ☐ Intermittently exposed
- ☐ Semi-permanently flooded
- ☐ Seasonally flooded
- ☒ Upland
- ☐ Saturated
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Artificially flooded

B. Community Cover Type(s)

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow

Upland

- ☐ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☒ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☐ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☐

Bordering Riverine/Aquatic Habitat

- ☐ High-gradient stream
- ☐ Medium-gradient stream
- ☐ Low-gradient stream
- ☐ Moderately alkaline lake/pond

☐ Backwater ☒ Former Gravel Pit

C. Inventory (Plant community)

% Cover:	76-95	16-25	1-5	0	6-15
	Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
Tree	Acer saccharum	Woody vines	Celastrus orbiculata
Tree	Tsuga canadensis	Herbaceous	Alliaria petiolata
Tree	Tilia americana	Herbaceous	Aralia nudicaulis
Tree	Quercus rubra	Herbaceous	Dennstaedtia punctilobula
Shrub	Lonicera morrowii	Herbaceous	Eurybia divaricata
Shrub	Fraxinus americana	Herbaceous	Mitchella repens

D. Inventory (Soils)

Copake	Well Drained
Soil Survey Unit	Drainage Class
Fine Sandy Loam	16 inches
Texture (upper part)	Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
A	0-4	10YR 2/2	Fine sandy loam	
	4-7	10YR 3/3	Fine sandy loam	
B1	7-16	10YR 4/6	Gravely find sandy loam	
Notes: refusal at 16 inches, compact gravely layer				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing water present at least part of the growing season, suitable for use by

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

☐ Breeding amphibians ☐ Non-breeding amphibians (foraging, re-hydration)

☐ Turtles ☐ Foraging waterfowl

Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important habitat characteristics

Medium to large (> 6”), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Vertical sandy banks (bank swallow, kingfisher)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Areas of ice-free open water in winter

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Mud flats

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Wildlife dens/nests (if observed)

Turtle nesting sites

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Bank swallow colony

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☐ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

V. Habitat Degradation

☐ Evidence of significant levels of dumping

☐ Evidence of significant erosion or sedimentation problems

☒ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☐ Disturbance from roads or highways ☐ Evidence of fire

☒ Evidence of other human disturbance

Attachment C5

Upland Disposal Facility and GE Parcel Habitat Inventory Form for Palustrine Wetland Cover Types (Includes all Palustrine cover types: PSH, PSS, PSM, and PPD)

General Electric Housatonic Rest of River
Upland Disposal Facility and GE Parcel Habitat Inventory Form for Palustrine Wetland Cover Types

I. General Information

Upland Disposal Facility
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL
Field Staff Performing Evaluation

11/16/22
Date this form was completed

II. Site Description

A. Hydrology/Water Regime

- ☐ Permanently flooded
- ☐ Intermittently exposed
- ☐ Semi-permanently flooded
- ☒ Seasonally flooded
- ☐ Upland
- ☒ Saturated
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Artificially flooded

B. Community Cover Type(s)

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☒ Red maple swamp
- ☒ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☒ Shallow emergent marsh
- ☒ Shrub swamp
- ☐ Wet meadow

Upland

- ☐ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☐ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☒ Gravel pit pond

Bordering Riverine/Aquatic Habitat

- ☐ High-gradient stream
- ☐ Medium-gradient stream
- ☐ Low-gradient stream
- ☐ Moderately alkaline lake/pond

☐ Backwater ☒ Former Gravel Pit/Forested Uplands

C. Inventory (Plant community)

% Cover:	51-75	51-75	1-5	6-15	26-50
	Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
Tree	Acer rubrum	Herbaceous	Lilium lancifolium
Tree	Populus deltoides	Herbaceous	Onoclea sensibilis
Shrub	Cornus amomum	Herbaceous	Eutrochium maculatum
Shrub	Alnus incana	Herbaceous	Carex stricta
Shrub	Salix nigra	Herbaceous	Osmunda cinnamomea
Woody vines	Vitis riparia	Herbaceous	Phragmites australis

D. Inventory (Soils)

Fredon	Poorly and somewhat poorly drained
Soil Survey Unit	Drainage Class
Silt Loam	20 inches
Texture (upper part)	Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
A	0-10	10YR 3/2	Silt loam	
B1	10-20	10YR 5/2	Silt loam	10YR 5/4, 7.5YR 5/8
Notes:				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Standing water present at least part of the growing season, suitable for use by

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

☒ Breeding amphibians ☒ Non-breeding amphibians (foraging, re-hydration)

☒ Turtles ☒ Foraging waterfowl

Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Important habitat characteristics

Medium to large (> 6”), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Vertical sandy banks (bank swallow, kingfisher)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Areas of ice-free open water in winter

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Mud flats

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Wildlife dens/nests (if observed)

Turtle nesting sites

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Bank swallow colony

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☒ Beaver

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☒ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☒ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☒ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☒ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☒ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☒ Absent

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☒ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☒ Absent

V. Habitat Degradation

☐ Evidence of significant levels of dumping

☒ Evidence of significant erosion or sedimentation problems

☒ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☐ Disturbance from roads or highways ☐ Evidence of fire

☒ Evidence of other human disturbance

AECOM

Attachment C6

Upland Disposal Facility and GE Parcel Habitat Inventory Form for Non-Vegetated Cover Type

General Electric Housatonic Rest of River
Habitat Inventory Form for Non-Vegetated Cover Types

I. General Information

Upland Disposal Facility Property – non-vegetated areas
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL
Field Staff Performing Evaluation

07/04/23
Date this form was completed

II. Site Description

A. Hydrology/Water Regime

- ☐ Permanently flooded
- ☐ Intermittently exposed
- ☐ Semi-permanently flooded
- ☐ Seasonally flooded
- ☒ Upland
- ☐ Saturated
- ☐ Temporarily flooded
- ☐ Intermittently flooded
- ☐ Artificially flooded

B. Community Cover Type(s)

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow

Upland

- ☐ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☐ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☒ Non-vegetated, open sand and gravel areas

Bordering Riverine/Aquatic Habitat

- ☐ High-gradient stream
- ☐ Medium-gradient stream
- ☐ Low-gradient stream
- ☐ Moderately alkaline lake/pond

☐ Backwater ☒ Gravel Pit Pond

C. Inventory (Plant community)

% Cover:	0	0	0	0	1-5%
	Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
Herbaceous	Panicum virgatum		
Herbaceous	Schizachyrium scoparium		
Herbaceous	Achillea millefolium		
Herbaceous	Solidago canadensis		
Herbaceous	Solidago rugosa		

D. Inventory (Soils)

Pits, Gravel (Udorthents)	Well Drained to Excessively Drained
Soil Survey Unit	Drainage Class
Sandy/Gravelly	16 inches
Texture (upper part)	Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
C	0-16	2.5Y 5/4	Loamy sand. 10% Gravelly	
C2	16+	2.5Y 5/4	Coarse Gravel 25%	
Notes: Coarse gravel at 16 inches, compact layer				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

General Electric Housatonic Rest of River
Habitat Inventory Form for Non-Vegetated Cover Types

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

General Electric Housatonic Rest of River
Habitat Inventory Form for Non-Vegetated Cover Types

Standing water present at least part of the growing season, suitable for use by

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

☐ Breeding amphibians ☐ Non-breeding amphibians (foraging, re-hydration)

☐ Turtles ☐ Foraging waterfowl

Sphagnum hummucks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Important habitat characteristics

Medium to large (> 6”), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Vertical sandy banks (bank swallow, kingfisher)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Areas of ice-free open water in winter

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Mud flats

☐ Abundant ☐ Present ☐ Absent ☒ Not Applicable

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Wildlife dens/nests (if observed)

Turtle nesting sites

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Bank swallow colony

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☐ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Fine-leafed emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

V. Habitat Degradation

☒ Evidence of significant levels of dumping

☒ Evidence of significant erosion or sedimentation problems

☐ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☒ Disturbance from roads or highways ☐ Evidence of fire

☒ Evidence of other human disturbance: Large piles of broken concrete and landscaping debris observed throughout these areas. Existing access roads to dumping areas and for access along overhead utility lines. Deep rills observed on steep non-vegetated, north facing slopes washing down-slope into each of the gravel-pit ponds.

AECOM

Attachment C7

Upland Disposal Facility and GE Parcel Habitat Inventory Form for Southeast Gravel Pit Pond

General Electric Housatonic Rest of River
Gravel-Pit Pond Habitat Inventory Form

I. General Information

Upland Disposal Facility Property – Southeastern-most gravel-pit ponded area
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL — Field Staff Performing Evaluation

07/04/23 — Date this form was completed

II. Site Description

A. Pond Characterization

Physical Dimensions (ft): Length 365 Width 180 Depth >4 Area 1.3 acres

Sediment / Substrate composition:

% Sand 90 % Silt <1 % Clay <1 % Gravel/cobble 10

% Boulder Bedrock 0 % Organic matter <1

Bank stability / Observed erosional conditions: Significant erosion occurring from overland runoff on the south and north sides.

B. Bordering Habitat Types

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow
- ☐ Other _____

Upland

- ☒ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☒ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☒ Other Non-vegetated, open sand and gravel areas

Notes:

C. Hydrology

Stream gradient adjacent to pond: ***N/A*** ☐ Low Gradient ☐ Mid-Gradient ☐ High-Gradient

Pond Hydrology

☐ Dam Controlled (describe dam): _____

_____

Describe any other inlets, outlets, and other surface water inputs to pond: _____

Pond is an isolated/excavated wash basin in former sand and gravel mining area

Water level fluctuation: Stable, groundwater controlled.

Field-Derived Evidence of Hydrologic Conditions

☐ Clear natural line impressed on bank	☐ Changes in character of soil
☐ Bed and banks	☒ Water staining
☐ Shelving	☐ Vegetation matted down, bent or absent
☐ Wrack lines (litter and debris)	☒ Changes in plant community
☐ Scour and/or Deposition	☐ Destruction of terrestrial vegetation
☐ Line of mud or silt on tree trunks/vegetation	☐ Debris stuck on overhanging tree limbs

☐ Other _____

D. Inventory of Aquatic Plant Community: Bank/shoreline vegetation

% Cover:	0%	0%	30%
	Overall Aquatic Vegetation	Floating -Leaved Cover	Emergent Cover

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata, or any amount of an invasive plant species; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
	Phragmites australis		
	Salix nigra		
	Populus deltoides		
	Equisetum hyemale		

Strata: AL=Algal, AM=Aquatic Moss, RV=Rooted Vascular, FV=Floating Vascular, PE=Persistent Emergent, NE=Non-persistent Emergent

III. Important Habitat Features

Wildlife Food

Important aquatic food plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Trees (live) > 30" DBH adjacent to pond

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Tree cavities in trunks or limbs in or adjacent to pond

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Small mammal burrows on banks of pond

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover on banks of pond (voles, small mammals, amphibians & reptiles)

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Large woody debris in contact with the water (fish & turtles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (fish, turtles, snakes, frogs)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1 m above the water's surface (fish, turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Live or dead tall standing vegetation overhanging water or offering good visibility of open water (e.g., bald eagle, osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Other Important Habitat Characteristics

Flat rocks and logs on banks or within exposed portions of the pond (cover and basking for herpetofauna)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Undercut or overhanging banks (fish, small mammals, mink, weasels, turtles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Mud flats

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Wildlife Dens/Nests (if observed)

Bank swallow colony(ies) (adjacent to pond)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Turtle nesting sites

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Other nests or dens (identify species): Red-winged blackbirds

Emergent Wetlands within Pond (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (American bittern, wood duck, green heron, black-crowned night heron, rails [sora, king, Virginia], moorhen, coot, etc.)

Flooded > 5 cm ☐ Present ☒ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☒ Absent

IV. Connectivity with Adjoining Natural Habitats

☐ No direct connections to adjacent areas of wildlife habitat (no connectivity function)

☒ Pond has a limited number of connectors to adjacent areas of habitat (somewhat important for connectivity function)

☐ Pond is embedded in a large area of natural habitat with unimpeded connection between pond and other habitats (high connectivity function)

V. Rare Species and MNHESP Core Area Habitat Designation

☐ Core Area 1 ☐ Core Area 2 ☐ Core Area 3 ☐ Core Area 4

☒ Federally listed threatened or endangered species habitat (including species with known overlapping habitat): Northern Long-eared Bat (Endangered), Monarch Butterfly (Candidate species for Listing)

☐ State-listed species habitat (including species with known overlapping Priority Habitat): None

Rare species direct observations during current field surveys (list): None

VI. Incidental Direct Wildlife Observations

Red-winged blackbird (adults and nests) Bullfrog	
Green frog Common snapping turtle (eggs)	
Muskrat Beaver	
Kingfisher Damselfly larvae	
Water strider Whirlygigs	

VII. Habitat Degradation (identify specific location within pond if applicable)

☐ Evidence of significant levels of dumping

☒ Evidence of significant erosion or sedimentation problems

☒ Presence of invasive plants (e.g., purple loosestrife, *Phragmites*, Eurasian water-milfoil); identify and estimate approximate percent coverage of invasive plants;

Common reed (*Phragmites australis)* dominant (100% cover) in fringe around bank of pond.

☒ Evidence of other human disturbance; describe: Man-made / excavated pond in former sand and gravel mining operation

AECOM

Attachment C8

Upland Disposal Facility and GE Parcel Habitat Inventory Form for Western Gravel Pit Ponds

General Electric Housatonic Rest of River
Gravel Pit Pond Habitat Inventory Form

I. General Information

Upland Disposal Facility Property – two western gravel pit ponded areas (portions on GE Parcel evaluated jointly)
Site Name

Lee, Massachusetts
Location/Physical Description

April 11, April 27, May 19 and July 6, 2022
Date(s) of Site Visit(s) and Data Collection

Variable
Weather Conditions During Site Visit

SE, JS, DL — Field Staff Performing Evaluation

07/04/23 — Date this form was completed

II. Site Description

A. Pond Characterization – covering jointly the portions of the southwestern and northwestern gravel pit ponds located on the GE Parcel

Physical Dimensions (ft): Length 440 / 360 Width 215 / 215 Depth >4 / >4 Area 1.3 / 1.5 acres

Sediment / Substrate composition:

% Sand 90 % Silt <1 % Clay <1 % Gravel/cobble 10

% Boulder Bedrock 0 % Organic matter <1

Bank stability / Observed erosional conditions: Active wash ponds in sand and gravel pit.

Steep side slopes eroding into gravel pit ponds

B. Bordering Habitat Types

Wetland

- ☐ Transitional floodplain forest
- ☐ High terrace floodplain forest
- ☐ Red maple swamp
- ☐ Vernal pool
- ☐ Black ash-red maple-tamarack calcareous seepage swamp
- ☐ Deep emergent marsh
- ☐ Shallow emergent marsh
- ☐ Shrub swamp
- ☐ Wet meadow
- ☐ Other _____

Upland

- ☒ Northern Hardwoods-Hemlock-White Pine Forest
- ☐ Rich mesic forest
- ☐ Red Oak-Sugar Maple Transition Forest
- ☐ Agricultural fields
- ☒ Cultural grassland
- ☐ Successional northern hardwoods
- ☐ Spruce-fir-northern hardwood forest
- ☐ Developed/disturbed cover types
- ☒ Other Non-vegetated, open sand and gravel areas

Notes:

C. Hydrology

Stream gradient adjacent to ponds: N/A ☐ Low Gradient ☐ Mid-Gradient ☐ High-Gradient

Pond Hydrology

☐ Dam Controlled (describe dam): N/A

Describe any other inlets, outlets, and other surface water inputs to ponds:

Ponds consist of isolated/excavated wash basins in former sand and gravel mining area. Currently active.

Water level fluctuation: Stable, groundwater controlled.

Field-Derived Evidence of Hydrologic Conditions

- ☐ Clear natural line impressed on bank
- ☐ Bed and banks
- ☐ Shelving
- ☐ Wrack lines (litter and debris)
- ☐ Scour and/or Deposition
- ☐ Line of mud or silt on tree trunks/vegetation
- ☐ Changes in character of soil
- ☒ Water staining
- ☐ Vegetation matted down, bent or absent
- ☒ Changes in plant community
- ☐ Destruction of terrestrial vegetation
- ☐ Debris stuck on overhanging tree limbs
- ☐ Other

D. Inventory (Plant community: tree and vine data obtained in a 30' radius plot; shrubs in a 15' radius plot; and herbaceous plant data in a 5' radius plot.)

% Cover:

0	10	0	0	30
Trees (> 20')	Shrubs (< 20')	Woody vines	Mosses	Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata or any amount of an invasive plant species; "*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
H	*Phragmites australis*		
H	*Equisetum hyemale*		
S	*Populus deltoides*		
S	*Salix nigra*		

Strata: T=Tree, S=Shrub, L=Liana (vine), H=Herb (Includes grasses, herbs, pterophytes [ferns], lichens, woody seedlings, and mosses)

III. Important Habitat Features

Wildlife Food

Important aquatic food plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Trees (live) > 30" DBH adjacent to ponds

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Tree cavities in trunks or limbs in or adjacent to ponds

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Small mammal burrows on banks of ponds

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover on banks of ponds (voles, small mammals, amphibians & reptiles)

☒ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Large woody debris in contact with the water (fish & turtles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (fish, turtles, snakes, frogs)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1 m above the water's surface (fish, turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Live or dead tall standing vegetation overhanging water or offering good visibility of open water (e.g., bald eagle, osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Other Important Habitat Characteristics

Flat rocks and logs on banks or within exposed portions of the ponds (cover and basking for herpetofauna)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Undercut or overhanging banks (fish, small mammals, mink, weasels, turtles)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Mud flats

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Wildlife Dens/Nests (if observed)

Bank swallow colony(ies) (adjacent to ponds)

☐ Abundant ☐ Present ☒ Absent ☐ Not Applicable

Turtle nesting sites

☐ Abundant ☒ Present ☐ Absent ☐ Not Applicable

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

Other nests or dens (identify species): _____

Emergent Wetlands within Ponds (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (American bittern, wood duck, green heron, black-crowned night heron, rails [sora, king, Virginia], moorhen, coot, etc.)

Flooded > 5 cm ☐ Present ☒ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☒ Absent

IV. Connectivity with Adjoining Natural Habitats

☒ No direct connections to adjacent areas of wildlife habitat (no connectivity function)

☐ Ponds have a limited number of connectors to adjacent areas of habitat (somewhat important for connectivity function)

☐ Ponds are embedded in a large area of natural habitat with unimpeded connection between ponds and other habitats (high connectivity function)

V. Rare Species and MNHESP Core Area Habitat Designation

☐ Core Area 1 ☐ Core Area 2 ☐ Core Area 3 ☐ Core Area 4

☒ Federally listed threatened or endangered species habitat (including species with known overlapping habitat): Northern Long-eared Bat (Endangered), Monarch Butterfly (Candidate species for Listing)

☐ State-listed species habitat (including species with known overlapping Priority Habitat): None

Rare species direct observations during current field surveys (list): None

VI. Incidental Direct Wildlife Observations

Red-winged blackbird (adults and nests) Bullfrog	
Greenfrog Common snapping turtle (eggs)	
Kingfisher Whirlygigs	

VII. Habitat Degradation (identify specific location within Pond if applicable)

☐ Evidence of significant levels of dumping

☒ Evidence of significant erosion or sedimentation problems: Steep side-slope around the entire perimeter of each pond show evidence of erosion (deep rills and channels) into the wash ponds.

☒ Presence of invasive plants (e.g., purple loosestrife, *Phragmites*, Eurasian water-milfoil); identify and estimate approximate percent coverage of invasive plants;

Common reed (*Phragmites australis*) present in several locations around pond perimeters.

☒ Evidence of other human disturbance; describe:
Man-made / excavated ponds in active sand and gravel mining operation on adjacent parcels. Both southwestern and northwestern ponds are highly turbid and appear to be currently used as wash ponds.

Attachment D

US Army Corps of Engineers Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UDF Vernal Pool City/County: Pittsfield Sampling Date: 07062022

Applicant/Owner: State: MA Sampling Point: Wetland

Investigator(s): AECOM Section, Township, Range: Lee, MA

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.345431 Long: -73.237058 Datum: WGS84

Soil Map Unit Name: Hero NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ^ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Upland side of delineated wetland on the west side, just north of contractor storage yard.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	X Water-Stained Leaves (B9)	___ Aquatic Fauna (B13)
X High Water Table (A2)	___ Marl Deposits (B15)	___ Hydrogen Sulfide Odor (C1)
X Saturation (A3)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Presence of Reduced Iron (C4)
X Water Marks (B1)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Thin Muck Surface (C7)
___ Sediment Deposits (B2)	___ Other (Explain in Remarks)	
___ Drift Deposits (B3)		
___ Algal Mat or Crust (B4)		
___ Iron Deposits (B5)		
X Inundation Visible on Aerial Imagery (B7)		
X Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____	
Water Table Present?	Yes X	No ____	Depth (inches): 2"	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface	**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Precipitation in Pittsfield from May through August 2022 was consistently below normal, with only 9.88 inches of precipitation falling during these four months, 6.49 inches below the normal precipitation of 16.37 inches (Pittsfield MA: Local Climatological Data (weather.gov)).
Western Massachusetts was in a declared drought from June through August 2022; June and July were in a "Level 1-Mild Drought,"

VEGETATION – Use scientific names of plants. Sampling Point: Wetland

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	20	Yes	FACU
2. *Fraxinus americana*	10	Yes	FACU
3. *Populus deltoides*	10	Yes	FAC
4.			
5.			
6.			
7.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Cephalanthus occidentalis*	10	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Onoclea sensibilis*	90	Yes	FACW
2. *Osmunda regalis*	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	90	x 2 =	180
FAC species	10	x 3 =	30
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	150 (A)		350 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2							Silt
10-20	10YR 4/3	80	10YR 4/4	10				Silt
			10YR 4/1	10				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- X Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UDF Upland near Vernal Pool City/County: Pittsfield Sampling Date: 07062022

Applicant/Owner: State: MA Sampling Point: Up

Investigator(s): AECOM Section, Township, Range: Lee, MA

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope (%): 25

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.345784 Long: -73.237311 Datum: WGS84

Soil Map Unit Name: Groton and Hinckley NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ; No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Upland side of delineated wetland on the west side, just north of contractor storage yard.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Precipitation in Pittsfield from May through August 2022 was consistently below normal, with only 9.88 inches of precipitation falling during these four months, 6.49 inches below the normal precipitation of 16.37 inches (Pittsfield MA: Local Climatological Data (weather.gov)).
Western Massachusetts was in a declared drought from June through August 2022; June and July were in a "Level 1-Mild Drought,"

VEGETATION – Use scientific names of plants. Sampling Point: Up

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	30	Yes	FACW
2. *Fraxinus americana*	40	Yes	FACU
3. *Prunus serotina*	30	Yes	FACU
4.			
5.			
6.			
7.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Lonicera morrowii*	80	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Arisaema triphyllum*	5	No	FAC
2. *Geranium maculatum*	10	Yes	FACU
3. *Dryopteris marginalis*	25	Yes	FACU
4. *Anemone virginiana*	5	No	FACU
5. *Cornus florida*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size:)			
1. *Celastrus orbiculatus*	20	Yes	UPL
2. *Vitis riparia*	20	Yes	FAC
3.			
4.			
	40	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	25	x 3 =	75
FACU species	195	x 4 =	780
UPL species	20	x 5 =	100
Column Totals:	270	(A)	1015 (B)

Prevalence Index = B/A = 3.76

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4						Sandy	Fine sandy loam
8-18	10YR 3/4						Sandy	Fine sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UDF West Side in Wetland City/County: Pittsfield Sampling Date: 05192022

Applicant/Owner: State: MA Sampling Point:

Investigator(s): AECOM Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.345431 Long: -73.237058 Datum: WGS84

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland side of delineated wetland on the west side, just north of contractor storage yard.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Precipitation in Pittsfield from May through August 2022 was consistently below normal, with only 9.88 inches of precipitation falling during these four months, 6.49 inches below the normal precipitation of 16.37 inches (Pittsfield MA: Local Climatological Data (weather.gov)).
Western Massachusetts was in a declared drought from June through August 2022; June and July were in a "Level 1-Mild Drought,"

VEGETATION – Use scientific names of plants. Sampling Point: _____

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Pyrus malus*	10	No	UPL
3. *Prunus serotina*	50	Yes	FACU
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Lonicera morrowii*	80	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Onoclea sensibilis*	10	Yes	FACW
2. *Geranium maculatum*	7	No	FACU
3. *Solidago gigantea*	5	No	FACW
4. *Impatiens capensis*	10	Yes	FACW
5. *Parathelypteris noveboracensis*	25	Yes	FAC
6. *Polystichum acrostichoides*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	62	=Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	45	x 3 =	135
FACU species	142	x 4 =	568
UPL species	10	x 5 =	50
Column Totals:	222 (A)		803 (B)

Prevalence Index = B/A = 3.62

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2						Sandy	Fine sandy loam
6-18	10YR 4/3						Sandy	FSL with organic streaking

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UDF West Side in Upland City/County: Pittsfield Sampling Date: 05192022

Applicant/Owner: State: MA Sampling Point:

Investigator(s): AECOM Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.344115 Long: -73.236763 Datum: WGS84

Soil Map Unit Name: Copake NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes	No X	**within a Wetland?**	**Yes**	**No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
Upland side of delineated wetland on the west side, just north of contractor storage yard.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No	Depth (inches):	
Water Table Present?	Yes	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	No	Depth (inches):	

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Precipitation in Pittsfield from May through August 2022 was consistently below normal, with only 9.88 inches of precipitation falling during these four months, 6.49 inches below the normal precipitation of 16.37 inches (Pittsfield MA: Local Climatological Data (weather.gov)).
Western Massachusetts was in a declared drought from June through August 2022; June and July were in a "Level 1-Mild Drought,"

VEGETATION – Use scientific names of plants. Sampling Point: _____

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	No	FAC
2. *Pinus strobus*	10	No	FACU
3. *Prunus serotina*	50	Yes	FACU
4. *Betula populifolia*	20	Yes	FAC
5.			
6.			
7.			
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Lonicera morrowii*	80	Yes	FACU
2. *Pyrus sp.*	10	No	
3.			
4.			
5.			
6.			
7.			
	90	=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Onoclea sensibilis*	10	No	FACW
2. *Geranium maculatum*	5	No	FACU
3. *Solidago odora*	30	Yes	UPL
4. *Impatiens capensis*	5	No	FACW
5. *Celastrus orbiculatus*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	30	x 3 =	90
FACU species	145	x 4 =	580
UPL species	35	x 5 =	175
Column Totals:	225	(A)	875 (B)

Prevalence Index = B/A = 3.89

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4						Sandy	Fine sandy loam
8-18	10YR 3/4						Sandy	Fine sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Attachment E

MNHESP Vernal Pool Observation Form

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife

III. Vernal Pool Field Observation Form

For use with the *Guidelines for the Certification of Vernal Pool Habitat, March 2009.*

For Office Use Only

THE NHESP STRONGLY RECOMMENDS THAT LANDOWNER PERMISSION BE OBTAINED PRIOR TO COLLECTING CERTIFICATION DOCUMENTATION. IT IS THE SOLE RESPONSIBILITY OF AN INDIVIDUAL PROVIDING VERNAL POOL CERTIFICATION INFORMATION TO ENSURE THAT ALL ACTIVITIES ASSOCIATED WITH GATHERING SAID INFORMATION COMPLY WITH THE LAW.

INSTRUCTIONS:
Please provide all information requested. Attach additional pages if needed. All required biological & physical evidence must be documented by photos, video, or audio of suitable quality (resolution, focus, indicators of scale) so species ID can be confirmed & pool features assessed. Documentation must be labeled. Sign/date the form; incomplete forms will be returned.

Additional Instructions for *Specific* Numbered Boxes:
1. Include an identifying name or tracking # for your pool & use it to label photos, maps, & any other documentation. If you used the Potential Vernal Pool (PVP) datalayer (available at MassGIS), include the PVP #. Written directions must be included with landmarks to help navigate to the pool.
3. 3A & 3B are for certification by the Obligate Species Method. Provide photos, video, or audio (chorusing) of the required breeding evidence or fairy shrimp **AND** photo(s) or video of the pool holding water.

1. Pool Location (Please complete a separate form for each pool).

Town Lee Potential Vernal Pool # (if known) _____

Pool Name or Tracking # (e.g., Elm St. VP, VP#1) VP-1

Written Directions to Pool (required): From the intersection of Valley Road and Woodland road in Lee, Massachusetts, drive approximately 2,220 linear feet south-southeast along Woodland to the pool, located on your left (to the west of Woodland Road). The pool is visible from Woodland Road

2. Pool/Species Observation Dates (month/day/year):

First date pool observed April 11, 2022 Last date pool observed July 6, 2022

First date species observed April 11, 2022 Last date species observed May 19, 2022

3B. Biological Evidence: *Fairy Shrimp*

Date Observed (m/d/y) _____

3A. Biological Evidence: *Obligate Amphibians*

Indicate breeding evidence and date observed for each species. Evidence must include ≥1 of the following for certification: congressing salamanders **OR** ≥5 pairs wood frogs in amplexus **OR** salamander spermatophores **OR** a full wood frog chorus (calls constant, continuous, & overlapping) **OR** a total of ≥5 egg masses, regardless of species **OR** ≥1 MESA-listed salamander egg mass(es). Each individual egg mass or mated pair required for certification (e.g., all 5 wood frog egg masses) must be photographed or videotaped. If more than the minimum required number is observed, photo the required number, and count or estimate the total number and indicate in the table below.

SPECIES *State-listed species	Dates	COURTING ADULTS	Dates	SPERMATOPHORES	Dates	# EGG MASSES	Dates	SALAMANDER LARVAE	Dates	TRANSFORMING JUVENILES
Spotted salamander										
Blue-spotted salamander *										
Jefferson salamander *										
Marbled salamander *										
Unidentified Mole salamander										
SPECIES	**Dates**	**# MATED PAIRS** (≥ 5 pairs)	**Dates**	**Full Chorus** (calls continuous & overlapping)	**Dates**	**# EGG MASSES**	**Dates**	**TADPOLES**	**Dates**	**TRANSFORMING JUVENILES**
Wood frog	4/11/22	0	4/11/22	1-3 wood frogs	4/11/22	3	4/27/22 5/19/22	50-100 5-10		
TOTAL(S)		0		2		3		55		

Instructions (continued)

4. Certification by the Facultative Amphibian Method - provide photo, video, or audio (chorusing) of the required breeding evidence and photo(s) or video of the pool holding water **AND** dry.

6. Provide information to help distinguish the pool & assess its features.

7. All required biological & physical evidence must be documented by good quality photos, video, or audio.

8. Indicate the 3 required maps submitted.

4. Biological Evidence: *Facultative Amphibians*

Breeding evidence[1] of ≥ 2 species must be documented by photos, video, or audio.

BREEDING AMPHIBIANS	DATE OBSERVED month/day/year	BREEDING EVIDENCE[1] OBSERVED
Spring peeper		
Gray treefrog		
American toad		
Fowler's toad		

Breeding evidence[1] includes: full breeding choruses (call constant & overlapping), ≥ 5 adults in amplexus, any # of egg masses, tadpoles, and/or transforming juveniles in pool.

5. Rare Wetland Species

Were MESA-listed species observed using this pool?

☐ Yes ☒ No

If yes, please submit a Rare Animal Observation Form with photo & map to the NHESP (available at www.nhesp.org).

6. Description of Pool and Surroundings ~ Please describe to the best of your ability and knowledge.

Dimensions (please include measurements or estimates):

Approx. Length: 185 feet Approx. Width: 60 feet Approx. Maximum Depth: 46 inches

Describe distinctive features (roads, structures, boulders, foot trails, vegetation types, etc.) which are visible from or near the pool that would help someone recognize it.

Flooded pool in early spring with dense stand of silky dogwood

Origin of the pool (check): ☒ Natural depression ☐ Human-made pool/ditch ☐ Created wetland/pool ☐ Other or Unknown (describe)_____

The pool's hydroperiod is most likely: ☒ Seasonal (drying out in most years) ☐ Semi-permanent (drying partially in most years) ☐ Permanent

Describe any inlet or outlets to/from the pool and their permanence (e.g., streams, culverts, etc).

No direct inlet or outlet observed, although pool is a deeper depression within a larger red maple swamp with an intermittent stream to the southeast of the pool.

Land use in vicinity of pool (approx. 100 ft from pool edge – check all that apply): ☒ upland forest ☐ forested wetlands ☐ emergent marsh/scrub-shrub wetland ☐ agricultural/grassland/meadow ☐ residential/commercial ☒ other Dirt road

7. Documentation Submitted – Label with pool name or tracking #, town, date taken, observer's name.

☒ Photo(s) ☐ Video ☐ Audio

☒ Obligate Species ☐ Facultative Species ☒ Pool Holding Water ☐ Dry Pool

8. Maps Submitted

Pool locus must be delineated & identified with your pool name or tracking #.

3 REQUIRED MAPS:

☒ USGS Topographic Map - 1:24,000 or 1:25,000 or better

☒ Color orthophoto - 1:12,000 or better

and ≥1 of the following:

☐ Assessor's map (Map and Plot #)

☐ Professional survey

☐ Sketch map - with directions and distances from permanent landmarks

☒ GPS longitude/latitude coordinates:

Latitude = 42.345340

Longitude = -73.237261

9. Property Owner Information - Landowner information is optional & is available from local tax assessor's offices.

Name General Electric Company

Address _____

Town _____ State _____ Zip _____ Assessors Map/Pcl# _____ (if known)

10. Observer Information & Signature – Must be filled out & signed.

Name Scott Egan

Address 250 Apollo Drive

Town Chelmsford State MA Zip 01824

Telephone 603-547-5651 E-mail Scott.egan@aecom.com

I hereby certify under the pains and penalties of perjury that the information contained in this report is true and complete to the best of my knowledge.

Signature _____ Date _____

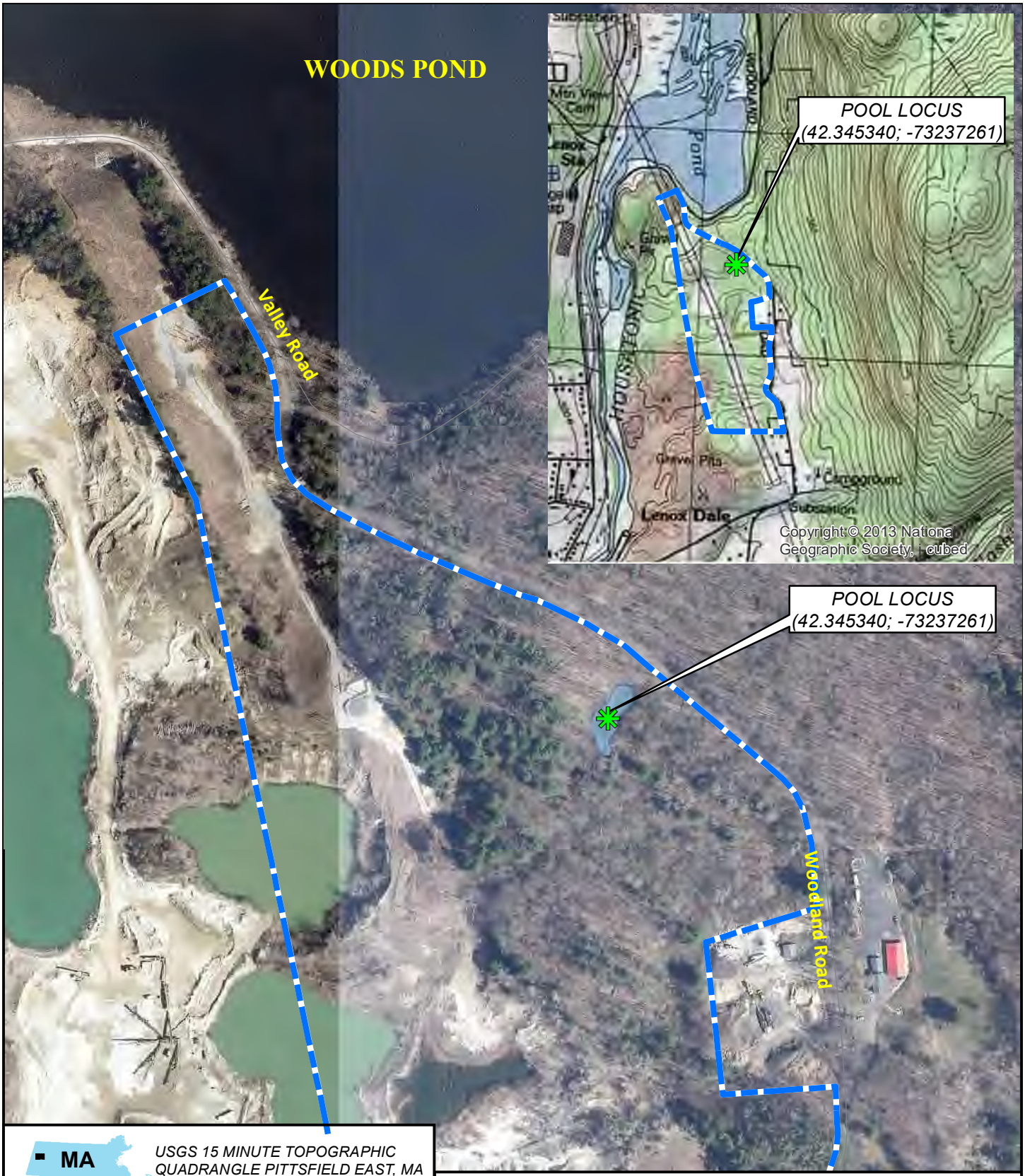
Signature of Adult, if Observer is under 18 years of age _____

All submissions and supporting documents will be retained by the NHESP and, with the exception of information for MESA-listed species and the identity of minors, are available to interested parties under the Public Records Law.

SEND COMPLETED, SIGNED FORM & SUPPORTING DOCUMENTATION TO:

NHESP - Vernal Pool Certification
MA Division of
Fisheries & Wildlife
1 Rabbit Hill Rd.
Westborough, MA 01581

For questions call 508-389-6360



MA

USGS 15 MINUTE TOPOGRAPHIC QUADRANGLE PITTSFIELD EAST, MA

Legend

UDF Property Boundaries

0 1,000 2,000 4,000

Feet

POTENTIAL VERNAL POOL

Upland Disposal Facility Site
Lee, Massachusetts

SCALE	DATE	PROJECT NO.
1:24,000	11/16/2022	04191406

AECOM

Figure Number

1

PHOTOGRAPHIC LOG

Client Name: **Great Pond Improvement District**	**Site Location:** Great Pond Phase 5 Development / 500 Groton Road Parcel	**Project No.** 60669903

Photo No. 1	**Date:** 4/11/22	**Photo No. 2**	**Date:** 4/11/22
Description: View west of vernal pool		**Description:** three wood frog egg masses observed in the pool	





Photo No. 3	**Date:** 4/11/22	**Photo No. 4**	**Date:** 4/27/22
Description: View east back towards Woodland Road		**Description:** 50-100 tadpoles observed in vicinity of 4/11/22 egg masses and shallow water along northern shoreline	





PHOTOGRAPHIC LOG

Client Name: **Great Pond Improvement District**	**Site Location:** Great Pond Phase 5 Development / 500 Groton Road Parcel	**Project No.** 60669903

Photo No. 1	**Date:** 5/19/22	**Photo No. 2**	**Date:** 5/19/22
Description: View west of vernal pool. Only about 4 inches of water remaining in western portion of pool		**Description:** View east back towards Woodland Road. This portion of the pool is dry but saturated to the surface.	





Photo No. 3	**Date:** 4/11/22	**Photo No. 4**	**Date:**
Description: 5-10 wood frog tadpoles observed in flooded portion of pool		**Description:**	



Attachment F

IPaC Results and NHESP Mapping/Consultation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: October 31, 2022
Project Code: 2022-0057337
Project Name: Upland Disposal Facility - Housatonic River

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat Update - Additionally, please note that on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The bat, currently listed as threatened, faces extinction due to the range-wide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across the continent. The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022). If your project may result in incidental take of NLEB after the new listing goes into effect this will first need to be addressed in an updated consultation that includes an Incidental Take Statement. If your project may require re-initiation of consultation, please contact our office for additional guidance.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/service/section-7-consultations

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the

ESA. The species' occurrence on an official species list does not convey a requirement to consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Project Code: 2022-0057337
Project Name: Upland Disposal Facility - Housatonic River
Project Type: Disposal Dredge Material
Project Description: The proposed action includes the review of a potential remediation site in Lee, MA, for the storage of contaminated fill from the Housatonic River in Pittsfield, Massachusetts.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.3431298,-73.23810568320727,14z



Counties: Berkshire County, Massachusetts

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency:	AECOM
Name:	Julia Stearns
Address:	10 Orms Street
Address Line 2:	Suite 400
City:	Providence
State:	RI
Zip:	02904
Email	julia.stearns@aecom.com
Phone:	5084045512

From: Maier, Sarah (FWE) <sarah.maier@state.ma.us>
Sent: Wednesday, October 12, 2022 10:12 AM
To: Lowry, Dennis
Cc: Schluter, Eve (FWE); Egan, Scott; Mooney, Kevin (GE Corporate)
Subject: RE: Housatonic ROR Rare species release agreement

This Message Is From an External Sender

This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Hi Dennis,

I checked the area you indicated on the map and there are no species mapped in that location so you're all set. We should have the intersect for the current areas soon and will send them along by the end of the week.

Sarah Maier (she/her)
Information Manager
Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6383 | f: (508) 389-7890
mass.gov/masswildlife | facebook.com/masswildlife

From: Lowry, Dennis <Dennis.Lowry@aecom.com>
Sent: Tuesday, October 11, 2022 5:24 PM
To: Maier, Sarah (FWE) <sarah.maier@mass.gov>
Cc: Schluter, Eve (FWE) <eve.schluter@mass.gov>; Egan, Scott <Scott.Egan@aecom.com>; Mooney, Kevin (GE Corporate) <Kevin.Mooney@ge.com>
Subject: RE: Housatonic ROR Rare species release agreement

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Sarah and Eve: In addition to the specific limits of the ROR from Reaches 5 through 8 (which the DRA formally applies to, and are largely determined by the floodplain limits), another site we are doing research on and conducting site investigations at is the "Upland Disposal Facility" (UDF). This site is just south of Woods Pond (Reach 6; see attached locus), but is out of the floodplain limits and therefore not technically part of the ROR. The attached USGS locus shows the current Priority Habitat limits in the area, showing that the UDF does not have mapped PH within it. However, given what we just learned about Species Habitat mapping vs PH mapping, and our requirement from EPA to consult with MNHESP on state-listed species, we wanted to see if we could also get verification from you that there are no known state-listed species occurrences or mapping that overlaps the UDF site.

If we need to do a separate DRA for the UDF, or file a Request for State-Listed Species Information via the normal form, we can pursue either option. Our agreement with EPA is to review the publicly available data base for state-listed species, and then "to consult" with MNHESP…without being more specific about the process. While we believe that it would be acceptable to have an email response from you confirming that no state-listed species are known to occur on the UDF site (if that is the case, of course), we are open to other direction on this.

Thanks again for your assistance and cooperation, and please let us know of any further questions.

Dennis

Dennis Lowry
Wetland Ecologist
AECOM Environment
508-361-1850
dennis.lowry@aecom.com

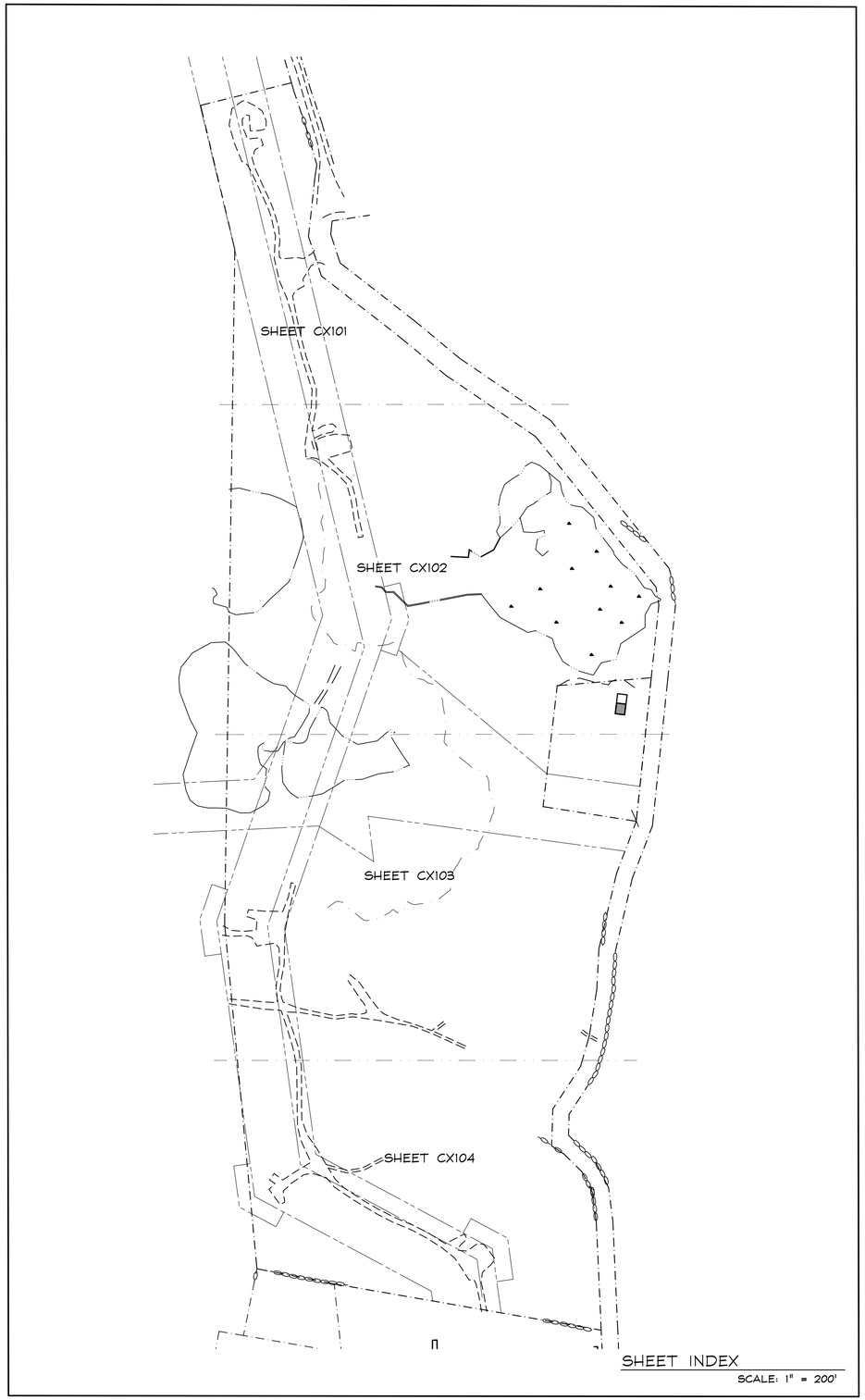
From: Mooney, Kevin (GE Corporate) <Kevin.Mooney@ge.com>
Sent: Friday, October 7, 2022 1:30 PM
To: Maier, Sarah (FWE) <sarah.maier@state.ma.us>
Cc: Schluter, Eve (FWE) <eve.schluter@state.ma.us>; Lowry, Dennis <Dennis.Lowry@aecom.com>; Egan, Scott

Appendix D

2022 Topographic Survey

LEGEND

◉	REBAR FOUND
○	IRON PIN FOUND
□	CONCRETE BOUND FOUND
▪	GRANITE BOUND FOUND
	BENCH MARK
	UTILITY POLE
	GUY WIRE
TP	BORING HOLE
Ⓦ	MONITORING WELL
Ⓟ	PIEZOMETER
	WET AREA
1101.7 ×	EXISTING SPOT GRADE
P	APPROXIMATE PROPERTY LINE
1014	EXISTING CONTOUR
1015	
	EDGE OF GRAVEL
	EDGE OF BITUMINOUS
	EDGE OF WATER
x x	WIRE FENCE
	CHAIN LINK FENCE
	STONEWALL
D	STORMWATER CULVERT
OH	OVERHEAD WIRES
	EDGE OF TREE/BRUSH LINE
	MATCHLINE
	EASEMENT LINES TO EVERSOURCE (FKA WMECO) (AS OF 2019)
	PHRAGMITES
CMP	CORRUGATED METAL PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE



SHEET INDEX

SCALE: 1" = 200'



GENERAL PLAN NOTES:

1. THE TOPOGRAPHIC SURVEY WAS CONDUCTED IN MAY/JUNE, 2022 BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC.
2. ELEVATIONS SHOWN HEREON ARE BASED UPON THE NAVD 88 DATUM WHICH WAS ESTABLISHED UTILIZING GPS OBSERVATIONS BY HILL-ENGINEERS.
3. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND ALL UTILITIES MAY NOT BE SHOWN HEREON. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG-SAFE" AND HAVE ALL UNDERGROUND UTILITIES MARKED ON THE GROUND.
4. ELEVATIONS COULD NOT SAFELY BE OBTAINED WITHIN THE PHRAGMITES LOCATED ALONG THE EDGE OF THE NORTHERLY AND EASTERLY PONDS.

Hill engineers architects planners

50 Depot Street
Dalton, MA 01226
(413) 684-0925

44 Spring Street
Adams, MA 01220
(413) 743-0013

www.hillengineers.com

REV.	DESCRIPTION	DR'N	CK'D.	DATE
A	ISSUED FOR REVIEW AND COMMENT	MAC		7-15-2022
B	ADDED EASEMENT LINES	MAC		8-26-22

A COPY OF THE DATA IN THIS DRAWING FILE IS MAINTAINED AT THE OFFICES OF HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. THE INTERPRETATION, APPLICATION AND REVISION OF THIS DATA IS THE SOLE RESPONSIBILITY OF THE USER.

GENERAL ELECTRIC COMPANY
5 NECCO STREET
BOSTON, MA 02210

DRAWING TITLE: TOPOGRAPHIC SURVEY

PROJECT DESCRIPTION: HOUSATONIC RIVER UPLAND DISPOSAL FACILITY

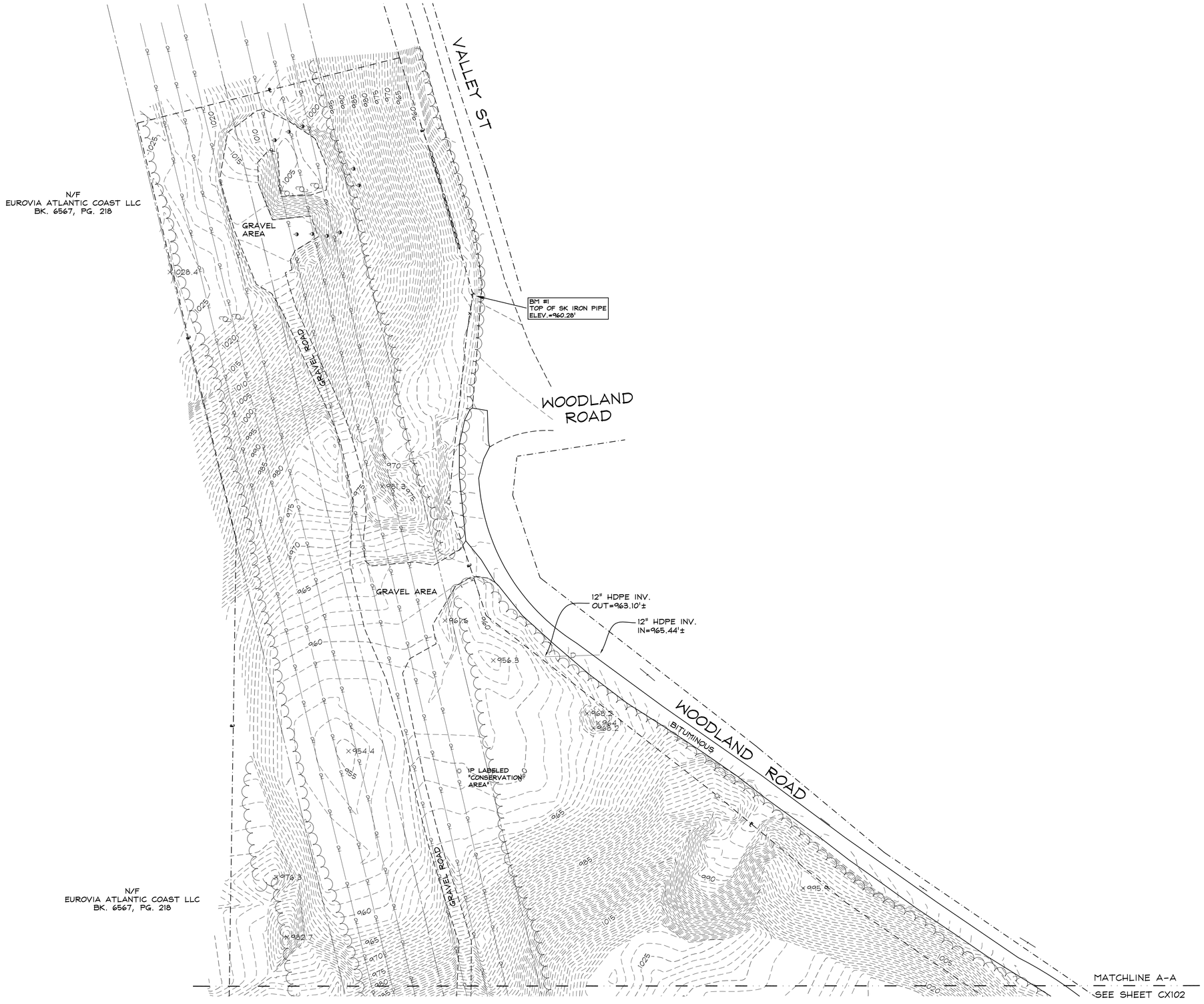
DRAWN BY	MAC
DATE DRAWN	7-15-2022
SCALE	1" = 50'
APV'D BY	

CAD CODE: SRV-2262-05 CX101M.DWG

GRAPHIC SCALE: 0 200 400

PROJECT NUMBER: SRV-2262-05

DRAWING NUMBER	REV.
G-101	B



Hill
engineers
architects
planners

50 Depot Street
Dalton, MA 01226
(413) 684-0925

44 Spring Street
Adams, MA 01220
(413) 743-0013

www.hillengineers.com

REV.	DESCRIPTION	DR'N	CK'D.	DATE
A	ISSUED FOR REVIEW AND COMMENT	MAC		7-15-2022
B	ADDED EASEMENT LINES	MAC		8-26-22

A COPY OF THE DATA IN THIS DRAWING FILE IS MAINTAINED AT THE OFFICES OF HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. THE INTERPRETATION, APPLICATION AND REVISION OF THIS DATA IS THE SOLE RESPONSIBILITY OF THE USER.

GENERAL ELECTRIC COMPANY
5 NECCO STREET
BOSTON, MA 02210

PROJECT DESCRIPTION
HOUSATONIC RIVER
UPLAND DISPOSAL FACILITY

DRAWING TITLE
TOPOGRAPHIC SURVEY

DRAWN BY	MAC
DATE DRAWN	7-15-2022
SCALE	1" = 50'
APV'D BY	

CAD CODE:
SRV-2262-05 CX101M.DWG

GRAPHIC SCALE: 0 50 100

PROJECT NUMBER:
SRV-2262-05

DRAWING NUMBER	REV.
CX101	B

MATCHLINE A-A
SEE SHEET CX101

12" CMP INV.
OUT=995.68'±

12" CMP INV.
IN=966.62'±

12" CMP INV.=1004.72'±

16" CMP INV.
OUT=1010.46'±

12" CMP INV.
IN=1012.70'±

BM #2
TOP OF SK IRON PIPE
ELEV.=1013.03'

12" CMP INV.
OUT=1013.46'±

12" CMP INV.
IN=1013.83'±

WOODLAND ROAD
BITUMINOUS

GRAVEL ROAD

GRAVEL AREA

POND

WET AREA
(NO FIELD
TOPO)

BUILDING

PHRAGMITES
(SEE NOTE 4)

MW 2022-2

MW 2022-3

LG ROCK

GRAVEL AREA

GRAVEL AREA

MATCHLINE B-B
SEE SHEET CX103

N

SHEET 3 OF 5

Hill
engineers
architects
planners

50 Depot Street
Dalton, MA 01226
(413) 684-0925

44 Spring Street
Adams, MA 01220
(413) 743-0013

www.hillengineers.com

REV.	DESCRIPTION	DR'N	CK'D.	DATE
A	ISSUED FOR REVIEW AND COMMENT	MAC		7-15-2022
B	ADDED EASEMENT LINES	MAC		8-26-22

A COPY OF THE DATA IN THIS DRAWING FILE IS MAINTAINED AT THE OFFICES OF HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. THE INTERPRETATION, APPLICATION AND REVISION OF THIS DATA IS THE SOLE RESPONSIBILITY OF THE USER.

GENERAL ELECTRIC COMPANY
5 NECCO STREET
BOSTON, MA 02210

DRAWING TITLE: TOPOGRAPHIC SURVEY

PROJECT DESCRIPTION: HOUSATONIC RIVER
UPLAND DISPOSAL FACILITY

DRAWN BY	MAC
DATE DRAWN	7-15-2022
SCALE	1" = 50'
APV'D BY	

CAD CODE:
SRV-2262-05 CX101M.DWG

GRAPHIC SCALE: 0 50 100

PROJECT NUMBER:
SRV-2262-05

DRAWING NUMBER	REV.
CX102	B

MATCHLINE B-B
SEE SHEET CX102

N/F
THOMAS M. GARRITY
STEVEN A. GARRITY
BK. 6809, PG. 213
"LB CORP"

N/F
EUROVIA ATLANTIC
COAST LLC
BK. 6567, PG. 218

MATCHLINE C-C
SEE SHEET CX104

L.G. ROCK
POND
BEAVER LODGE
PHRAGMITES
(SEE NOTE 4)
PZ POND
BIT.
IP LABELED
"CONSERVATION
AREA"
CONCRETE
DEBRIS
PILE
GRAVEL PILE
GRAVEL ROAD
GRAVEL DRIVE
WOODLAND ROAD
BITUMINOUS

PZ 2022-1
PZ 2022-2
PZ 2022-3
PZ 2022-5
B 2022-1
B 2022-2
B 2022-3
B 2022-5
B 2022-6
MW 2022-4
MW 2022-4S
MW 2022-5
MW 2022-6
MW 2022-8
MW 2022-8
NEW
MW 2022-1S
MW 2022-1

Hill
engineers
architects
planners

50 Depot Street
Dalton, MA 01226
(413) 684-0925

44 Spring Street
Adams, MA 01220
(413) 743-0013

www.hillengineers.com

REV.	DESCRIPTION	DR'N	CK'D.	DATE
A	ISSUED FOR REVIEW AND COMMENT	MAC		7-15-2022
B	ADDED EASEMENT LINES	MAC		8-26-22

A COPY OF THE DATA IN THIS DRAWING FILE IS MAINTAINED AT THE OFFICES OF HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. THE INTERPRETATION, APPLICATION AND REVISION OF THIS DATA IS THE SOLE RESPONSIBILITY OF THE USER.

GENERAL ELECTRIC COMPANY
5 NECCO STREET
BOSTON, MA 02210

PROJECT DESCRIPTION:
HOUSATONIC RIVER
UPLAND DISPOSAL FACILITY

DRAWING TITLE:
TOPOGRAPHIC SURVEY

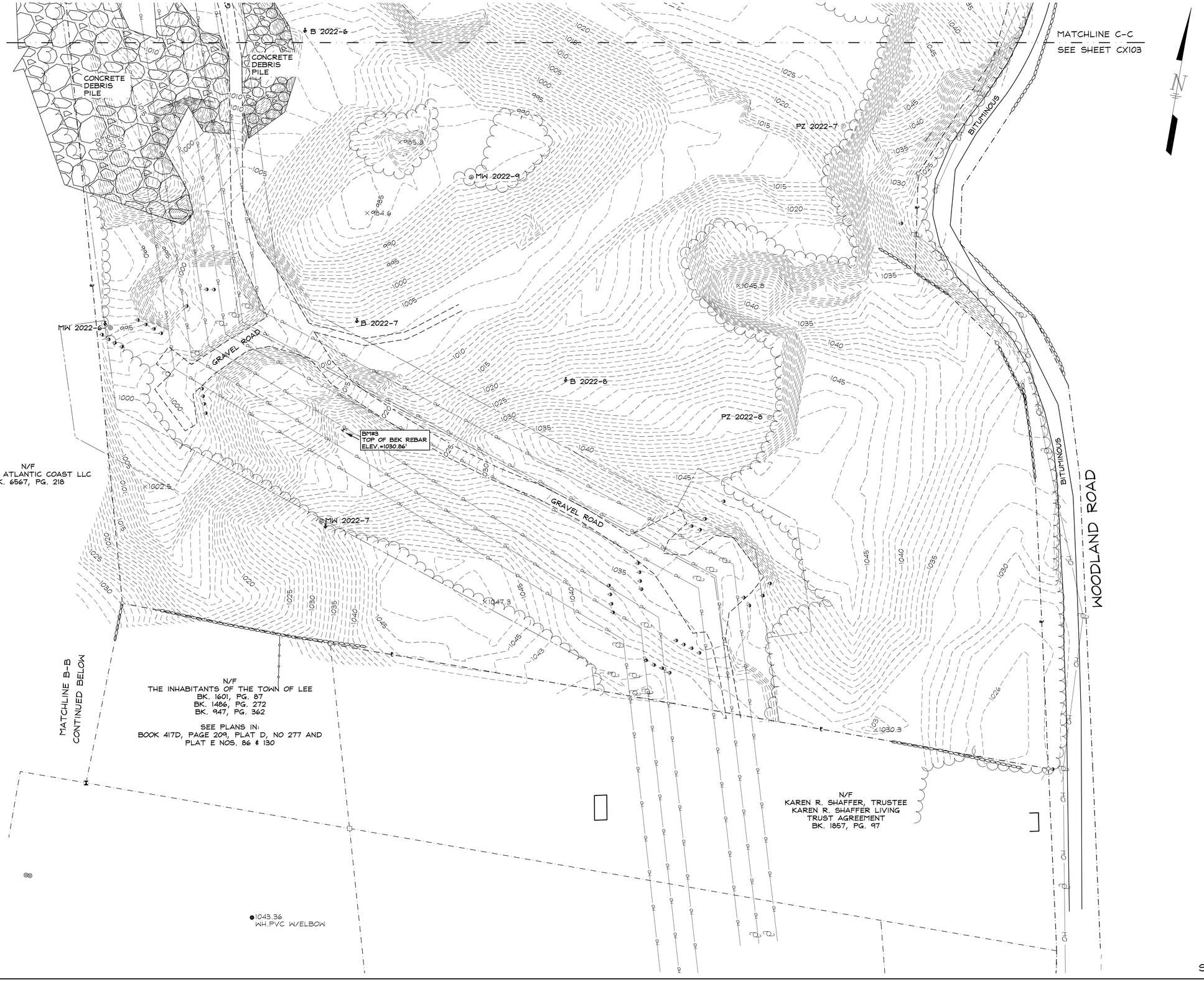
DRAWN BY	MAC
DATE DRAWN	7-15-2022
SCALE	1" = 50'
APV'D BY	

CAD CODE:
SRV-2262-05 CX101M.DWG

GRAPHIC SCALE:
0 50 100

PROJECT NUMBER:
SRV-2262-05

DRAWING NUMBER	REV.
CX103	B



SHEET 5 OF 5

Hill engineers architects planners
50 Depot Street
Dalton, MA 01226
(413) 684-0925
44 Spring Street
Adams, MA 01220
(413) 743-0013
www.hillengineers.com

REV.	DESCRIPTION	DR'N	CK'D.	DATE
A	ISSUED FOR REVIEW AND COMMENT	MAC		7-15-2022
B	ADDED EASEMENT LINES	MAC		8-26-22

A COPY OF THE DATA IN THIS DRAWING FILE IS MAINTAINED AT THE OFFICES OF HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. THE INTERPRETATION, APPLICATION AND REVISION OF THIS DATA IS THE SOLE RESPONSIBILITY OF THE USER.

GENERAL ELECTRIC COMPANY
5 NECCO STREET
BOSTON, MA 02210

PROJECT DESCRIPTION: HOUSATONIC RIVER UPLAND DISPOSAL FACILITY

DRAWING TITLE: TOPOGRAPHIC SURVEY

DRAWN BY	MAC
DATE DRAWN	7-15-2022
SCALE	1" = 50'
APV'D BY	

CAD CODE: SRV-2262-05 CX101M.DWG

GRAPHIC SCALE: 0 50 100

PROJECT NUMBER: SRV-2262-05

DRAWING NUMBER	REV.
CX104	B

Appendix E

Geotechnical Data

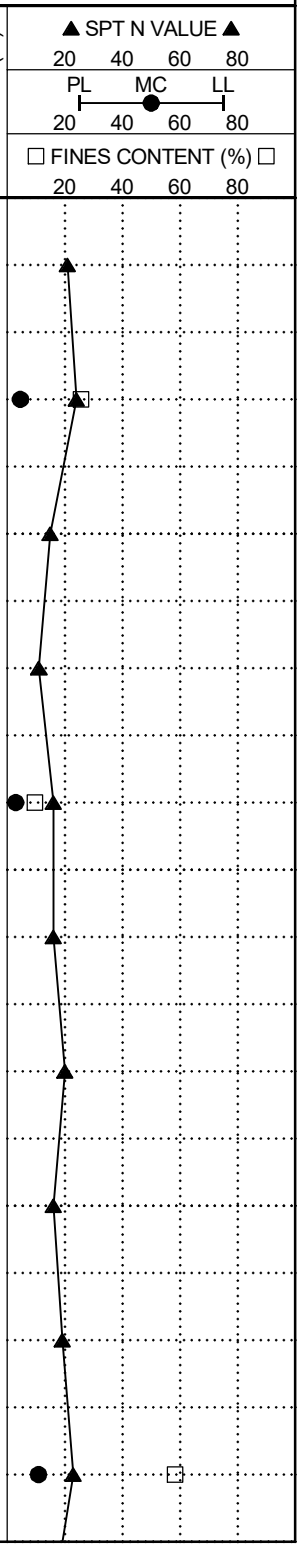
BORING NUMBER B-2022-1

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/16/22 **COMPLETED** 5/18/22
GROUND ELEVATION 1028.5 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954036.1 ft **EASTING** 186569 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 75.00 ft / Elev 953.50 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0	TOPSOIL	S-1	E–(0-1)	67	1-8-13-12 (21)			
		SILTY SAND WITH GRAVEL (SM); Loose, grey, fine to medium sand, some silt, some fine to medium gravel, subrounded, dry							
		SANDY SILT (ML); Loose, light brown/grey, non-plastic silt, little to some fine sand, dry	S-2		83	11-12-12-14 (24)	NP	25.5	
1025		SILTY SAND (SM); Loose to medium dense, light brown to grey, fine to medium sand, some to little silt, dry							
	5		S-3		88	10-8-7-8 (15)			
		– Increased silt content from +/- 5' to 7'	S-4		96	5-5-6-6 (11)			
		– Light brown-grey-black, high mica content							
1020			S-5		75	5-7-9-9 (16)		9.6	
	10		S-6		54	6-7-9-7 (16)			
			S-7	E–(12-16)	58	7-8-12-13 (20)			
1015									
	15		S-8		50	6-7-9-12 (16)			
		SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, little to some fine sand, dry	S-9		58	9-9-10-13 (19)			
1010		– Alternating bands of sandy silt and silt							
	20		S-10		54	9-10-13-14 (23)		58.2	



(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SILTY SAND (SM); Dense to very dense, light brown, fine sand, some silt, dry	S-11		58	6-6-9-10 (15)			
1005				S-12		50	11-15-16-15 (31)			
	25			S-13		50	7-9-12-14 (21)			
			– Moist – Alternating bands of sandy silt and clay from +/- 28' to 30'	S-14		54	11-14-17-19 (31)			
1000				S-15	E–(28-32)	46	19-21-23-23 (44)			
	30			S-16		50	9-11-14-17 (25)			
995										
	35			S-17		67	7-10-17-14 (27)			
990										
	40		– Silt content decreasing with depth	S-18		71	14-19-18-17 (37)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
985	45	SANDY CLAY (CL); Medium stiff to stiff, brown, non-plastic clay, some fine sand, trace silt, moist	S-19	E–(43-47)	54	22-30-36-46 (66)		90.2	
		SILTY SAND (SM); Dense to very dense, light brown, fine to medium sand, some silt, moist to dry							
980	50		S-20		67	16-18-33-23 (51)		40.2	
975	55	SILTY SAND WITH GRAVEL (SM); Dense to very dense, light brown to grey, fine to coarse sand, some silt, some fine to medium gravel, subangular to angular, dry	S-21		71	18-30-40-38 (70)			
970	60		S-22	E–(58-66)	0	50/2"			
965	65		S-23		83	49-50/0"			

SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
960	70	GRAVEL WITH SAND (GP); Dense, grey, fine to medium gravel, angular, little fine to medium sand, dry	S-24		38	17-29-28-27 (57)			
			S-25		100	50/4"			
955	75	SILTY SAND WITH GRAVEL (SM); Dense, light brown to grey, fine to coarse sand, some fine to medium gravel, subrounded, some silt, dry, rock fragments present throughout	S-26		67	49-47-30-39 (77)		16.8	
			S-27		54	49-22-15-14 (37)			
950	80	SILTY GRAVEL WITH SAND (GM); Medium dense to dense, light brown, fine to medium gravel, subrounded, some fine sand, some silt, moist	S-28	E–(74-80)	25	24-17-39-23 (56)			
			S-29		50	18-14-13-19 (27)			
			S-30		63	17-12-15-17 (27)			
945	85	SILTY SAND WITH GRAVEL (SM); Medium dense to dense, light brown to grey, fine to coarse sand, some fine to medium gravel, subrounded, little to some silt, wet	S-31		71	12-12-9-10 (21)	NP	14.5	
940		– Increased silt content, no gravel from +/- 85' to 86'	S-32		75	13-17-29-21 (46)			

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	90									
			– Rock fragments in tip	S-33		58	38-49-44-22 (93)		15.9	
				S-34		80	17-28-50/3"			
935										

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

Borehole terminated at 94.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-2

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/12/22 **COMPLETED** 5/13/22
GROUND ELEVATION 1032.1 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954354 ft **EASTING** 186496 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 78.00 ft / Elev 954.10 ft ▽
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		SILTY SAND (SM); Loose, light brown, fine to medium sand, some silt, trace fine to medium gravel, rounded, dry, trace organics (roots)	S-1	E–(0-1)	42	2-4-16-13 (20)			
1030			SANDY SILT (ML); Soft, light brown, non-plastic silt, some fine to medium sand, dry to moist	S-2		25	12-11-10-10 (21)			
	5		– High mica content	S-3		100	8-7-6-6 (13)			
1025				S-4		92	8-7-7-6 (14)			
			– Alternating bands of sandy silt and silt from +/- 9' to 10'	S-5		83	5-6-8-8 (14)			
	10			S-6		58	5-5-6-7 (11)			
1020				S-7	E–(12-16)	67	9-11-12-12 (23)			
	15			S-8		71	6-9-10-10 (19)		56.5	
1015				S-9		50	13-14-18-16 (32)			
	20			S-10		58	12-12-14-18 (26)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		– Trace fine gravel, subrounded from +/- 20' to 22'	S-11		83	11-13-15-13 (28)			
1010				S-12		58	14-23-27-28 (50)			
	25			S-13		54	11-12-15-16 (27)			
1005				S-14	E–(26-30)	63	19-23-25-21 (48)			
				S-15		50	17-21-21-19 (42)			
	30		SILTY SAND (SM); Medium dense to very dense, light brown, fine sand, little to some silt, trace fine gravel, dry	S-16		75	8-10-10-10 (20)		27.5	
1000										
	35		– High mica content	S-17		75	8-7-6-10 (13)			
995										
	40			S-18		67	10-11-17-16 (28)			
990										

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	45				E–(43-47)					
985				S-19		63	22-24-20-27 (44)			
	50									
980			SILTY SAND WITH GRAVEL (SM); Medium dense to very dense, light brown to grey, fine to coarse sand, some silt, some fine to medium gravel, subangular, dry	S-20		63	19-20-26-31 (46)		17.0	
	55									
975			SILTY SAND (SM); Medium dense to very dense, light brown, fine to coarse sand, some silt, dry	S-21		100	16-24-26-41 (50)			
	60		– Trace to little fine to medium gravel		E–(58-62)					
970				S-22		63	37-44-44-42 (88)			
	65									

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
965			– No gravel	S-23		75	15-18-23-27 (41)		19.3	
				S-24		58	39-41-47-52 (88)			
	70		– Alternating bands of silty sand and silt from +/- 69' to 70'	S-25		79	19-22-26-28 (48)			
960				S-26		50	34-34-52-45 (86)			
				S-27		52	48-48-46-50/3"		46.8	
	75			S-28		88	21-26-28-24 (54)			
955			– Wet ▽	S-29	E–(77-81)	79	30-36-39-48 (75)			
	80			S-30		92	17-24-29-35 (53)	NP	29.2	
950										
	85			S-31		67	16-23-24-25 (47)		43.4	
945										

SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	90									
940				S-32		50	11-25-27-34 (52)			
	95									
				S-33		75	24-26-30-29 (56)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Borehole terminated at 97.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER B-2022-3

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 6/13/22 **COMPLETED** 6/14/22
GROUND ELEVATION 1006.4 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954452.8 ft **EASTING** 186128.9 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 55.00 ft / Elev 951.40 ft ▽
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1005	0		SAND (SP); Loose, light brown, fine to medium sand, little coarse sand, trace fine to coarse gravel, subrounded to subangular, trace silt, dry to moist	S-1		17	7-6-10-12 (16)			
			SILTY SAND (SM); Loose, light brown, fine to medium sand, some silt, trace fine to coarse gravel, subrounded to subangular, moist	S-2		21	13-10-11-12 (21)			
	5		SAND WITH SILT (SW-SM); Medium dense to dense, light brown, fine to coarse sand, little silt, moist to dry – 1" lens of rock fragments at +/- 5'	S-3		79	10-5-5-6 (10)			
1000				S-4		67	5-5-7-9 (12)		8.8	
			– 6" lens of silty sand at +/- 8.5'	S-5		100	5-5-8-11 (13)		10.8	
	10		SILTY SAND (SM); Dense, light brown, fine to coarse sand, little to some silt, moist	S-6		54	6-7-9-11 (16)	NP	13.6	
995				S-7		50	6-6-8-10 (14)			
	15			S-8		54	8-10-10-8 (20)			
990				S-9		67	11-16-17-13 (33)			
	20			S-10		63	6-10-13-16 (23)		15.4	

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
985	20			S-11		46	1-8-11-13 (19)			
			– 1" lens of clay and silt at +/- 23.5'	S-12		58	11-13-13-15 (26)			
	25		– Trace fine gravel, subrounded	S-13		58	9-10-11-12 (21)			
980			SAND WITH SILT (SP-SM); Dense, light brown, fine sand, little silt, moist	S-14		58	13-12-19-15 (31)			
			SAND WITH SILT AND GRAVEL (SW-SM); Dense to very dense, light brown, fine to coarse sand, little silt, little fine to coarse gravel, subrounded to subangular, dry to moist	S-15		75	13-15-17-16 (32)		12.0	
	30			S-16		50	10-16-18-18 (34)			
975										
	35		SILTY SAND (SM); Medium dense to very dense, light brown, fine sand, some silt, moist	S-17		88	10-12-12-12 (24)			
970										
	40			S-18		92	14-25-19-19 (44)			
965							17-21-			

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
				S-19		58	27-29 (48)			
	45		– Silt content increasing with depth	S-20		100	15-17-19-18 (36)			
960			SILT (ML); Medium stiff to stiff, light brown, non-plastic silt, trace fine sand, moist, alternating bands of silt and silt with sand throughout	S-21		100	16-20-20-17 (40)	NP	95.2	
				S-22		63	14-16-25-27 (41)	NP	92.1	
	50			S-23		88	2-3-17-23 (20)			
955			SAND WITH SILT (SP-SM); Medium dense to dense, light brown, fine sand, little silt, moist	S-24		75	24-18-17-12 (35)			
	55		– Wet, reddish staining at +/- 55.25'	S-25		71	5-4-4-4 (8)			
950			SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, trace fine gravel, subangular, wet	S-26		58	3-3-5-6 (8)	NP	76.5	
			SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt, wet	S-27		75	4-6-19-29 (25)		14.6	
	60		– Gravel, angular to subrounded, and rock fragments throughout	S-28		58	32-23-16-19 (39)			
945										
	65									

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

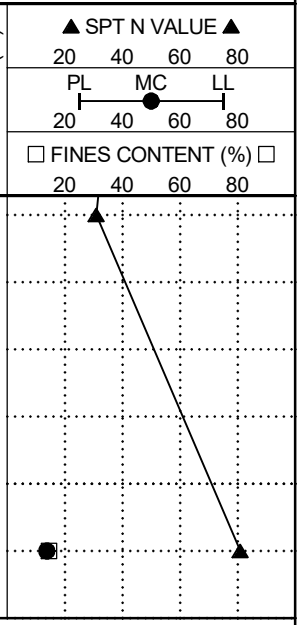
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
940			– Trace fine gravel, subangular	S-29		63	26-17-14-16 (31)			
	70		– Medium to coarse sand, some fine to coarse gravel, subrounded, rock fragments throughout	S-30		58	29-34-47-27 (81)		14.4	
935			Borehole terminated at 72.0 ft depth.							



GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER B-2022-5

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/6/22 **COMPLETED** 5/9/22
GROUND ELEVATION 1022.1 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954108.7 ft **EASTING** 186181.8 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 71.00 ft / Elev 951.10 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0	ASPHALT FILL							
1020		SILTY SAND (SM); Medium dense to dense, light brown, fine to coarse sand, some silt, dry	S-1		58	20-24-10-16 (34)			
			S-2		63	10-13-19-22 (32)			
		– 3" lens of rock fragments, grey at +/- 4'							
	5	– Alternating bands of silty sand and silt from +/- 4' to 6'	S-3		92	20-17-18-15 (35)	NP	21.0	0.1
1015			S-4		79	13-13-12-12 (25)			
			S-5		79	8-9-11-10 (20)			
	10		S-6		58	3-5-6-7 (11)			
1010		SANDY SILT (ML); Stiff, light brown, non-plastic silt, some fine sand, moist, alternating bands of silty sand and silt	S-7		63	6-10-13-12 (23)		67.4	
		SILTY SAND (SM); Medium dense to dense, light brown, fine to coarse sand, some silt, dry							
	15		S-8		58	5-7-7-9 (14)			
1005			S-9		38	7-12-14-17 (26)			
			S-10		50	14-15-15-17 (30)			
	20								

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		– High mica content	S-11		75	6-7-7-9 (14)			
1000			SANDY SILT (ML); Very stiff, light brown, non-plastic silt, some fine sand, moist	S-12		54	10-15-16-15 (31)		64.1	
	25			S-13		67	7-7-8-11 (15)			
995			SILTY SAND (SM); Medium dense to dense, light brown, fine to medium sand, some silt, moist to dry	S-14		50	12-15-17-18 (32)			
				S-15		50	13-17-19-18 (36)			
	30			S-16		50	9-10-12-16 (22)		40.1	
990										
	35			S-17		75	8-9-11-13 (20)			
985										
	40			S-18		54	10-14-17-20 (31)			
980										

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	45	– Alternating bands of silty sand and silt from +/- 45' to 47'	S-19	50	9-12-16-21 (28)			
975								
	50	– Silt content increasing with depth	S-20	50	17-18-22-27 (40)			
970								
	55	SILTY CLAY WITH SAND (CL-ML); Very stiff, light brown, low plasticity clay, little to some fine to medium sand, little silt, moist	S-21	75	9-17-19-24 (36)	5	81.3	
965			S-22	50	27-31-34-41 (65)			
	60	SILTY SAND (SM); Dense to very dense, light brown, fine to medium sand, some silt, moist	S-23	58	9-16-25-29 (41)			
960		– Alternating bands of silty sand and silt throughout	S-24	50	31-42-47-52 (89)			
			S-25	100	50/4"			
	65							

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
955			SILT WITH SAND (ML); Stiff to very stiff, light brown, non-plastic silt, little to some fine to medium sand, moist	S-26		75	18-23-21-25 (44)		77.5	
				S-27		71	42-46-47-49 (93)			
	70		SANDY SILT (ML); Very stiff to hard, light brown, non-plastic silt, some fine to medium sand, moist – Wet at +/- 71' ▽	S-28		75	24-29-27-31 (56)	NP	53.6	
950				S-29		75	35-41-35-45 (76)			
				S-30		75	48-48-44-56 (92)			
	75			S-31		54	22-25-25-31 (50)			
945										
	80			S-32		79	18-21-23-27 (44)		61.1	
940										
	85			S-33		71	13-23-26-28 (49)			

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

Borehole terminated at 87.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER B-2022-6

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/18/22 **COMPLETED** 5/19/22
GROUND ELEVATION 1000 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953876.7 ft **EASTING** 186279.3 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 46.00 ft / Elev 954.00 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1000	0	SANDY SILT (ML); Medium stiff to stiff, light brown, non-plastic silt, some fine sand, moist	S-1		83	3-4-7-4 (11)			
		– Trace fine to medium gravel, subrounded, dry	S-2		92	5-6-7-8 (13)	NP	57.3	0.4
995	5		S-3		96	6-12-11-22 (23)			
		– 1.5" lens of rock fragments at +/- 6'	S-4		42	16-16-12-16 (28)			
		– No recovery 8' - 10'	S-5		0	21-33-30-38 (63)			
990	10		S-6		79	6-7-6-7 (13)			
			S-7		63	5-6-9-11 (15)	NP	64.0	0.1
985	15		S-8		75	6-7-9-11 (16)			
		SILTY SAND (SM); Medium dense to dense, light brown, fine to medium sand, some silt, dry – Alternating bands of silty sand and silt from +/- 16' to 20'	S-9		58	12-13-16-17 (29)			
980	20		S-10		58	15-15-17-18 (32)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-6

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
980	20			S-11		79	7-10-11-13 (21)		49.8	
				S-12		63	12-18-19-19 (37)			
975	25			S-13		83	7-8-10-12 (18)			
			– Alternating bands of silty sand and silt from +/- 26' to 30'	S-14		63	15-17-20-22 (37)			
				S-15		63	20-23-26-27 (49)			
970	30		SAND WITH SILT AND GRAVEL (SP-SM); Loose, light brown, fine to coarse sand, little silt, some fine to medium gravel, subrounded, dry	S-16		46	12-11-11-11 (22)		12.6	
			GRAVEL WITH SILT AND SAND (GP-GM); Medium dense, light brown/red/grey, fine to medium gravel, subangular, some fine to medium sand, trace coarse sand, little silt, dry	S-17		46	14-12-12-12 (24)		8.7	
965	35			S-18		46	8-9-10-16 (19)			
			GRAVEL WITH SAND (GP); Loose to medium dense, light grey/light brown to black, fine to medium gravel, angular, some fine to medium sand, trace silt, moist, rock fragments throughout	S-19		33	6-11-8-6 (19)			
				S-20		63	10-12-12-13 (24)			
960	40		SAND WITH GRAVEL (SP); Loose, grey, fine to medium sand, some fine to medium gravel, subrounded, moist	S-21		42	13-13-12-14 (25)			
							14-15-			

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-6

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			GRAVEL WITH SAND (GP); Loose, light brown, fine to medium gravel, subrounded, some fine to medium sand, moist, rock fragments throughout	S-22		42	12-18 (27)			
955	45		GRAVEL WITH SILT AND SAND (GP-GM); Medium dense to dense, light brown, fine to medium gravel, subangular to subrounded, some fine to medium sand, little silt, moist, rock fragments throughout	S-23		100	23-23-50/4"	NP	12.2	
			– Wet at +/- 46'	S-24		33	4-9-9-10 (18)			
950	50									
				S-25		63	18-16-17-23 (33)		13.8	
945	55		– Silt content increasing with depth							
			SILTY SAND WITH GRAVEL (SM); Medium dense to very dense, brown, fine to medium sand, some silt, some fine to medium gravel, subrounded, wet	S-26		63	24-16-18-20 (34)			
940	60			S-27		71	29-18-23-26 (41)			
935	65			S-28		83	19-27-29-33 (56)		24.3	

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-6

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
			Borehole terminated at 66.0 ft depth.								

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

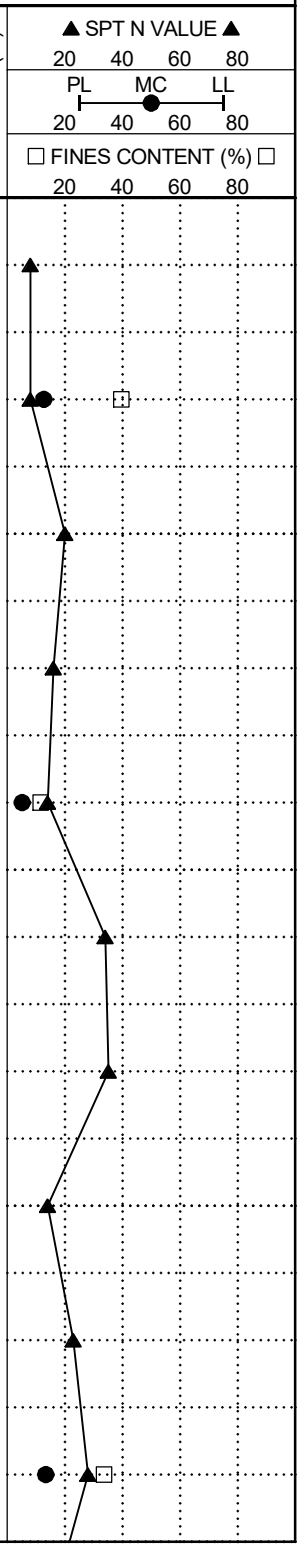
ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-7

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 6/10/22 **COMPLETED** 6/13/22
GROUND ELEVATION 1005.2 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953565.8 ft **EASTING** 186393.3 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 50.00 ft / Elev 955.20 ft
LOGGED BY Maeve Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1005	0	SANDY CLAY (CL), Soft, grey, low plasticity clay, some fine sand, moist, organics present – 1.5" lens of fine to coarse gravel, subrounded to subangular	S-1	75	3-4-4-4 (8)			
		SILTY SAND (SM); Loose to medium dense, light reddish brown, fine sand, some silt, moist, silt content increasing with depth – Trace to little fine to coarse gravel, subrounded to subangular, rock fragments at tip	S-2	50	2-3-5-5 (8)	NP	39.5	2.7
1000	5	– Trace clay, silt increasing with depth, rock fragments present – 2" lens of coal at +/- 5'	S-3	67	3-7-13-12 (20)			
			S-4	67	12-9-7-8 (16)			
		SAND WITH SILT (SW-SM); Medium dense, light reddish brown, fine to coarse sand, little silt, trace fine gravel, subrounded, moist, organics present – 1.5" lens of clay at +/- 8.3'	S-5	83	8-7-7-6 (14)	NP	11.6	0.4
995	10	SILTY SAND (SM); Medium dense, light reddish brown, fine sand, some silt, moist, rock fragments at tip	S-6	17	2-12-22-21 (34)			
		ROCK FRAGMENTS, grey	S-7	46	21-19-16-13 (35)			
		SAND WITH SILT (SW-SM); Medium dense, light brown, fine to coarse sand, little silt, trace fine gravel, subrounded to subangular, dry to moist – 4" lens of gravel at +/- 14', coarse, subangular						
990	15	SAND (SP); Medium dense, light brown, fine sand, trace silt, moist	S-8	75	10-8-6-6 (14)			
		ROCK FRAGMENTS	S-9	13	12-11-12-10 (23)			
		SILTY SAND (SM); Medium dense, light brown, fine sand, some silt, moist	S-10	100	15-14-14-14 (28)		33.6	
	20							



(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
985	20		SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt, moist	S-11		79	6-7-8-9 (15)			
			SILTY SAND (SM); Medium dense to dense, light brown, fine sand, some silt, moist	S-12		54	10-10-15-15 (25)			
980	25			S-13		63	10-11-13-14 (24)		42.4	
				S-14		75	8-12-11-13 (23)			
				S-15		67	11-12-14-15 (26)			
975	30		SANDY SILT (ML); Soft to medium stiff, light brown, non-plastic silt, some fine to medium sand, trace clay, wet to moist	S-16		79	10-11-14-16 (25)		69.8	
			– Sand content decreasing with depth	S-17		63	8-14-17-20 (31)			
970	35		SILTY SAND (SM); Medium dense to dense, light brown, fine to medium sand, little to some silt, moist-wet	S-18		88	13-14-19-18 (33)			
				S-19		88	21-22-22-22 (44)			
				S-20		75	15-21-27-23 (48)		23.6	
965	40			S-21		83	12-15-17-17 (32)			
							7-21-25-			

SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
				S-22		67	21 (46)			
960	45			S-23		92	15-15-18-20 (33)			
				S-24		71	10-17-18-22 (35)			
			– 1.5" lenses of silt at +/- 48' and 49'	S-25		63	14-15-22-25 (37)			
955	50		– Wet at +/- 50'	S-26		92	13-15-19-19 (34)	NP	28.4	
950	55		SAND WITH SILT (SW-SM); Medium dense, light brown, fine to medium sand, little silt, wet	S-27		83	13-13-17-17 (30)			
945	60			S-28		88	12-11-16-16 (27)		13.9	
940	65		SAND WITH SILT (SP-SM); Medium dense to dense, light brown, fine sand, little silt, wet							

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			SAND WITH SILT (SP-SM); Medium dense to dense, light brown, fine sand, little silt, wet *(continued)*	S-29		88	17-14-20-21 (34)			
935	70		SAND (SP); Medium dense, light brown, fine sand, trace silt, wet	S-30		92	13-16-21-20 (37)			
			Borehole terminated at 72.0 ft depth.							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER B-2022-8

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 6/8/22 **COMPLETED** 6/9/22
GROUND ELEVATION 1025.6 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953541.3 ft **EASTING** 186635.7 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 67.00 ft / Elev 958.60 ft ▽
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING ---
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1025	0	TOPSOIL							
		SAND WITH SILT AND GRAVEL (SP-SM); Loose, brown, fine to medium sand, little silt, some fine to coarse gravel, subrounded, moist, rock fragments present throughout	S-1		71	4-10-10-17 (20)			
			S-2		67	6-6-7-9 (13)			
	5	SILT WITH SAND (ML); Medium stiff, light brown, non-plastic silt, little to some fine sand, moist	S-3		67	4-5-5-5 (10)	NP	70.8	0.1
1020			S-4		100	8-7-9-11 (16)			
		SILTY SAND (SM); Loose, light brown, fine to medium sand, some silt, moist	S-5		92	10-8-9-13 (17)		22.0	
	10		S-6		100	6-8-10-8 (18)			
1015		SAND WITH SILT (SP-SM); Medium dense, light brown, fine to medium sand, little silt, moist, alternating bands of sand with silt and silt throughout	S-7		54	2-4-11-10 (15)			
		SILTY SAND (SM); Medium dense to loose, light brown, fine to medium sand, some silt, moist	S-8		92	8-9-8-10 (17)			
	15		S-9		71	6-6-7-8 (13)		36.3	
1010		– 2" lens with higher silt content at +/- 18.5'	S-10		83	4-6-7-9 (13)			
	20								

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1005	20		– Alternating bands of silty sand and silt from +/- 21.5' to 22'	S-11		67	7-8-11-13 (19)			
				S-12		75	7-12-12-13 (24)			
	25			S-13		83	7-7-8-9 (15)			
1000				S-14		88	13-13-14-15 (27)			
				S-15		88	6-10-10-11 (20)		27.3	
	30			S-16		75	7-10-11-12 (21)			
995										
	35			S-17		92	9-10-11-12 (21)			
990										
	40		SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt, moist	S-18		88	10-13-14-15 (27)			
985										

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
980	45			S-19		83	9-9-13-13 (22)			
975	50		SANDY SILT (ML); Medium dense to dense, light brown, non plastic silt, some fine sand, moist	S-20		83	12-11-11-14 (22)			
970	55			S-21		88	12-16-23-26 (39)	NP	56.6	
965	60		SILTY SAND (SM); Dense, light brown, fine to medium sand, some silt, moist – 1/4" lens of low plasticity sandy silt with clay at +/- 61.5' – 1/4" lens of silt at +/- 63'	S-22		92	17-28-31-41 (59)			
				S-23		71	27-38-31-33 (69)			
960	65			S-24		83	11-14-15-18 (29)			

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
		SILT WITH SAND (ML); Medium stiff to stiff, light brown, non-plastic silt, little to some fine sand, moist						
		– Wet at +/- 67'	S-25	100	21-26-25-22 (51)		76.0	
		SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine to medium sand, wet	S-26	58	19-20-26-22 (46)	NP	61.7	
955	70	SILTY SAND WITH GRAVEL (SM); Medium dense, light brown, fine sand, some silt, some fine to coarse gravel, subrounded to subangular, wet to moist	S-27	78	18-15-43-50/3"			
		SANDY SILT WITH CLAY (ML); Medium stiff, light brown, non-plastic silt, some fine sand, little clay, moist						
		ROCK FRAGMENTS, light brown						
		SILTY SAND WITH GRAVEL (SM); Dense to very dense, light brown, fine to coarse sand, some silt, some fine to coarse gravel, subrounded to subangular, moist to wet, rock fragments present throughout						
950	75		S-28	86	46-50/1"			
945	80	– Dark reddish brown staining in patches	S-29	58	36-57-50-52 (107)		20.8	
940	85	– Rock fragments throughout from +/- 85' to 87'	S-30	63	25-31-46-45 (77)			

SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER B-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
	90										
935			SAND WITH SILT AND GRAVEL (SP-SM); Dense, light brown and grey, fine sand, little silt, little fine to coarse gravel, subangular, moist, rock fragments throughout (possible weathered bedrock)	S-31		57	49-47-49-50/3"				>>

Borehole terminated at 92.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:37 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-1

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 6/15/22 **COMPLETED** 6/17/22
GROUND ELEVATION 1029.6 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954349.6 ft **EASTING** 187021.6 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 57.50 ft / Elev 972.10 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 56.85 ft / Elev 972.75 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0	SILTY SAND (SM); Medium dense, reddish brown, fine to medium sand, some silt, trace clay, trace fine to coarse gravel, subrounded to subangular, moist, organics present	S-1	E–(0-2)	58	1-1-3-5 (4)			
		SILTY SAND WITH GRAVEL (SM); Dense, reddish brown, fine to coarse sand, some silt, little fine to coarse gravel, subrounded to subangular, moist, organics present	S-2		46	2-3-3-3 (6)	NP	19.2	
1025	5	– With rock fragments	S-3		38	13-25-7-5 (32)			
		SAND WITH SILT (SP-SM); Medium dense, reddish brown, fine to coarse sand, little silt, moist, sand stratified from fine to coarse	S-4		92	6-6-5-5 (11)			
		SILTY SAND WITH GRAVEL (SM); Very dense, reddish brown, fine to medium sand, some silt, some fine to coarse gravel, subrounded, moist	S-5		100	3-5-7-10 (12)		60.4	
1020	10	SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, moist – No recovery, rock fragment blocking sampler	S-6		0	9-6-5-4 (11)			
		– No recovery, auger to 15' to advance through possible cobble zone preventing sample recovery	S-7		0	3-7-9-9 (16)			
1015	15	SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, moist to wet	S-8	E–(15-19)	75	4-7-7-8 (14)	NP	63.7	
			S-9		63	5-10-11-9 (21)			
1010	20	SILT WITH SAND (ML); Medium stiff, light brown, non-plastic silt, little to some fine sand, moist – S-10 sampled from 19' - 20' (12 inches total)	S-10		100	3-9 (12)			

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20			S-11		71	6-6-8-7 (14)		75.3	
				S-12		79	7-10-8-6 (18)			
1005	25			S-13		67	7-5-4-6 (9)			
			SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, trace clay, wet to moist	S-14		83	6-6-10-15 (16)			
			– 1" lens of silt at 27.5'	S-15	E–(28-32)	88	10-12-9-11 (21)		57.0	
1000	30			S-16		33	4-6-6-5 (12)			
995	35			S-17		88	7-9-14-17 (23)			
990	40		CLAYEY SILT WITH SAND (ML); Medium stiff, light brown, non-plastic silt, little clay, little fine sand, wet	S-18	E–(40-44)	83	8-5-3-4 (8)			

SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
985	45		SILTY SAND (SM); Dense, light brown, fine sand, some silt, moist		E–(40-44)					
			SAND WITH SILT (SW-SM); Medium dense, light brown, fine to coarse sand, little silt, moist	S-19		67	7-13-16-17 (29)			
980	50		SILTY SAND (SM); Medium dense, light brown, fine to coarse sand, little to some silt, moist	S-20		75	12-13-13-13 (26)		22.6	
			SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, moist to wet	S-21		75	10-11-12-19 (23)			
975	55		SILTY SAND (SM); Medium dense, light brown, fine sand, some silt, moist to wet	S-22		75	8-9-7-11 (16)			
				S-23		75	12-9-8-6 (17)			
970	60		SANDY SILT (ML); Soft, light brown, non-plastic silt, some fine sand, little clay, wet, alternating bands of sandy silt and silt	S-24		50	6-3-5-4 (8)	NP	66.9	
			– Medium stiff, little fine to coarse gravel, subrounded to subangular, moist to wet, rock fragments present	S-25	E–(60-64)	29	6-23-26-18 (49)			
			ROCK FRAGMENTS, grey, fragile, easily crumbled in hand	S-26		46	11-24-35-34 (59)			
965	65		– Hard, light grey to white, broken into very thin layers							

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			– Hard, light grey to white, broken into very thin layers *(continued)*	S-27		50	23-47-48-29 (95)			
960	70		SILTY SAND WITH GRAVEL (SM); Very dense, light brown, fine sand, some silt, little fine to coarse gravel, subangular, moist	S-28		100	20-50/4"			
			Casing advanced to 75' Top of bedrock noted by driller at 72' Probable weathered bedrock from 72' to 75'							
955	75		MARBLE, grey, hard, slightly weathered	R-1		+/- 93 (92)				
950	80		Borehole terminated at 80.0 ft depth.							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>▲

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

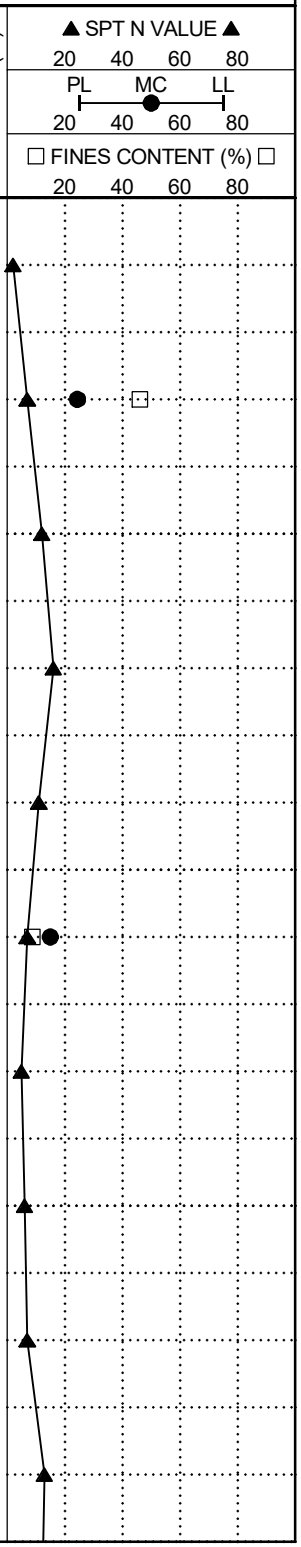
ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-2

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/24/22 **COMPLETED** 5/25/22
GROUND ELEVATION 981.9 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2955207.7 ft **EASTING** 186255.7 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 30.00 ft / Elev 951.90 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 25.65 ft / Elev 956.25 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0									
980			SILTY SAND (SM); Loose, dark brown, fine sand, some non-plastic silt, moist, trace organics (roots)	S-1	E–(0-1)	58	1-1-1-3 (2)			
			– Light brown	S-2		54	2-3-4-6 (7)	NP	46.1	2.7
	5		SAND WITH SILT AND GRAVEL (SP-SM); Loose, brown, fine to medium sand, little to some silt, some fine to medium gravel, subangular, moist	S-3		50	5-6-6-5 (12)			
975				S-4		25	7-8-8-9 (16)			
			– No sample recovery, rock fragment in tip	S-5		0	7-5-6-5 (11)			
	10		– Dark brown, dry, rock fragments present	S-6		25	3-4-3-4 (7)		8.7	
970				S-7		25	3-3-2-3 (5)			
	15		GRAVEL (GP); Loose, grey/brown, fine to medium gravel, subangular, moist	S-8	E–(12-22)	25	4-2-4-6 (6)			
965			SAND WITH SILT AND GRAVEL (SP-SM); Loose, dark brown/grey, fine to medium sand, little to some silt, some fine to medium gravel, subangular, moist	S-9		25	7-4-3-2 (7)			
			GRAVEL WITH SAND (GP); Loose, dark brown/grey, fine to medium gravel, subangular, some fine to medium sand, moist	S-10		25	6-6-7-10 (13)			
	20									



(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SAND WITH SILT AND GRAVEL (SP-SM); Medium dense, dark brown, fine to medium sand, little to some silt, some fine to medium gravel, subangular, moist	S-11	E–(12-22)	33	5-6-6-7 (12)			
960				S-12		21	12-10-7-5 (17)			
			SANDY SILT WITH GRAVEL (ML); Medium stiff to stiff, dark brown, non-plastic silt, some fine sand, little fine gravel, wet							
	25			S-13		54	3-5-4-2 (9)		57.4	
			– Brown							
955				S-14		25	5-5-7-9 (12)			
				S-15	E–(26-32)	46	9-5-8-13 (13)			
	30		SILTY SAND WITH GRAVEL (SM); Dense to very dense, dark brown/grey, fine to medium sand, some silt, little to some fine to medium gravel, subangular, wet	S-16		71	20-43-24-23 (67)	NP	30.1	
950			– 6" lens of rock fragments (possible weathered bedrock) at +/- 30.5'							
	35			S-17	E–(33-37)	63	17-22-34-36 (56)			
945			– 6" lens of rock fragments (possible weathered bedrock) at +/- 36.5'							
	40			S-18		100	32-50/3"			
940										

SPT N VALUE: 20 40 60 80

PL MC LL: 20 40 60 80

FINES CONTENT (%): 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
			Casing advanced to 45' to top of bedrock								
	45		MARBLE, grey, hard, slightly weathered								
935				R-1		+/- 88 (79)					
	50										
			Borehole terminated at 50.0 ft depth.								

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-3

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/31/22 **COMPLETED** 6/1/22
GROUND ELEVATION 954.4 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954911.3 ft **EASTING** 186066.5 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 4.50 ft / Elev 949.90 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 4.82 ft / Elev 949.58 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		SAND WITH SILT AND GRAVEL (SP-SM); Loose, light brown, very fine to medium sand, some silt, some fine gravel, subrounded, dry, trace organics (roots)	S-1	E–(0-1)	50	1-1-1-4 (2)			
				S-2		25	1-1-1-1 (2)			
950	5		SILTY SAND WITH GRAVEL (SM); Loose, light brown, fine to medium sand, little to some silt, some fine gravel, subrounded, wet	S-3	E–(2-10)	17	1-1-1-1 (2)			
				S-4		42	1-1-1-8 (2)			
945				S-5		75	21-17-19-30 (36)	NP	24.5	
	10		GRAVEL WITH SAND (GP); Loose, grey, fine to medium gravel, subangular, some fine to medium sand, wet, rock fragments throughout – Subangular to angular, light brown/grey	S-6		42	12-15-20-17 (35)			
			– Light brown to grey to red	S-7	E–(12-16)	46	12-10-8-11 (18)			
940			SAND WITH SILT (SP-SM); Loose to medium dense, brown, fine to medium sand, little silt, wet	S-8		58	8-7-9-12 (16)	NP		
	15			S-9		88	10-9-11-12 (20)			
935			SILTY SAND WITH GRAVEL (SM); Loose, light brown, fine to medium sand, some silt, some fine gravel, subrounded, wet	S-10		79	12-10-21-28 (31)			
	20		SAND WITH CLAY AND GRAVEL (SM-SC);							

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		Loose, light brown, fine to medium sand, little clay, some fine gravel, subrounded, wet							
			SILTY SAND WITH GRAVEL (SM); Loose to dense, light brown/grey, fine to medium sand, some silt, some fine to medium gravel, subangular, wet, rock fragments throughout	S-11		41	13-16-45-50/4"		19.4	
			– No recovery 22' - 24'			0	32-30-28-34 (58)			
930	25			S-12		50	30-26-30-23 (56)	NP		
				S-13	E–(26-30)	58	22-19-14-14 (33)			
925				S-14		33	14-15-30-27 (45)			
	30		– No recovery 30' - 32'			0	50/5"			
920	35			S-15		17	17-15-12-17 (27)			
915	40		– No recovery 40' - 42'			0	50/4"			

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
910	45		Casing advanced to 45' to top of bedrock								
			2 ft bedrock core, no recovery. Cutting returns indicate MARBLE bedrock, grey, hard	R-1		0					
			Borehole terminated at 47.0 ft depth.								

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-4

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/13/22 **COMPLETED** 4/15/22
GROUND ELEVATION 1025.8 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954320.9 ft **EASTING** 185921.5 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 74.00 ft / Elev 951.80 ft
LOGGED BY K. Warren **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 74.64 ft / Elev 951.16 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop. Groundwater after drilling is the avg of MW-2022-4S and MW-2022-4D

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1025	0		SAND WITH SILT (SP-SM); Very loose, light brown, fine to coarse sand, little silt, trace gravel, moist, organics throughout sample	S-1	E–(0-1)	83	1-1-2-3 (3)			
			SILTY SAND (SM); Loose to medium dense, brown, fine to medium sand, some silt, moist	S-2		83	3-4-6-7 (10)			
1020	5			S-3		71	7-8-8-8 (16)	NP	21.0	0.1
				S-4		79	6-8-7-7 (15)			
			– 1" lens of coarse sand at +/- 14.7'	S-5		83	8-8-10-9 (18)			
1015	10			S-6		42	4-6-9-10 (15)			
				S-7	E–(12-16)	42	6-8-10-11 (18)			
1010	15		SAND WITH SILT AND GRAVEL (SW-SM); Medium dense, brown, fine to coarse sand, little silt, little fine to medium gravel, subrounded, moist	S-8		42	4-6-8-9 (14)			
				S-9		83	8-10-10-12 (20)			
	20			S-10		46	10-9-10-12 (19)			

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-4

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1005	20		SILTY SAND (SM); Medium dense, brown, fine to medium sand, some silt, moist	S-11		50	6-8-8-8 (16)			
				S-12		75	8-10-10-13 (20)		18.9	
	25		– Medium dense to loose, trace gravel, moist to wet	S-13		83	6-6-9-12 (15)			
1000				S-14	E–(26-30)	75	9-10-10-10 (20)			
				S-15		71	8-8-9-7 (17)			
	30									
995										
	35			S-16			1-1-1-1 (2)			
990										
	40		– Silt content increasing with depth	S-17		42	1-2-4-7 (6)		18.2	
985										

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-4

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	45									
980			SAND WITH SILT (SP-SM); Medium dense to dense, brown, fine to medium sand, little silt, moist	S-18	E–(45-47)	79	4-6-8-10 (14)			
	50									
975			SILTY SAND (SM); Dense to very dense, light brown, fine sand, some silt, moist	S-19		83	9-12-15-19 (27)	NP	21.9	
	55									
970				S-20		79	12-16-17-20 (33)			
	60									
965			– Trace gravel	S-21	E–(60-64)	92	13-13-19-27 (32)			
			– Very dense	S-22		67	20-26-31-40 (57)			
	65			S-23		83	18-25-32-35 (57)	NP	38.8	

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-4

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
960										
			SAND WITH SILT AND GRAVEL (SP-SM); Very dense to dense, brown, fine to coarse sand, little silt, little fine to medium gravel, moist	S-24		71	26-42-51-53 (93)			
				S-25		71	26-20-21-23 (41)			
	70									
955				S-26		63	18-17-18-20 (35)			
			SILTY SAND (SM); Dense, fine to medium sand, some silt, trace gravel, moist to wet	S-27		75	21-26-22-27 (48)		35.5	
			SILT WITH SAND (ML); Soft to medium stiff, brown, non-plastic silt, little to some fine sand, wet	S-28	E–(74-78)	79	16-19-19-21 (38)	NP	74.1	
	75			S-29		83	20-23-30-31 (53)			
950										
	80		SILTY SAND (SM); Dense, brown, fine to medium sand, some silt, wet	S-30		83	17-20-20-19 (40)		23.0	
945										
	85									
940			GRAVEL WITH SILT AND SAND (GW-GM); Dense, brown, fine to coarse gravel, some pebbles, some fine to medium sand, little silt, wet	S-31		83	18-22-18-22 (40)		15.7	

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-4

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	90									
935			– Rock fragments throughout	S-32		58	31-28-17-20 (45)			
	95									
930				S-33		67	42-25-20-20 (45)			
	100									
925			SAND WITH SILT (SP-SM); Medium dense, dark brown, fine to coarse sand, little silt, trace fine gravel, wet	S-34		83	10-13-14-18 (27)	NP	13.7	
	105									
920				S-35		75	18-19-15-18 (34)			
	110		Boulder or bedrock likely at 110'. Could not continue drilling due to mud loss.	S-36			50/0"			

Borehole terminated at 110.0 ft depth.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-5

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/29/22 **COMPLETED** 5/2/22
GROUND ELEVATION 1013.5 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953979.5 ft **EASTING** 186004.6 ft
DRILLING METHOD Hollow Stem Auger, 4.25 in
GROUNDWATER AT TIME OF DRILLING Depth +/- 61.00 ft / Elev 952.50 ft
LOGGED BY M. Tucker **CHECKED BY** R. McDermott
GROUNDWATER AFTER DRILLING Depth 58.21 ft / Elev 955.29 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		FILL, Asphalt pieces, concrete pieces, gravel	S-1	E–(0-1)	67	8-21-11-13 (32)			
			SILTY SAND (SM); Loose, light brown, fine sand, some silt, moist							
			– Rock fragment in tip	S-2		71	9-9-15-13 (24)			
1010										
	5		– 1/2" lenses with gravel and coarse sand at +/- 4.5' and 5'	S-3		54	7-5-4-2 (9)	NP	20.5	
			– Alternating bands of higher and lower sand content	S-4		83	3-2-2-2 (4)			
1005			SANDY SILT (ML); Soft, light brown, non-plastic silt, some fine sand, moist							
			SILTY SAND (SM); Loose, light brown, fine sand, some silt, trace fine to coarse gravel, subrounded, moist	S-5		67	2-2-2-1 (4)			
	10		SAND WITH SILT (SP-SM); Loose, light brown, fine sand, little coarse sand, little silt, trace fine gravel, subrounded, moist	S-6		33	1-1-2-3 (3)			
			SILTY SAND (SM); Loose to medium dense, light brown, fine sand, some silt, trace medium to coarse sand, moist	S-7	E–(12-16)	50	3-4-10-14 (14)			
1000			– 1/2" lens of higher silt content at +/- 13'							
	15		– 2" lens of rock fragments at +/- 14.5'	S-8		50	14-12-11-12 (23)			
			– Alternating bands of silty sand and silt							
			– 1/4" lens of silt at +/- 17'	S-9		50	12-13-15-16 (28)			
995			SANDY SILT (ML); Stiff, light brown, non-plastic silt, some fine sand, moist	S-10		50	10-13-13-13 (26)		60.6	
	20									

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20									
			SILT (ML); Medium stiff, light brown, non-plastic silt, little fine sand, moist	S-11		50	7-7-9-12 (16)		88.1	
990			– Alternating bands of silt and sandy silt throughout, silt content decreasing with depth – 1/2" lens with little clay at +/- 24'	S-12		50	8-10-12-12 (22)			
	25		SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt – 1" lens of silt at +/- 26'	S-13		58	7-9-11-12 (20)			
			SILTY SAND (SM); Medium dense, light brown, fine sand, little silt, moist, composed of alternating bands of silty sand and silt	S-14	E–(26-30)	46	10-8-12-13 (20)			
985				S-15		50	11-7-13-18 (20)			
	30		SILT WITH SAND (ML); Medium stiff, light brown, non-plastic silt, little to some fine sand, trace clay, wet							
980										
	35			S-16		67	5-5-6-7 (11)	NP	71.1	
975										
	40			S-17		67	3-2-4-5 (6)			

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
970										
	45		SILTY SAND (SM); Dense, light brown, fine to medium sand, some silt, moist, alternating bands of silty sand and silt throughout – 3" lens of medium sand at +/- 47'	S-18	E–(45-49)	58	12-20-23-29 (43)			
965										
	50			S-19		42	10-11-14-15 (25)			
				S-20		71	11-12-14-18 (26)			
960										
	55			S-21	E–(54-58)	79	7-6-7-7 (13)			
			– Medium dense to loose, wet	S-22		50	10-9-9-9 (18)			
955		▽								
	60		– 1" lens of soft, low plasticity clay at +/- 60.5'							
		▽	SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, moist – Wet at +/- 61'	S-23		67	11-14-15-14 (29)		63.7	
			SILTY SAND (SM); Dense, light brown, fine sand, some silt, wet	S-24	E–(61-64)	42	13-20-33-26 (53)	NP	46.6	
950										
	65									

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

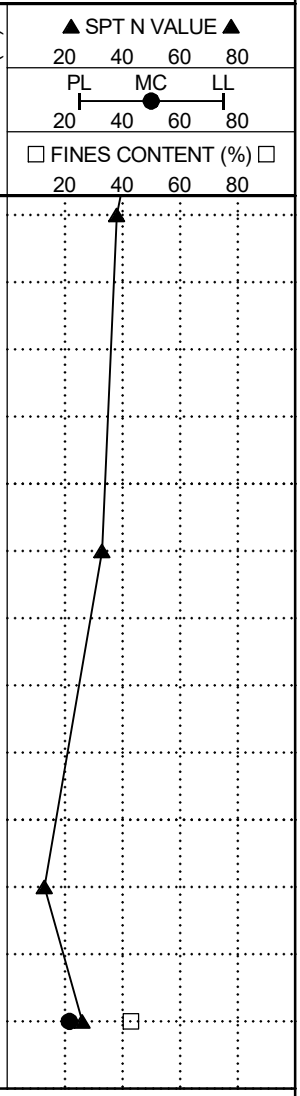
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			– Higher silt content from +/- 66.5' to 67'	S-25		88	13-21-17-22 (38)			
945	70			S-26		83	16-17-16-15 (33)			
940	75		– Little low plasticity clay at +/- 75' to 77'	S-27		83	6-5-8-8 (13)			
			SILTY SAND (SM); Medium dense to loose, light brown, fine to medium sand, some silt, wet	S-28		79	9-10-16-16 (26)		43.0	
935			Borehole terminated at 79.0 ft depth.							



GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-6

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/2/22 **COMPLETED** 5/3/22
GROUND ELEVATION 994.4 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953513.7 ft **EASTING** 186115.5 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 41.00 ft / Elev 953.40 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 42.86 ft / Elev 951.54 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		SILTY SAND (SM); Loose to medium dense, light brown, fine to medium sand, some slit, moist, little organics (roots)	S-1	E–(0-1)	17	1-1-1-1 (2)			
			– Higher silt content, no organics	S-2		13	1-1-1-1 (2)			
990	5			S-3		21	4-6-5-6 (11)			
			– Some to trace medium gravel, angular to rounded	S-4		67	14-14-13-9 (27)		22.1	
985				S-5		21	5-5-4-3 (9)			
	10		– Dark brown	S-6		25	1-1-1-1 (2)			
				S-7	E–(12-16)	75	2-2-1-3 (3)			
980										
	15		Wood fragments/roots	S-8		50	2-2-8-20 (10)			
			SILTY SAND (SM); Medium dense, light to dark brown, fine to medium sand, some non-plastic silt, little fine to medium gravel, subrounded to angular, trace clay, moist, soft at +/- 17.5'	S-9		38	15-8-8-5 (16)			
			– Rock fragments in tip	S-10		33	5-5-8-11 (13)			
975	20									

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-6

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20			S-11		0	4-5-4-5 (9)			
			GRAVEL (GW); coarse, subrounded, moist, likely quartz sandstone (recovered sample consisted of one gravel piece)	S-12		8	4-5-4-3 (9)			
970	25		SILTY SAND (SM); Medium dense to dense, light brown, fine to coarse sand, some to little non-plastic silt, trace fine gravel, angular, moist	S-13		58	5-5-9-12 (14)		18.7	
			– Dry at +/- 27'	S-14	E–(26-30)	58	12-15-21-23 (36)			
965				S-15		58	16-17-20-24 (37)			
	30			S-16		67	17-21-23-26 (44)			
			– Coarse sand content decreasing with depth	S-17		63	15-18-21-24 (39)			
960			– Moist	S-18		88	12-12-13-15 (25)		23.3	
	35			S-19		75	14-16-15-16 (31)			
955				S-20		54	8-7-8-10 (15)			
	40			S-21	E–(40-44)	58	5-5-6-7 (11)			
			– Wet at +/- 41'							

SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-6

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	SPT N VALUE / PL MC LL / FINES CONTENT (%)
950	45			S-22	E–(40-44)	50	8-9-9-10 (18)	NP	26.0		
				S-23		63	6-8-10-10 (18)				
945	50			S-24		79	7-9-10-10 (19)	NP	15.7		
940	55			S-25		71	8-10-9-7 (19)				
935	60		SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, wet	S-26		50	7-9-9-12 (18)				
			SILTY SAND (SM); Loose, light brown, fine to coarse sand, some non-plastic silt, trace to little fine to medium gravel, rounded, wet								
			Borehole terminated at 60.0 ft depth.								

SPT N VALUE: 20 40 60 80
PL MC LL: 20 40 60 80
FINES CONTENT (%): 20 40 60 80

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-7

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 5/4/22 **COMPLETED** 5/5/22
GROUND ELEVATION 1036.5 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953332.6 ft **EASTING** 186398.5 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 79.50 ft / Elev 957.00 ft
LOGGED BY R. McDermott **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 81.95 ft / Elev 954.55 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0									
1035			SANDY SILT (ML); Soft to medium stiff, dark reddish brown to light brown, non-plastic silt, some fine sand, moist	S-1	E–(0-1)	75	1-1-1-1 (2)			
			– Trace clay, alternating bands of sandy silt and silty sand throughout	S-2		75	1-1-3-3 (4)			
	5			S-3		79	3-4-4-3 (8)			
1030				S-4		88	3-3-4-5 (7)		63.6	
				S-5		92	4-5-5-5 (10)			
	10			S-6		75	1-2-2-4 (4)			
1025			SILTY SAND (SM); Loose, light brown, fine to medium sand, some silt, moist	S-7	E–(12-16)	58	5-6-8-12 (14)			
			– 3" lens of coarse sand at +/- 12'							
			SANDY SILT (ML); Stiff, light brown, non-plastic silt, some fine sand, moist, alternating bands of sandy silt and silt throughout	S-8		54	6-7-9-9 (16)			
	15									
1020				S-9		46	7-9-12-12 (21)			
				S-10		50	11-11-11-14 (22)			
	20									

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SILTY SAND (SM); Medium dense to dense, light brown, fine to medium sand, some silt, moist	S-11		75	6-7-9-7 (16)	NP	37.0	
1015				S-12		50	10-12-18-12 (30)			
	25			S-13		58	7-8-10-12 (18)			
1010				S-14		50	14-14-16-17 (30)			
			– Alternating bands of silty sand and silt throughout from +/- 28' to 32'	S-15	E–(28-32)	50	16-16-16-17 (32)			
	30			S-16		50	8-9-10-13 (19)			
1005										
	35			S-17		63	11-14-14-10 (28)		16.1	
1000										
	40		– Dry	S-18		58	9-12-18-21 (30)			
995										

SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	45				E–(43-47)					
990			SANDY SILT (ML); Medium stiff to stiff, light brown, non-plastic silt, some fine sand, moist, alternating bands of sandy silt and silt throughout	S-19		58	21-25-26-29 (51)			
	50			S-20		50	11-15-21-25 (36)		51.2	
985										
	55			S-21		79	12-12-15-17 (27)			
980										
	60				E–(58-62)					
				S-22		50	23-27-35-33 (62)			
975										
	65									

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
970			SANDY SILT (ML); Medium stiff to stiff, light brown, non-plastic silt, some fine sand, moist, alternating bands of sandy silt and silt throughout *(continued)*	S-23		71	16-19-22-23 (41)			
	70			S-24		71	15-17-23-26 (40)		66.1	
965				S-25		75	29-31-36-39 (67)			
	75			S-26		79	17-20-21-22 (41)			
960			SILT WITH SAND (ML); Stiff to very stiff, light brown, non-plastic silt, little to some fine sand, moist, alternating bands of silt with sand and silt throughout	S-27		46	28-39-40-36 (79)		85.0	
		▽		S-28		67	40-36-37-39 (73)			
	80		SILT (ML); Stiff, light brown, non-plastic silt, little to trace fine sand, wet	S-29	E–(80-84)	83	17-21-20-20 (41)	NP	86.5	
955		▼		S-30		50	25-30-34-32 (64)			
	85		SILTY SAND (SM); Medium dense, light brown, fine to medium sand, some silt, moist, alternating bands of silty sand and silt throughout	S-31		88	9-9-11-14 (20)		40.5	
950										

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	90		– High mica content							
945				S-32		88	8-8-10-12 (18)			
	95		– Fine to coarse sand							
940			SILTY SAND WITH GRAVEL (SM); Loose, light brown, fine to coarse sand, some silt, some medium to coarse gravel, angular to rounded (angular pieces likely rock fragments), wet	S-33		63	7-9-9-7 (18)			
	100		GRAVEL WITH SILT AND SAND (GP-GM); Loose, light brown, fine to medium gravel, subangular to subrounded, some fine to coarse sand, little silt, wet							
935				S-34		42	8-7-14-6 (21)		6.7	

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Borehole terminated at 102.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-8

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/7/22 **COMPLETED** 4/12/11
GROUND ELEVATION 1018.85 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954172.8 ft **EASTING** 186354 ft
DRILLING METHOD Hollow Stem Auger, 4.25 in
GROUNDWATER AT TIME OF DRILLING Depth +/- 65.50 ft / Elev 953.35 ft
LOGGED BY K. Warren **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 64.46 ft / Elev 954.39 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0	TOPSOIL							
		SAND WITH SILT (SP-SM); Loose to dense, dark to light brown, fine to medium sand, little to some silt, wet to moist, organics present throughout	S-1	E-(0–1)	21	1-9-10-9 (19)			
		– Rock fragments at +/- 2', no organics	S-2		50	6-4-3-3 (7)			
1015	5		S-3		42	2-2-2-1 (4)			
		– Rock fragments present from +/- 6' to 8'	S-4		83	10-19-21-18 (40)			
1010		– Trace clay	S-5		83	14-14-14-16 (28)			
	10	– Trace gravel, 3" lens of white rock fragments at +/- 10'	S-6		50	8-6-4-4 (10)			
		SAND (SP); Dense, brown, medium to coarse sand, trace silt, trace gravel, moist	S-7	E-(13–15)	100	10-18-20-15 (38)			
1005		SANDY SILT (ML); Stiff, light brown, non-plastic silt, some fine to medium sand, moist							
	15		S-8		75	5-6-7-5 (13)		68.7	
			S-9		75	5-6-8-7 (14)			
1000			S-10		100	7-6-7-10 (13)			
	20								

SPT N VALUE: 20 40 60 80
PL MC LL: 20 40 60 80
FINES CONTENT (%): 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SILT WITH SAND (ML); Medium stiff, light brown, silt, little fine sand, trace clay, moist	S-11		92	5-6-6-7 (12)			
			– Clay content increasing with depth	S-12		92	7-10-10-12 (20)	NP	75.0	
995	25		SILTY SAND (SM); Medium dense, light brown, fine to medium sand, some silt, little clay, moist, mottled at +/- 25.1' to 25.3'	S-13		92	5-7-10-11 (17)		34.1	
			SAND WITH SILT (SP-SM); Medium dense, light brown, fine to medium sand, little silt, trace clay, moist	S-14	E-(27–30)	100	10-11-14-14 (25)			
990	30			S-15		100	5-12-14-14 (26)			
985	35			S-16		92	8-14-14-17 (28)			
980	40			S-17		100	6-11-12-12 (23)			

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
975	45		SILTY SAND (SM); Medium dense, light brown to brown, fine sand, some silt, little clay, moist to wet	S-18	E-(43–46)	83	15-15-15-18 (30)			
				S-19		83	9-15-20-21 (35)	NP	48.0	
970	50		SILT (ML); Stiff to very stiff, brown, non-plastic silt, little clay, trace fine sand, trace gravel, wet to moist	S-20		75	4-2-10-17 (12)		92.1	
				S-21		83	17-20-18-26 (38)			
965	55			S-22		83	1-3-8-15 (11)			
			SANDY SILT (ML); Very stiff, light brown, non-plastic silt, some fine to medium sand, trace clay, moist	S-23		92	20-25-30-35 (55)	NP	51.9	
960	60			S-24	E-(58–62)	83	15-20-21-24 (41)			
				S-25		63	11-22-23-26 (45)			
955	65		– Moisture increasing with depth	S-26		75	15-21-26-34 (47)		61.4	
				S-27		71	14-21-23-23 (44)			

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-8

CLIENT General Electric

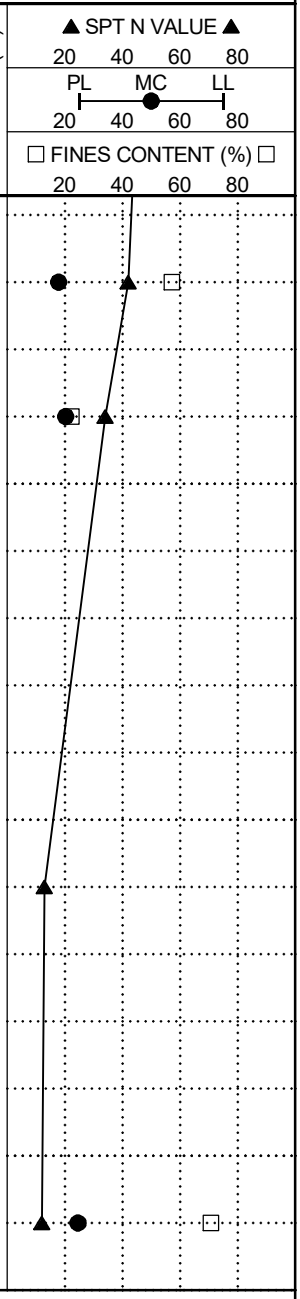
PROJECT NAME UDF PDI

PROJECT NUMBER 30103563

PROJECT LOCATION GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
				S-28		83	17-21-21-23 (42)	NP	57.1	
950	70		SILTY SAND (SM); Dense to medium dense, brown, fine to coarse sand, some silt, trace fine to medium gravel, moist to wet	S-29	E-(68–70)	100	6-16-18-22 (34)		22.2	
945	75		– Saturated	S-30		92	5-5-8-8 (13)			
940	80		SILT WITH SAND (ML); Medium Dense, brown, non-plastic silt, little to some fine to coarse sand, trace gravel, wet, 1/2" lenses of coarse sand/fine gravel at +/- 81.4' and 81.8'	S-31		83	3-4-8-11 (12)	NP	70.6	

Borehole terminated at 82.0 ft depth.



GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER MW-2022-9

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/1/22 **COMPLETED** 4/7/22
GROUND ELEVATION 987.87 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953747.7 ft **EASTING** 186492.6 ft
DRILLING METHOD Hollow Stem Auger, 4.25 in
GROUNDWATER AT TIME OF DRILLING Depth +/- 32.00 ft / Elev 955.87 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 34.47 ft / Elev 953.40 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		TOPSOIL							
			CLAYEY SILT (ML); Medium stiff, grey, non-plastic silt, little to some clay, moist	S-1	E-(0–1)	50	1-1-7-29 (8)			
			SILTY SAND (SM); Loose, reddish brown, fine to medium sand, some silt, trace coarse gravel, subangular to angular, moist, rock stuck in tip							
985			SILT WITH SAND (ML); Soft, reddish brown, non-plastic silt, little to some fine sand, moist	S-2		46	12-8-5-3 (13)	NP	82.8	
			SILTY CLAY (CL); Soft, reddish grey, medium to high plasticity clay, some silt, moist							
	5		SAND WITH SILT (SP-SM); Loose, light brown, fine sand, little silt, moist, silt content increasing with depth	S-3		58	1-2-2-3 (4)			
			SILTY SAND (SM); Loose, light brown, fine sand, some silt, moist	S-4		71	6-7-8-6 (15)			
980			SAND (SP); Loose, light brown, fine sand, trace silt, moist, silt content increasing with depth	S-5		71	3-3-4-4 (7)			
	10		SAND WITH SILT (SP-SM); Loose, light brown, fine sand, trace medium sand, little silt, moist	S-6		38	2-2-12-8 (14)			
			SAND WITH SILT (SW-SM); Medium dense, light brown, fine to coarse sand, little fine gravel, subrounded, little silt, moist	S-7		0	6-9-10-9 (19)			
975										
	15			S-8	E-(14–18)	54	4-6-5-6 (11)		12.3	
			– Gravel present in bands	S-9		75	8-9-8-7 (17)			
970										
				S-10		54	7-7-6-5 (13)			
	20		SAND (SP); Loose, light brown, fine to medium sand, little to trace silt, little to trace fine to coarse gravel, subrounded to subangular, moist							

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER MW-2022-9

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20	– Alternating bands of fine and medium sand	S-11		58	4-4-5-5 (9)			
		– Rock fragments	S-12		67	7-7-6-7 (13)			
965		SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, moist							
	25	– 6" lens with higher silt content at +/- 23.5'	S-13		83	2-3-2-3 (5)		90.2	
		CLAYEY SILT (ML); Soft, light brown, non-plastic silt, some clay, little fine sand, moist to saturated							
		SAND (SP); Medium dense, light brown, fine sand, trace silt, moist	S-14	E-(26–30)	100	5-5-8-7 (13)	NP	19.8	
960		SILTY SAND (SM); Medium dense, light brown, fine to medium sand, little silt, trace fine to coarse gravel, subrounded, moist							
		– Rock fragments at +/- 29.5'	S-15		83	12-28-29-29 (57)			
	30	SILTY GRAVEL WITH SAND (GM); Very dense to dense, light brown, fine to coarse gravel, subrounded to subangular, some silt, some fine to medium sand, moist to wet	S-16		42	17-30-19-17 (49)			
		– Rock fragments throughout							
955			S-17		67	16-21-14-13 (35)		16.1	
	35		S-18		54	15-14-28-32 (42)	NP	27.5	
			S-19	E-(36–40)	50	49-23-21-18 (44)			
950			S-20		100	16-17-20-27 (37)			
	40	SAND WITH SILT AND GRAVEL (SW-SM); Medium dense, light brown, medium to coarse sand, little silt, some medium to coarse gravel, subrounded to subangular, wet	S-21		50	1-6-10-10 (16)		11.8	
						15-17-			

SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

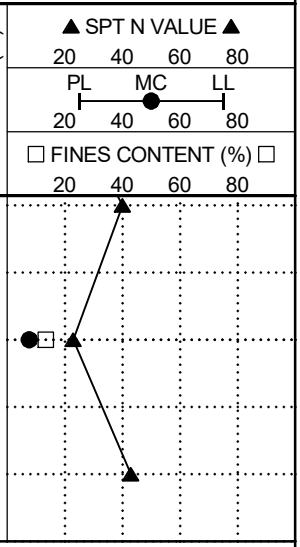
BORING NUMBER MW-2022-9

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
945				S-22		100	23-33 (40)	NP	13.4	
	45		SILTY SAND (SM); Dense, light brown, fine to medium sand, some silt, trace very fine gravel, wet GRAVEL WITH SILT AND SAND (GW-GM); Medium dense, light brown, medium to coarse gravel, subrounded to subangular, some fine to medium sand, little silt, moist to wet, rock fragments throughout	S-23		54	8-10-13-13 (23)			
940				S-24		75	14-15-28-25 (43)			

Borehole terminated at 48.0 ft depth.



GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER PZ-2022-1

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/25/22 **COMPLETED** 4/27/22
GROUND ELEVATION 1021.7 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954813.5 ft **EASTING** 186517.4 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 70.00 ft / Elev 951.70 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 70.16 ft / Elev 951.54 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		TOPSOIL	S-1	E–(0-1)	63	1-2-4-6 (6)			
1020			SAND WITH SILT (SP-SM); Loose, light brown, fine sand, little silt, trace fine to coarse gravel, subangular, moist, organics present	S-2		75	4-6-6-6 (12)			
	5		SILTY SAND (SM); Loose to medium dense, light brown, fine sand, some silt, trace fine to coarse gravel, subrounded to subangular, moist, organics (roots) present to +/- 12'	S-3		75	5-4-3-4 (7)			
1015				S-4		79	7-7-9-13 (16)	NP	37.4	0.4
				S-5		25	9-9-8-5 (17)			
	10		– Rock fragment in tip of sampler	S-6		38	1-2-3-3 (5)			
1010				S-7	E–(12-16)	50	1-2-2-3 (4)		38.2	
	15			S-8		17	1-1-2-1 (3)			
1005			– Some medium sand from +/- 16' to 20'	S-9		13	1-1-2-2 (3)			
	20			S-10		50	1-2-2-2 (4)		26.9	1.1

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SILTY SAND WITH GRAVEL (SM); Loose, dark brown to light reddish brown, fine to medium sand, some silt, little fine to coarse gravel, subangular to subrounded, moist, organics present to +/- 22' (roots)	S-11		42	2-2-2-2 (4)			
1000				S-12		33	2-2-3-6 (5)			
	25		GRAVEL WITH SILT AND SAND (GP-GM); Loose to medium dense, light brown, fine to coarse gravel, subangular to subrounded, some fine to medium sand, little silt, dry	S-13		33	8-7-5-7 (12)			
995			SAND (SP); Medium dense, light greyish brown, fine to coarse sand, trace silt, little fine to coarse gravel, subrounded, dry	S-14		67	6-5-6-9 (11)		3.1	
				S-15	E–(28-32)	54	9-11-15-14 (26)			
	30									
990										
	35		– Moist	S-16		46	5-6-7-7 (13)			
985										
	40		– Loose	S-17		21	5-5-4-6 (9)			
980										

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	45									
975			SAND WITH SILT (SP-SM); Loose, light brown, fine to medium sand, little silt, moist	S-18	E–(45-49)	46	1-2-3-5 (5)			
	50		– Medium dense							
970			GRAVEL WITH SILT AND SAND (GP-GM); Medium dense to dense, light brown, coarse to fine gravel, subrounded to subangular, some fine to coarse sand, little silt, moist, rock fragments throughout	S-19		50	16-11-19-25 (30)			
	55									
965			– Rock fragment in tip of sampler	S-20		33	10-12-12-12 (24)		8.8	
				S-21	E–(58-62)	54	13-16-16-14 (32)			
	60		SILTY SAND WITH GRAVEL (SM); Dense, light brown, fine to coarse sand, some silt, little fine gravel, trace coarse gravel, subrounded, moist	S-22		46	14-20-25-24 (45)			
960			SILTY GRAVEL WITH SAND (GM); Very dense, light brown, coarse to fine gravel, subangular to subrounded, little fine to coarse sand, some silt, moist	S-23		87	38-49-50/3"			
			– 1.5" lens of rock fragments at +/- 63'							
	65		SAND WITH SILT AND GRAVEL (SP-SM); Medium dense, light brown, fine to medium sand, little silt, some fine to coarse gravel, subrounded, moist	S-24		58	14-25-20-20 (45)			
			– 1" lens of rock fragments at+/- 65'							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-1

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
955			SILTY SAND WITH GRAVEL (SM); Dense to very dense, light brown, fine to medium sand, some silt, some fine to coarse gravel, subangular to subrounded, moist to wet – Large rock fragments throughout	S-25		50	32-39-46-63 (85)			
				S-26		54	34-35-40-44 (75)		20.3	
	70			S-27		38	41-24-28-18 (52)		5.2	
950				S-28	E–(72-76)	46	17-12-23-30 (35)			
	75			S-29		50	23-24-20-19 (44)			
945										
	80			S-30		59	15-50/6"			
940										

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

>>▲

Auger refusal at 82.0 ft.
Borehole terminated at 82.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-2

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/27/22 **COMPLETED** 4/29/22
GROUND ELEVATION 1029.1 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954510.6 ft **EASTING** 186574 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 74.50 ft / Elev 954.60 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 76.49 ft / Elev 952.61 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0	TOPSOIL							
		SAND WITH GRAVEL (SP); Loose, light brown, fine sand, little fine to coarse gravel, subrounded, trace silt, moist, organics present (roots)	S-1	E–(0-1)	67	1-4-5-6 (9)			
		SILTY SAND WITH GRAVEL (SM); Medium dense to dense, light brown, fine sand, some silt, little fine to coarse gravel, subangular to subrounded, moist, organics present (roots)	S-2		58	15-38-23-15 (61)			
1025		– 2" lens of light grey rock fragments at +/- 2.5'							
		– 3" lens of yellowish white rock fragments at +/- 3'	S-3		25	8-9-8-7 (17)	NP	24.4	0.3
	5								
		– Rock fragments present at +/- 7'	S-4		33	10-8-25-23 (33)			
		– 4" lens of light grey rock fragments at +/- 8'							
1020		SAND WITH SILT (SP-SM); Medium dense, light brown, fine to coarse sand, little silt, trace fine gravel, moist	S-5		58	8-5-7-8 (12)			
	10		S-6		54	6-10-10-11 (20)			
			S-7	E–(12-16)	46	9-11-16-12 (27)			
1015			S-8		50	5-8-9-11 (17)			
	15		S-9		50	5-8-15-14 (23)			
1010		SILT (ML); Medium stiff, brown, non-plastic silt, trace fine sand, trace clay, wet	S-10		46	4-4-8-9 (12)	NP	93.3	
	20								

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SAND WITH SILT (SP-SM); Medium dense, light brown, fine to medium sand, little silt, moist	S-11		46	6-8-9-9 (17)			
				S-12		50	11-13-15-16 (28)			
			– Alternating bands of sand and silt from +/- 23.25' to 23.75'							
1005			SAND (SP); Medium dense to dense, light brown, fine sand, trace medium sand, trace silt, moist							
	25			S-13		58	6-9-9-11 (18)			
			– Little silt from +/- 27' to 27.5'	S-14	E–(26-30)	71	13-15-18-19 (33)			
1000				S-15		46	14-16-20-19 (36)			
	30									
995										
	35		SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt, moist	S-16		63	8-10-13-15 (23)			
990										
	40		– Little coarse gravel, subrounded, rock fragments throughout	S-17		75	28-20-20-20 (40)		28.4	
			SILTY SAND (SM); Dense, light brown, fine to medium sand, some silt, moist							

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
985	45	SILTY SAND (SM); Dense, light brown, fine to medium sand, some silt, moist *(continued)*		E–(43-45)					
		GRAVEL WITH SILT AND SAND (GP-GM); Medium dense, light brown, fine to coarse gravel, subrounded to angular, some fine to coarse sand, little silt, trace clay, moist	S-18		46	14-14-14-16 (28)			
980	50	SAND (SP); Dense, light brown, fine sand, some medium to coarse sand, trace silt, moist	S-19		79	15-17-18-21 (35)			
975	55	SAND WITH SILT AND GRAVEL (SW-SM); Medium dense to dense, light brown, fine to coarse sand, some fine to coarse gravel, subrounded to subangular, little silt, moist	S-20		67	18-21-23-23 (44)		11.1	
970	60		S-21	E–(58-62)	54	13-17-22-21 (39)			
965	65	– Moist to dry	S-22		50	11-18-20-20 (38)			

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			S-23		63	16-14-14-16 (28)			
960	70	SILTY SAND (SM); Medium dense to very dense, light brown, fine to medium sand, some silt, trace fine gravel, subrounded to subangular, dry to moist	S-24		50	18-20-26-24 (46)		19.3	
			S-25		58	12-19-31-11 (50)			
			S-26		67	26-30-33-29 (63)			
955	75	▽ – Wet at +/- 74.5'	S-27		79	13-14-29-31 (43)			
		SAND WITH SILT (SP-SM); Dense to very dense, light brown, fine sand, little silt, wet							
		▼ – Alternating bands of sand and silt and clay from +/- 77' to 82'	S-28	E–(75-78)	83	27-19-22-26 (41)	NP	29.1	
950	80		S-29		58	16-17-19-35 (36)			
945	85		S-30		58	19-24-22-24 (46)		69.2	
		SANDY SILT (ML); Medium stiff, light brown, non-plastic silt, some fine sand, trace clay, moist							

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-2

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
940			– 1" lens of gravel at +/- 90.5'							
	90		SILTY SAND (SM); Dense, light brown, fine sand, some silt, moist	S-31		83	11-27-27-49 (54)			
			ROCK FRAGMENTS, grey (possible weathered bedrock)	S-32		100	50/1"			
			Borehole terminated at 92.1 ft depth.							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

BORING NUMBER PZ-2022-3

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/20/22 **COMPLETED** 4/22/22
GROUND ELEVATION 1033.8 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954521 ft **EASTING** 186762.5 ft
DRILLING METHOD Mud Rotary, bentonite slurry, casing dia. 6 in.
GROUNDWATER AT TIME OF DRILLING Depth +/- 82.00 ft / Elev 951.80 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 70.01 ft / Elev 963.79 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		TOPSOIL	S-1	E-(0–1)	50	3-2-5-9 (7)			
			SAND WITH SILT AND GRAVEL (SP-SM); Loose, brown, fine sand, little silt, little fine to coarse gravel, subrounded to subangular, moist, organics present (roots)							
1030			SILTY SAND (SM); Medium dense to dense, light brown, fine sand, some silt, moist, rock fragments present throughout	S-2		67	10-15-13-12 (28)	NP	43.9	
	5			S-3		92	10-10-13-11 (23)			
				S-4		92	9-9-7-7 (16)			
1025				S-5		79	6-6-5-6 (11)			
	10			S-6		46	3-4-7-8 (11)			
				S-7		46	5-8-11-11 (19)			
1020				S-8	E-(13–16)	54	3-5-7-8 (12)			
	15			S-9		54	9-12-10-10 (22)			
1015				S-10		50	9-11-9-10 (20)			
	20									

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20			S-11		54	3-6-7-10 (13)			
1010				S-12		54	5-11-14-20 (25)			
	25			S-13		50	7-8-10-12 (18)		15.6	
				S-14	E-(26–30)	54	9-12-13-13 (25)			
1005				S-15		63	10-16-17-16 (33)			
	30									
1000										
	35		SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt, moist	S-16		54	7-8-12-10 (20)			
995			– Higher silt content from +/- 36.5' to 37'							
	40			S-17		67	9-14-15-18 (29)			
			SAND (SP); Dense, light brown, fine sand, trace silt, moist							

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
990	45								
		SILTY SAND (SM); Medium dense, light brown, fine sand, some silt, moist	S-18	E-(45–47)	83	7-8-9-13 (17)			
985	50								
		SAND (SP); Medium dense, light brown, fine to coarse sand, trace silt, moist – Sand stratified from fine to coarse	S-19		79	7-10-10-13 (20)			
980	55								
		SAND WITH SILT (SP-SM); Medium dense, light brown, fine sand, little silt, moist	S-20		75	10-10-11-13 (21)	NP	7.8	
975	60								
		– Some fine to coarse gravel, subangular to subrounded, rock fragments present	S-21	E-(60–64)	58	15-19-22-23 (41)			
970	65								
		SILT (ML); Very stiff, light brown, non-plastic silt, trace fine sand, trace clay, moist to wet							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
		SILT (ML); Very stiff, light brown, non-plastic silt, trace fine sand, trace clay, moist to wet *(continued)*	S-22		71	23-11-12-18 (23)		95.5	
965	70								
		SILTY SAND (SM); Dense, light brown, fine sand, some silt, wet to moist, sand content increasing with depth	S-23		79	6-12-24-24 (36)	1	78.5	
			S-24		58	40-45-48-42 (93)			
960		SILTY SAND WITH GRAVEL (SM); Very dense, light brown, fine to medium sand, some silt, little to some fine to coarse gravel, subangular to subrounded, moist							
	75	– Rock fragments throughout	S-25		67	33-48-49-33 (97)			
		– Wet at tip	S-26		50	34-31-26-29 (57)		26.3	
955			S-27		77	19-30-35-50/6"		20.8	
	80		S-28		100	50/3"			
		SAND (SP); Very dense, light brown, fine sand, trace coarse sand, trace silt, wet	S-29		59	4-43-50/5"			
950				E-(82–86)					
		Top of suspected weathered bedrock noted by driller at +/- 84'							
	85								

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-3

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
945										
	90			S-30			50/0"			
940										
	95		ROCK FRAGMENTS with fine sand between layers (possible weathered bedrock)	S-31		100	50/5"			
935										
	100		Auger refusal at 100.0 ft. Borehole terminated at 100.0 ft depth.	S-32			50/0"			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER PZ-2022-5

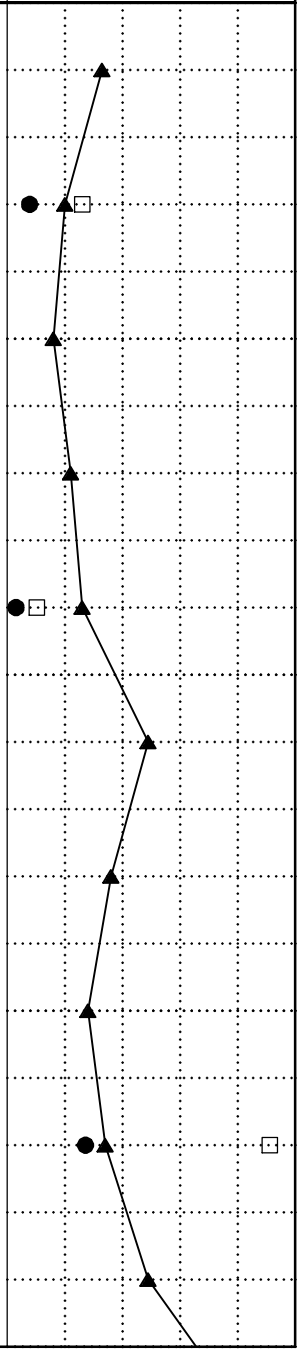
ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 4/12/22 **COMPLETED** 4/20/22
GROUND ELEVATION 1031.7 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2954159.3 ft **EASTING** 186694.9 ft
DRILLING METHOD Hollow Stem Auger, 4.25 in
GROUNDWATER AT TIME OF DRILLING Depth +/- 73.50 ft / Elev 958.20 ft
LOGGED BY K. Warren **CHECKED BY** M. Tucker
GROUNDWATER AFTER DRILLING Depth 77.57 ft / Elev 954.13 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		TOPSOIL							
			SILTY SAND (SM); Medium dense to dense, brown, fine to medium sand, some silt, moist, organics present to +/- 2'	S-1	E-(0–1)	42	7-13-20-26 (33)			
1030				S-2		67	11-7-13-16 (20)	NP	26.1	
			– Trace clay	S-3		58	19-9-7-15 (16)			
	5									
1025			– Moist to wet, little clay	S-4		71	10-10-12-25 (22)			
			SAND WITH SILT (SP-SM); Medium dense to dense, brown, fine to medium sand, little silt, trace clay, moist	S-5		71	9-12-14-21 (26)		10.2	
	10									
			– No clay	S-6		83	26-25-24-23 (49)			
1020				S-7		79	30-20-16-23 (36)			
				S-8	E-(13–16)	83	12-12-16-17 (28)			
	15		SILTY SAND (SM); Medium dense, light brown, fine sand, some silt, trace clay, moist							
1015				S-9		67	14-10-24-29 (34)		91.0	
			SILT (ML); Very stiff, brown, non-plastic silt, little to trace fine sand, moist to wet							
			SAND (SP); Dense, brown, fine sand, little clay, trace silt, moist to wet	S-10		83	28-28-21-38 (49)			
	20									

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80



(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SANDY SILT (ML); Very stiff, light brown, non-plastic silt, some fine sand, moist	S-11		67	31-48-34-36 (82)			
1010			– Sand content increasing with depth	S-12		83	41-40-40-55 (80)	NP	56.7	
	25		SAND WITH SILT (SP-SM); Very dense, light brown, fine to medium sand, little clay, little silt, moist	S-13		100	26-28-31-36 (59)			
1005				S-14	E-(26–30)	100	40-40-37-39 (77)			
	30		– New hole started 3' to the north, blind drill to 35'	S-15		75	53-60-55-77 (115)			
1000										
	35		SAND WITH SILT (SP-SM); Very dense, light brown, fine sand, little silt, moist	S-16		46	57-91-82-74 (173)			
995										
	40		SILTY SAND (SM); Dense to very dense, light brown, fine sand, some silt, moist	S-17		83	17-25-24-26 (49)			
990										

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	45		SILTY SAND (SM); Dense to very dense, light brown, fine sand, some silt, moist *(continued)*							
985				S-18	E-(45–49)	75	22-45-61-58 (106)	NP	48.1	
			SAND WITH SILT (SP-SM); Very dense, light brown, fine sand, little silt, moist to wet	S-18		63	36-55-76-57 (131)			
	50									
980			SAND WITH CLAY (SP-SC); Very dense, light brown, fine sand, some clay, trace silt, wet	S-19		96	18-28-42-47 (70)			
	55									
975			SAND WITH SILT (SP-SM); Very dense, light brown, fine sand, little silt, moist	S-20		79	32-82-67-52 (149)			
				S-20	E-(58–62)	63	19-31-90-80 (121)			
	60			S-21		54	44-28-60-95 (88)			
970				S-21		83	55-98-90 (188)			
	65		SANDY SILT (ML); Very dense, light brown, non-plastic silt, some fine sand, moist							

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
965		SANDY SILT (ML); Very dense, light brown, non-plastic silt, some fine sand, moist *(continued)*	S-22		67	54-33-45-55 (78)		53.5	
	70								
960		SAND WITH SILT (SP-SM); Dense, light brown, fine sand, little silt, wet – Auger refusal at 75', step out 6', blind drill to 70' and resumed sampling	S-23		58	28-22-22-30 (44)			
		SILTY SAND (SM); Dense, light brown, fine sand, some silt, wet at +/- 73.5'	S-24	E-(72–76)	58	28-30-36-42 (66)	NP	48.1	
	75	– 1" lens of medium to coarse sand at +/- 74.5', rock fragments in tip	S-25		70	19-50/4"			
955		GRAVEL WITH SAND (GP); Very dense, light brown, fine to coarse gravel, subangular to angular, some fine to coarse sand, wet, rock fragments throughout	S-26		100	50/3"			
	80								
950		SILTY SAND WITH GRAVEL (SM); Dense, light brown, fine to coarse sand, little silt, some fine to coarse gravel, subrounded to subangular, wet, rock fragments throughout	S-27		38	47-38-14-21 (52)		22.5	
	85	– Pieces of very dense/cemented sand (possible very weathered rock), layers of grey and orange colored cemented sands							
945		GRAVEL WITH SILT AND SAND (GP-GM); Light brown, fine gravel, subrounded, some fine to coarse sand, little silt, wet, rock fragments present – Suspect loose material below gravel and poor sample recovery based on low blow counts	S-28		38	26-13-5-7 (18)			

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

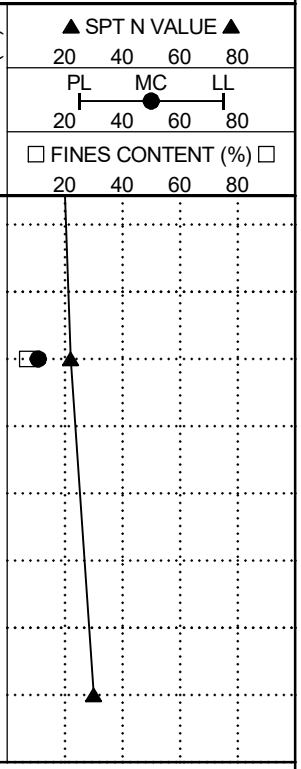
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-5

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	90									
940			SAND WITH SILT AND GRAVEL (SP-SM); Medium dense, light brown, fine to coarse sand, some fine to coarse gravel, subangular to rounded, little silt, wet, rock fragments throughout	S-29		42	15-14-8-12 (22)		7.0	
	95		SILTY GRAVEL WITH SAND (GM); Dense, brown, fine to coarse gravel, subrounded, some silt, little fine sand, wet, rock fragments present	S-30		38	13-13-17-14 (30)			
935			SAND (SP); Very dense, loosely cemented, white, fine sand, wet (possibly pulverized rock)							
			Borehole terminated at 97.0 ft depth.							



GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER PZ-2022-7

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 3/28/22 **COMPLETED** 3/30/22
GROUND ELEVATION 1024.74 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953877 ft **EASTING** 186894.1 ft
DRILLING METHOD Hollow Stem Auger, 4.25 in
GROUNDWATER AT TIME OF DRILLING Depth +/- 65.45 ft / Elev 959.29 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 67.12 ft / Elev 957.62 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	0		TOPSOIL							
			SAND (SP); Loose, light brown, fine to medium sand, trace silt, moist	S-1		58	1-1-3-4 (4)			
				S-2		58	3-3-4-5 (7)			
1020	5		SANDY SILT (ML); Stiff to very stiff, light brown, non-plastic silt, some fine sand, moist	S-3		54	4-6-7-8 (13)	NP	74.4	
				S-4		100	7-9-10-12 (19)			
1015	10		– 3" lens of low-medium plasticity fines at +/- 9'	S-5		83	6-9-10-13 (19)			
			SILTY SAND (SM); Medium dense, light brown, fine sand, little silt, trace gravel, subrounded to subangular, moist	S-6		71	2-6-6-6 (12)			
				S-7		79	6-7-9-10 (16)		45.6	
1010	15			S-8		75	4-5-7-8 (12)			
			SILT WITH SAND (ML); Medium dense, light brown, non-plastic silt, little to some fine sand, moist	S-9		79	5-6-7-8 (13)		80.2	
				S-10		46	7-7-11-14 (18)			
1005	20		SAND WITH SILT (SP-SM); Medium dense to dense, light brown, fine to coarse sand, trace to little silt, moist							

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
	20		SAND WITH SILT (SP-SM); Medium dense to dense, light brown, fine to coarse sand, trace to little silt, moist *(continued)*	S-11		75	6-9-10-14 (19)	NP	9.1	
				S-12		75	13-15-16-17 (31)			
1000	25			S-13		71	9-14-16-17 (30)			
			– Some to little fine to coarse gravel, subangular to subrounded	S-14		54	14-16-17-21 (33)			
				S-15		75	20-20-17-19 (37)			
995	30									
990	35			S-16		79	7-11-14-16 (25)			
985	40			S-17		67	8-18-21-23 (39)		15.9	

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			– Some to little fine to coarse gravel, subangular to subrounded *(continued)*							
980	45			S-18		83	7-9-13-21 (22)			
975	50			S-19		58	8-13-14-17 (27)			
970	55			S-20		63	13-22-19-18 (41)			
965	60		ROCK FRAGMENTS; Very light grey, little fine to coarse sand, dry	S-21		43	22-36-49-50/5"			
			SILTY SAND WITH GRAVEL (SM); Very dense, light brown, fine to coarse sand, some silt, some fine to coarse gravel, subangular, moist	S-22		76	34-37-43-50/3"			
960	65		– 4" lens of rock fragments at +/- 62.8', very light grey and pink – 3" lens of rock fragments at +/- 64', light grey – 6" lens of rock fragments at +/- 64.8', light grey to light brown	S-23		50	32-27-28-26 (55)	NP	15.4	

▲ SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
		GRAVEL WITH SILT AND SAND (GW-GM); Very dense, brown, fine to coarse gravel, subangular to subrounded, some fine to medium sand, little silt, wet *(continued)*	S-24	54	21-23-30-26 (53)		11.9	
			S-25	71	36-18-22-19 (40)			
955	70	SILTY SAND WITH GRAVEL (SM); Dense to very dense, light brown to brown, fine to medium sand, some fine to coarse gravel, subangular to subrounded, little to some silt, wet, rock fragments present throughout	S-26	53	39-40-50/3"			
			S-27	68	22-16-25-50/4"		15.7	
950	75	– Note: first blow counts in sample S-28 low due to heaving sands in hole. Driller maintaining water head in casing for control of sands moving forward.	S-28	42	1-1-33-35 (34)			
			S-29	60	46-49-50/3"			
			S-30	76	45-49-50/5"			
945	80		S-31	71	36-49-50/2"	NP	21.6	
			S-32	71	35-39-40-49 (79)			
940	85		S-33	55	49-50/5"			
			S-34	60	32-46-50/3"			

SPT N VALUE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-7

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
935	90			S-35		46	20-49-42-39 (91)				

Borehole terminated at 90.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

BORING NUMBER PZ-2022-8

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

CLIENT General Electric
PROJECT NAME UDF PDI
PROJECT NUMBER 30103563
PROJECT LOCATION GE Parcel, Lee, Massachusetts
DATE STARTED 3/22/22 **COMPLETED** 3/29/22
GROUND ELEVATION 1035.42 ft **HOLE SIZE** 6 in
DRILLING CONTRACTOR Cascade Drilling
NORTHING 2953540.1 ft **EASTING** 186868.9 ft
DRILLING METHOD Hollow Stem Auger, 4.25 in
GROUNDWATER AT TIME OF DRILLING Depth +/- 77.00 ft / Elev 958.42 ft
LOGGED BY M. Tucker **CHECKED BY** E. Pittman
GROUNDWATER AFTER DRILLING Depth 78.52 ft / Elev 956.90 ft on 6/6/22
NOTES SPT Sampling details: 2 in. O.D. sampler, 140 lb. hammer, 30 in. hammer drop.

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1035	0		TOPSOIL							
			SAND WITH GRAVEL (SP); Loose to medium dense, light brown, fine sand, little gravel, rounded, moist to wet, organics present, rock fragment in tip	S-1	E-(0–1)	42	2-4-5-9 (9)			
				S-2		50	4-5-6-6 (11)			
			SILTY SAND (SM); Medium dense, light brown, fine sand, some silt, moist	S-3		63	3-6-9-8 (15)	NP	22.8	
1030	5			S-4		83	8-8-10-11 (18)			
				S-5		75	8-7-8-10 (15)			
			SANDY SILT (ML); Stiff, light brown, non-plastic silt, some fine sand, moist							
1025	10		SILTY SAND (SM); Loose to dense, light brown, fine sand, some silt, moist	S-6		75	1-4-5-6 (9)			
			– 4" lens of silt at +/- 12'	S-7	E-(12–16)	75	5-6-4-7 (10)			
1020	15			S-8		75	3-5-6-6 (11)			
				S-9		83	7-7-11-10 (18)		30.6	
	20			S-10		67	14-10-11-14 (21)			

SPT N VALUE 20 40 60 80
PL MC LL 20 40 60 80
FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
1015	20			S-11		79	4-7-8-9 (15)			
				S-12		79	9-12-14-14 (26)			
1010	25			S-13		83	5-8-9-12 (17)		23.8	
				S-14	E-(26–30)	83	10-12-14-15 (26)			
				S-15		100	17-15-15-15 (30)			
1005	30									
1000	35		– With 2" to 3" thick sandy silt seams	S-16		100	6-10-13-14 (23)		29.4	
995	40		– 1" thick silty clay seam, low to medium plasticity	S-17	E-(40–44)	100	6-9-13-15 (22)			
							17-18-			

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets
855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
				ES	E-(40–44)	100	18-20 (36)			
990	45			S-18		88	6-14-14-17 (28)			
985	50			S-19		100	14-17-17-18 (34)			
980	55		SILT (ML); Medium dense, light brown to brown, non-plastic silt, little fine sand, trace 1/4" size cemented particles, moist	S-20		92	8-12-16-18 (28)	NP	91.2	
975	60		– 1" lens of rock fragments at +/- 60'	S-21	E-(60–64)	88	15-19-20-20 (39)			
			SILTY SAND (SM); Dense to very dense, light brown, fine sand, little to some silt, moist to dry, silt content increasing with depth	ES		100	50/6"			
970	65									

SPT N VALUE
20 40 60 80
PL MC LL
20 40 60 80
FINES CONTENT (%)
20 40 60 80

>>

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)
			GRAVEL WITH SILT AND SAND (GP-GM); Dense, light brown, fine to coarse gravel, subangular to subrounded, some fine to medium sand, little silt, moist *(continued)*	S-22		79	38-26-23-36 (49)			
			SANDY SILT (ML); Very stiff, brown, non-plastic silt, some fine sand, trace clay, moist							
	70									
965			SILTY GRAVEL WITH SAND (GM); Dense to very dense, light brown, fine to coarse gravel, subangular to subrounded, some fine to coarse sand, some silt, moist	S-23		42	24-17-15-38 (32)		32.4	
			– Alternating layers of sand and gravel, rock fragments present throughout	S-24		79	46-44-39-32 (83)			
			– Moist to wet	S-25		40	49-50/4"		11.2	
	75									
960										
			– 2" lens of grey rock fragments at +/- 76.4'	S-26		63	18-39-74-40 (113)			
			– 2" lens of reddish brown rock fragments at +/- 77.2'							
			SILTY SAND WITH GRAVEL (SM); Dense to very dense, light brown to brown, fine to coarse sand, some silt, little gravel, subangular to subrounded, moist to wet	S-27		8	27-22-17-19 (39)			
	80									
955				S-28	E-(80–84)	50	31-22-25-24 (47)			
			– Note: Bottom of drill hole unstable, heaving sands in augers, driller maintaining water head in casing for control	S-29		100	18-49-50/5"			
			GRAVEL WITH SILT AND SAND (GW-GM); Very dense, light brown, fine to coarse gravel, subangular to subrounded, some fine to coarse sand, little silt, moist to wet	S-30		67	6-41-50/3"		14.4	
	85									
950										
			SILTY SAND WITH GRAVEL (SM); Dense, light brown, fine to medium sand, some silt, some fine to coarse gravel, subrounded, moist to wet	S-31		50	49-50/2"			

SPT N VALUE 20 40 60 80; PL MC LL 20 40 60 80; FINES CONTENT (%) 20 40 60 80

(Continued Next Page)

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

ARCADIS Design & Consultancy for natural and built assets

855 Route 146, Suite 210 Clifton Park, NY 12065

BORING NUMBER PZ-2022-8

CLIENT General Electric **PROJECT NAME** UDF PDI

PROJECT NUMBER 30103563 **PROJECT LOCATION** GE Parcel, Lee, Massachusetts

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	GEOTECH SAMPLE NUMBER	ENVIRONMENTAL SAMPLE NUMBER	RECOVERY % (RQD%)	BLOW COUNTS (N VALUE)	PLASTICITY INDEX (%)	PERCENTAGE FINES (%)	ORGANIC CONTENT (%)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
	90			S-32		33	26-16-22-29 (38)	NP	28.4		
945			– Coarse gravel stuck in tip	S-33		89	15-50/3"				>>

Auger refusal at 92.0 ft.
Borehole terminated at 92.0 ft depth.

GEOTECH BH PLOTS - GINT STD US_ARC.GDT - 7/26/23 12:38 - C:\USERS\MTUCKER\ONEDRIVE - ARCADIS\DESKTOP\GE UDF 2022\BORING LOGS 2023\JULY 2023\GE UDF - 2023 - MT.GPJ

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/23/22	Checked By:	ank
Depth :	---	Test Id:	689997		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-2022-1	S- 5	8-10	Moist, pale brown sand with silt	2.9
B-2022-1	S- 19	45-47	Moist, light yellowish brown clay	16.6
B-2022-1	S- 33	90-92	Moist, pale brown silty sand with gravel	8.7
B-2022-6	S- 11	20-22	Moist, light brown silty sand	20.8
B-2022-5	S- 16	30-32	Moist, light brown silty sand	12.1
B-2022-5	S- 12	22-24	Moist, pale brown sandy silt	9.6
MW-2022-7	S- 34	100-102	Moist, pale brown gravel with silt and sand	5.1
B-2022-2	S- 23	65-67	Moist, light yellowish brown silty sand	10.4
B-2022-2	S- 20	50-52	Moist, pale brown silty sand with gravel	3.5
B-2022-2	S- 8, S-9	14-16, 16-18	Moist, pale brown sandy silt	8.9

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/23/22	Checked By:	ank
Depth :	---	Test Id:	689985		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-2022-5	S- 32	80-82	Moist, light brown sandy silt	21.4
B-2022-5	S- 28, S-29	69-71, 71-73	Moist, brown sandy silt	19.9
B-2022-1	S- 26	70-72	Moist, yellowish brown silty sand with gravel	7.0
B-2022-1	S- 20	50-52	Moist, light yellowish brown silty sand	9.1
B-2022-1	S- 10	18-20	Moist, pale brown sandy silt	10.8
B-2022-6	S- 17, S-18	32-34, 34-36	Moist, pale brown gravel with silt and sand	4.6
B-2022-6	S- 16	30-32	Moist, pale brown silty sand with gravel	4.6
B-2022-6	S- 2, S-3	2-4, 4-6	Moist, pale brown sandy silt	11.5
PZ-2022-1	S- 27	70-72	Moist, light yellowish brown gravel with silt and sand	3.2
MW-2022-7	S- 27, S-28	76-78, 78-80	Moist, light brown silt with sand	18.2

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/24/22	Checked By:	ank
Depth :	---	Test Id:	689990		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-7	S- 23	64-66	Moist, pale brown silty sand with gravel	2.8
MW-2022-2	S- 16	30-32	Moist, light yellowish brown silty sand	12.5
B-2022-6	S- 23	44-46	Moist, pale brown silty gravel with sand	.4
B-2022-1	S- 31	80-82	Moist, light olive brown silty sand with gravel	11.1
B-2022-1	S- 2	2-4	Moist, light yellowish brown silty sand	4.5
B-2022-5	S- 21	55-57	Moist, light olive brown silt with sand	23.1
MW-2022-7	S- 29	80-82	Moist, light olive brown silt	24.4
MW-2022-7	S- 17	35-37	Moist, yellowish brown silty sand	19.4
MW-2022-7	S- 24	70-72	Moist, pale brown sandy silt	14.6
B-2022-5	S- 7, S-8	12-14, 14-16	Moist, light yellowish brown sandy silt	15.1

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/24/22	Checked By:	ank
Depth :	---	Test Id:	690003		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-2022-5	S- 26	65-67	Moist, pale brown silt with sand	21.6
MW-2022-7	S- 31	85-87	Moist, light olive brown silty sand	20.9
B-2022-2	S- 16	30-32	Moist, yellowish brown and gray silty sand	9.2
B-2022-2	S- 27	73-75	Moist, pale brown silty sand	4.4
PZ-2022-5	S- 24, S-25	72-74, 74-76	Moist, light yellowish brown silty sand	18.5
B-2022-6	S- 28	64-66	Moist, pale brown silty sand with gravel	9.1
B-2022-6	S- 25	50-52	Moist, pale brown silty gravel with sand	7.0
MW-2022-2	S- 13	24-26	Moist, light olive brown sandy silt with gravel	17.5
MW-2022-2	S- 6	10-12	Moist, brown sand with silt and gravel	14.9
B-2022-2	S- 31	85-87	Moist, pale brown silty sand	16.2

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/25/22	Checked By:	ank
Depth :	---	Test Id:	690025		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-2	S- 2	2-4	Moist, dark yellowish brown silty sand	24.3
B-2022-6	S- 7, S-8	12-14, 14-16	Moist, light brown sandy silt	17.1
B-2022-2	S- 30	79-81	Moist, light yellowish brown silty sand	17.5
B-2022-5	S- 3, S-4	4-6, 6-8	Moist, pale brown silty sand	7.2
MW-2022-6	S- 22	42-44	Moist, light yellowish brown silty sand	17.8
MW-2022-5	S- 24	62-64	Moist, light yellowish brown silty sand	11.2
PZ-2022-2	S- 28	76-78	Moist, light yellowish brown silty sand	22.6
PZ-2022-3	S- 23	70-72	Moist, light olive brown silt with sand	23.3
MW-2022-8	S- 28	66-68	Moist, pale brown sandy silt	17.8
MW-2022-9	S- 18	34-36	Moist, light yellowish brown silty gravel with sand	6.3

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/23/22	Checked By:	ank
Depth :	---	Test Id:	689980		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-7	S- 20	50-52	Moist, pale brown sandy silt	13.0
MW-2022-7	S- 11, S-12	20-22, 22-24	Moist, light brown silty sand	16.9
MW-2022-7	S- 4, S-5	6-8, 8-10	Moist, pale brown sandy silt	9.9

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	05/20/22	Checked By:	bfs
Depth :	---	Test Id:	668855		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-8	S- 12	22-24'	Moist, light yellowish brown silt with sand	21.2
MW-2022-8	S- 13	24-26'	Moist, light yellowish brown silty sand	13.4
MW-2022-8	S- 19	45-47'	Moist, light yellowish brown silty sand	10.7
MW-2022-8	S- 20	50-52'	Moist, light olive brown silt	28.1
MW-2022-8	S- 23, S-24	56-58', 58-60'	Moist, light yellowish brown sandy silt	10.7
MW-2022-8	S- 26, S-27	62-64', 64-66'	Moist, light olive brown sandy silt	19.0
MW-2022-8	S- 29	68-70'	Moist, light olive brown silty sand	20.2
MW-2022-8	S- 31	80-82'	Moist, light yellowish brown silt with sand	24.5
MW-2022-8	S- 8, S-9	14-16', 16-18'	Moist, light brownish gray sandy silt	14.2

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	05/20/22	Checked By:	bfs
Depth :	---	Test Id:	668391		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-9	S- 2	2-4'	Moist, light olive brown silt with sand	27.3
MW-2022-9	S- 8, S-9	14-16', 16-18'	Moist, light brownish gray silty sand	4.2
MW-2022-9	S- 13	24-26'	Moist, light yellowish brown silt	30.1
MW-2022-9	S- 14	26-28'	Moist, light yellowish brown silty sand	7.5
MW-2022-9	S- 17	32-34'	Moist, light olive brown silty gravel with sand	5.5
MW-2022-9	S- 21	40-42'	Moist, light olive brown sand with silt and gravel	9.7
MW-2022-9	S- 23	44-46'	Moist, light olive brown silty gravel with sand	7.6

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	05/20/22	Checked By:	bfs
Depth :	---	Test Id:	668384		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-7	S- 3, S-4	4-6', 6-8'	Moist, light yellowish brown silt with sand	10.1
PZ-2022-7	S- 7, S-8	12-14', 14-16'	Moist, pale brown silty sand	5.0
PZ-2022-7	S- 9	16-18'	Moist, light olive brown silt with sand	28.3
PZ-2022-7	S- 11	20-22'	Moist, pale brown sand with silt	1.0
PZ-2022-7	S- 17	40-42'	Moist, pale brown silty sand	.8
PZ-2022-7	S- 24, S-25	66-68', 68-70'	Moist, light olive brown gravel with silt and sand	7.8
PZ-2022-7	S- 27	72-74'	Moist, light olive brown silty sand with gravel	10.6
PZ-2022-7	S- 31, S-32	80-82', 82-84'	Moist, light olive brown silty sand with gravel	10.5

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	05/20/22	Checked By:	bfs
Depth :	---	Test Id:	668405		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-5	S- 2	2-4'	Moist, pale brown silty sand	7.7
PZ-2022-5	S- 5	8-10	Moist, pale brown sand with silt	3.0
PZ-2022-5	S- 9	16-18'	Moist, light olive brown silt	27.1
PZ-2022-5	S- 12	22-24'	Moist, light yellowish brown sandy silt	11.4
PZ-2022-5	S- 18	45-47'	Moist, light yellowish brown silty sand	13.5
PZ-2022-5	S- 22	65-67'	Moist, pale brown sandy silt	9.5

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	05/20/22	Checked By:	bfs
Depth :	---	Test Id:	668376		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-8	S- 3, S-4	4-6', 6-8'	Moist, light yellowish brown silty sand	9.3
PZ-2022-8	S- 9	16-18'	Moist, pale brown silty sand	7.7
PZ-2022-8	S- 13, S14	24-26', 26-28'	Moist, pale brown silty sand	4.5
PZ-2022-8	S- 16	35-37'	Moist, pale brown silty sand	4.6
PZ-2022-8	S- 20	55-57'	Moist, pale brown silt	15.0
PZ-2022-8	S- 23	70-72'	Moist, light yellowish brown silty gravel with sand	6.5
PZ-2022-8	S- 25, S-26	74-76', 76-78'	Moist, light yellowish brown gravel with silt and sand	3.0
PZ-2022-8	S- 30	84-86'	Moist, light brownish gray silty gravel with sand	9.5
PZ-2022-8	S- 32, S-33	88-90', 90-92'	Moist, light olive brown silty sand with gravel	14.4

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	08/03/22	Checked By:	bfs
Depth :	---	Test Id:	679594		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-2022-8	S- 3, S-4	4-8'	Moist, light olive brown silt with sand	12.2
B-2022-8	S- 5, S-6	8-12'	Moist, light olive brown silty sand	10.8
B-2022-8	S- 9, S10	16-20'	Moist, light olive brown silty sand	24.0
B-2022-8	S- 15, S-16	28-32'	Moist, light olive brown silty sand	21.4
B-2022-8	S- 21	55-57'	Moist, light olive brown sandy silt	19.6
B-2022-8	S- 25	66-68'	Moist, light olive brown silt with sand	26.8
B-2022-8	S- 26	68-70'	Moist, light olive brown sandy silt	22.2
B-2022-8	S- 29	80-82'	Moist, light olive brown silty sand with gravel	10.8

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	08/10/22	Checked By:	bfs
Depth :	---	Test Id:	679612		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-2022-3	S- 4	6-8'	Moist, light gray sand with silt	2.8
B-2022-3	S- 5	8-10'	Moist, light grayish brown sand with silt	3.0
B-2022-3	S- 6, S-7	10-14'	Moist, light gray silty sand	3.6
B-2022-3	S- 10, S-11	18-22'	Moist, pale brown silty sand	4.3
B-2022-3	S- 15, S-16	28-32'	Moist, light brownish gray silty sand	3.2
B-2022-3	S- 21	46-48'	Moist, light olive brown silt	25.7
B-2022-3	S- 22	48-50'	Moist, light olive brown silt	24.1
B-2022-3	S- 26	56-58'	Moist, light olive brown silt with sand	25.3
B-2022-3	S- 27	58-60'	Moist, light olive brown silty sand with gravel	10.9
B-2022-3	S- 30	70-72'	Moist, light olive brown silty sand with gravel	13.7

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	08/10/22	Checked By:	bfs
Depth :	---	Test Id:	679602		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-2022-7	S- 2, S-3	2-6'	Moist, dark brown silty sand	12.6
B-2022-7	S- 5	8-10'	Moist, brown sand with silt	5.1
B-2022-7	S- 10	18-20'	Moist, light olive brown silty sand	13.3
B-2022-7	S- 13, S-14	24-28'	Moist, light olive brown silty sand	21.3
B-2022-7	S- 16, S-17	30-34'	Moist, light olive brown sandy silt	22.0
B-2022-7	S- 20, S-21	38-40'	Moist, light olive brown silty sand	17.1
B-2022-7	S- 26	50-52'	Moist, light olive brown silty sand	25.5
B-2022-7	S- 28	60-62'	Moist, light olive brown silty sand	24.7

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	08/10/22	Checked By:	bfs
Depth :	---	Test Id:	679619		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-1	S- 2, S-3	2-6'	Moist, dark brown silty sand with gravel	5.2
MW-2022-1	S- 5	8-10'	Moist, pale brown sandy silt	4.5
MW-2022-1	S- 8, S-9	15-19'	Moist, light olive brown sandy silt	24.9
MW-2022-1	S- 11, S-12	20-24'	Moist, light olive brown silt with sand	27.0
MW-2022-1	S- 15	28-30'	Moist, light olive brown sandy silt	23.0
MW-2022-1	S- 20	50-52'	Moist, olive brown silty sand	22.2
MW-2022-1	S- 24	58-60'	Moist, light olive brown sandy silt	27.4

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	08/10/22	Checked By:	bfs
Depth :	---	Test Id:	679586		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-3	S- 5	8-10'	Moist, light olive brown silty sand and gravel	9.7
MW-2022-3	S6	10-12'	Moist, light olive brown silty sand with gravel	7.5
MW-2022-3	S8, S9	14-16'	Moist, light olive brown silty sand	22.1
MW-2022-3	S- 11	20-22'	Moist, light olive brown silty sand with gravel	9.7
MW-2022-3	S- 12, S-13	24-26'	Moist, light olive brown silty sand with gravel	8.8

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	06/15/22	Checked By:	jsc
Depth :	---	Test Id:	672376		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-5	S- 3, S-4	4-6', 6-8'	Moist, light yellowish brown silty sand	5.6
MW-2022-5	S- 10	18-20'	Moist, pale brown sandy silt	7.6
MW-2022-5	S- 11	20-22'	Moist, light yellowish brown silt	21.9
MW-2022-5	S- 16	35-37'	Moist, light olive brown silt with sand	28.2
MW-2022-5	S- 23	60-62'	Moist, light yellowish brown sandy silt	23.3
MW-2022-5	S- 28	77-79'	Moist, light olive brown silty sand	21.5
MW-2022-6	S- 4	6-8'	Moist, dark olive brown silty sand with gravel	12.1
MW-2022-6	S- 13	24-26'	Moist, light yellowish brown silty sand	11.5
MW-2022-6	S- 18	34-36'	Moist, light yellowish brown silty sand	17.5
MW-2022-6	S- 24	50-52'	Moist, light yellowish brown silty sand	21.5

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	06/15/22	Checked By:	jsc
Depth :	---	Test Id:	672360		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-1	S- 4, S-5	6-8', 8-10'	Moist, light olive brown silty sand	11.9
PZ-2022-1	S- 7	12-14'	Moist, olive yellow silty sand	18.9
PZ-2022-1	S- 10	18-20'	Moist, dark yellowish brown silty sand with gravel	14.1
PZ-2022-1	S- 14	26-28'	Moist, light brown sand with gravel	1.4
PZ-2022-1	S- 20	56-58'	Moist, light brownish gray gravel with silt and sand	7.8
PZ-2022-1	S- 26	68-70'	Moist, light yellowish brown silty sand with gravel	8.6

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	06/15/22	Checked By:	jsc
Depth :	---	Test Id:	672366		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-2	S- 3, S-4	4-6', 6-8'	Moist, light olive brown silty sand with gravel	7.6
PZ-2022-2	S- 10	18-20'	Moist, light olive brown silt	24.8
PZ-2022-2	S- 17	40-42'	Moist, pale brown silty sand	3.2
PZ-2022-2	S- 20	55-57'	Moist, light yellowish brown sand with silt and gravel	11.8
PZ-2022-2	S- 24	68-70'	Moist, white silty sand	2.1
PZ-2022-2	S- 30	85-87'	Moist, light yellowish brown sandy silt	23.5

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	06/15/22	Checked By:	jsc
Depth :	---	Test Id:	672348		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
PZ-2022-3	S- 2, S-3	2-4', 4-6'	Moist, light yellowish brown silty sand	12.2
PZ-2022-3	S- 13, S-14	24-26', 26-28	Moist, light yellowish brown silty sand	13.3
PZ-2022-3	S- 20	55-57'	Moist, light yellowish brown sand with silt	10.8
PZ-2022-3	S- 22	65-67'	Moist, light yellowish brown silt	23.6
PZ-2022-3	S- 26	76-78'	Moist, light yellowish brown silty sand with gravel	10.1
PZ-2022-3	S- 27	78-80'	Moist, light yellowish brown silty sand with gravel	9.6
PZ-2022-5	S- 27	80-82'	Moist, light brownish gray silty sand with gravel	11.2
PZ-2022-5	S- 29	90-92'	Moist, light yellowish brown sand with silt and gravel	10.7

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/26/22	Checked By:	ank
Depth :	---	Test Id:	690150		

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
B-2022-5	S-3, S-4	4-6, 6-8	Moist, pale brown silty sand	7	99.9	.1
B-2022-6	S-2, S-3	2-4, 4-6	Moist, pale brown sandy silt	12	99.6	.4
B-2022-6	S-7, S-8	12-14, 14-16	Moist, light brown sandy silt	17	99.9	.1
MW-2022-2	S-2	2-4	Moist, dark yellowish brown silty sand	24	97.3	2.7

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass; dried to a constant mass at temperature of 105º C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440º C

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	cam
Sample ID:	---	Test Date:	08/01/22	Checked By:	bfs
Depth :	---	Test Id:	679677		

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
B-2022-7	S-5	8-10'	Moist, brown sand with silt	5	99.6	.4
B-2022-7	S-2, S-3	2-6'	Moist, dark brown silty sand	13	97.3	2.7
B-2022-8	S-3, S-4	4-8'	Moist, light olive brown silt with sand	12	99.9	.1

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass; dried to a constant mass at temperature of 105º C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440º C

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	cam
Sample ID:	---	Test Date:	06/15/22	Checked By:	jsc
Depth :	---	Test Id:	672419		

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
PZ-2022-1	S-4, S-5	6-8', 8-10'	Moist, light olive brown silty sand	12	99.6	.4
PZ-2022-1	S-10	18-20'	Moist, dark yellowish brown silty sand with gravel	14	98.9	1.1
PZ-2022-2	S-17	40-42'	Moist, pale brown silty sand	3	99.7	.3

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass; dried to a constant mass at temperature of 105º C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440º C

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	12/13/22	Checked By:	ank
Depth :	---	Test Id:	698379		

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-4	S- 3, S-4	4-8	Moist, pale brown silty sand	.1
MW-2022-4	S- 12	22-24	Moist, pale brown silty sand	.0
MW-2022-4	S- 17	40-42	Moist, pale brown silty sand	16.8
MW-2022-4	S- 19, S-20	50-57	Moist, pale brown silty sand	12.6
MW-2022-4	S- 23, S-24	64-68	Moist, pale brown silty sand	6.4
MW-2022-4	S- 27	72-74	Moist, light yellowish brown silty sand	7.3
MW-2022-4	S- 30	80-82	Moist, light yellowish brown silty sand	19.5
MW-2022-4	S- 31	85-87	Moist, light olive brown silty sand with gravel	6.6
MW-2022-4	S- 34, S-35	100-107	Moist, light yellowish brown silty sand	13.4

Notes: Temperature of Drying : 110º Celsius

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	12/14/22	Checked By:	ank
Depth :	4-8	Test Id:	698395		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
MW-2022-4	S-3, S-4	4-8	Moist, pale brown silty sand	0	99.9	.1

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass;
dried to a constant mass at temperature of 105º C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440º C

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	tube	Tested By:	ckg
Sample ID:	S-28, S-29	Test Date:	12/27/22	Checked By:	ank
Depth :	74-78'	Test Id:	700434		
Test Comment:	---				
Visual Description:	Moist, pale brown silt with sand				
Sample Comment:	---				

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
MW-2022-4	S- 28, S-29	74-78'	Moist, pale brown silt with sand	19.9

Notes: Temperature of Drying : 110º Celsius

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	tube	Tested By:	ckg
Sample ID:	S-28, S-29	Test Date:	12/29/22	Checked By:	ank
Depth :	74-78'	Test Id:	700436		
Test Comment:	---				
Visual Description:	Moist, pale brown silt with sand				
Sample Comment:	---				

Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity
MW-2022-4	S- 28, S-29	74-78'	Moist, pale brown silt with sand	2.70

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	12/16/22	Checked By:	ank
Depth :	---	Test Id:	698381		

Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity	Comment
MW-2022-4	S- 23, S-24	64-68	Moist, pale brown silty sand	2.70	
MW-2022-4	S- 34, S-35	100-107	Moist, light yellowish brown silty sand	2.69	

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	10/26/22	Checked By:	ank
Depth :	---	Test Id:	690058		

Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity	Comment
MW-2022-7	S- 29	80-82	Moist, light olive brown silt	2.80	
B-2022-5	S- 28, S-29	69-71, 71-73	Moist, brown sandy silt	2.66	
B-2022-1	S- 31	80-82	Moist, light olive brown silty sand with gravel	2.80	
MW-2022-2	S- 16	30-32	Moist, light yellowish brown silty sand	2.69	
PZ-2022-7	S- 23	64-66	Moist, pale brown silty sand with gravel	2.67	
MW-2022-8	S- 28	66-68	Moist, pale brown sandy silt	2.68	
PZ-2022-5	S- 24, S-25	72-74, 74-76	Moist, light yellowish brown silty sand	2.67	
PZ-2022-3	S- 23	70-72	Moist, light olive brown silt with sand	2.71	
PZ-2022-2	S- 28	76-78	Moist, light yellowish brown silty sand	2.69	
MW-2022-5	S- 24	62-64	Moist, light yellowish brown silty sand	2.71	

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-22	Test Date:	10/26/22	Checked By:	ank
Depth :	42-44	Test Id:	690059		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity
MW-2022-6	S- 22	42-44	Moist, light yellowish brown silty sand	2.79

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	05/17/22	Checked By:	jsc
Depth :	---	Test Id:	668407		

Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity	Comment
MW-2022-9	S- 17	32-34'	Moist, light olive brown silty gravel with sand	2.71	
PZ-2022-7	S- 9	16-18'	Moist, light olive brown silt with sand	2.70	
PZ-2022-8	S- 9	16-18'	Moist, pale brown silty sand	2.70	
PZ-2022-8	S- 25, S-26	74-76', 76-78'	Moist, light yellowish brown gravel with silt and sand	2.70	

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	07/28/22	Checked By:	bfs
Depth :	---	Test Id:	679620		

Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity	Comment
B-2022-8	S- 26	68-70'	Moist, light olive brown sandy silt	2.68	
B-2022-3	S- 26	56-58'	Moist, light olive brown silt with sand	2.70	
B-2022-7	S- 26	50-52'	Moist, light olive brown silty sand	2.70	
MW-2022-1	S- 24	58-60'	Moist, light olive brown sandy silt	2.70	
MW-2022-3	S- 5	8-10'	Moist, light olive brown silty sand and gravel	2.70	

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	---	Sample Type:	---	Tested By:	ckg
Sample ID:	---	Test Date:	06/14/22	Checked By:	jsc
Depth :	---	Test Id:	672377		

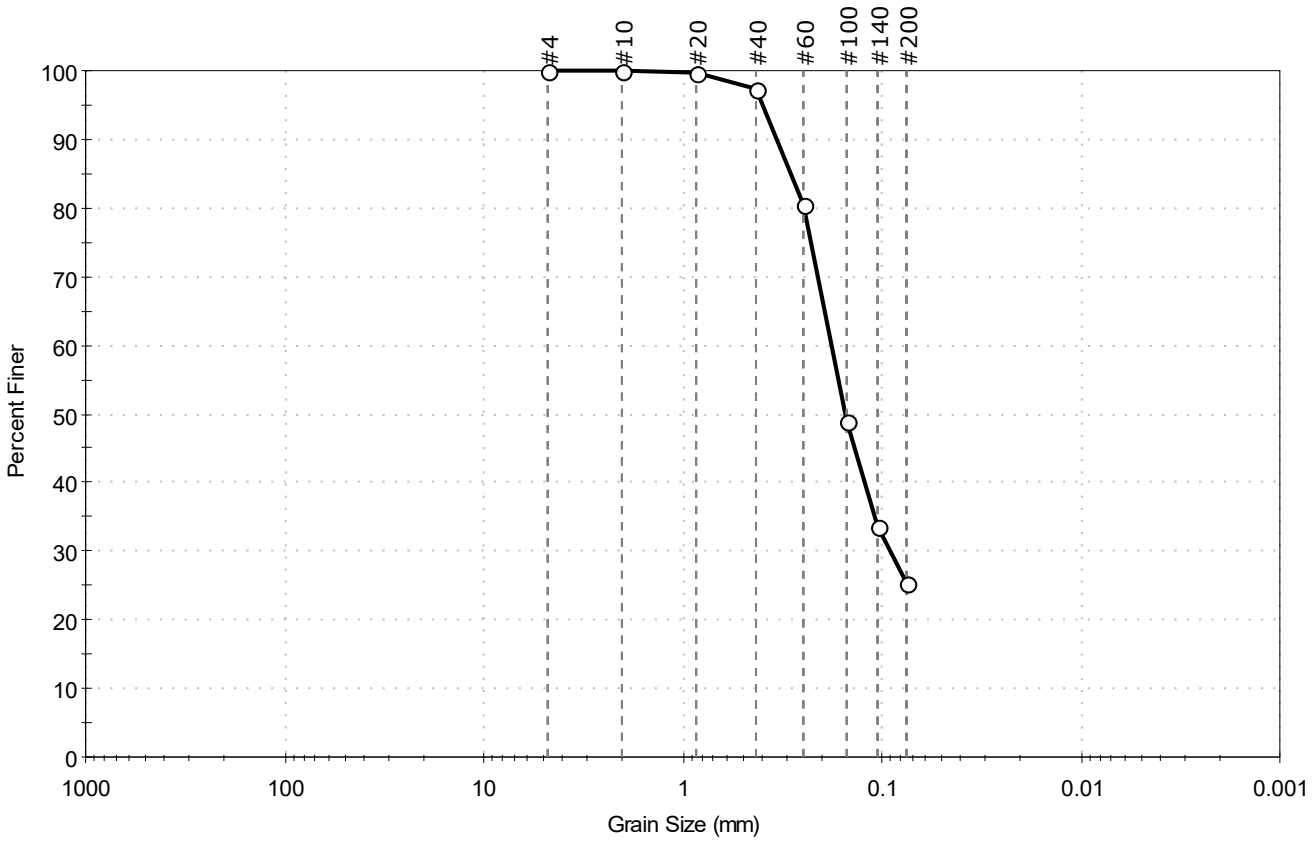
Specific Gravity of Soils by ASTM D854

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity	Comment
PZ-2022-1	S- 14	26-28'	Moist, light brown sand with gravel	2.72	
PZ-2022-3	S- 2, S-3	2-4', 4-6'	Moist, light yellowish brown silty sand	2.68	

Notes: Specific Gravity performed by using method B (oven dried specimens) of ASTM D854
Moisture Content determined by ASTM D2216.

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2	Test Date:	10/26/22	Checked By:	bfs
Depth :	2-4	Test Id:	690111		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	74.5	25.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	80		
#100	0.15	49		
#140	0.11	34		
#200	0.075	26		

Coefficients

D_{85} = 0.2888 mm	D_{30} = 0.0908 mm
D_{60} = 0.1792 mm	D_{15} = N/A
D_{50} = 0.1522 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

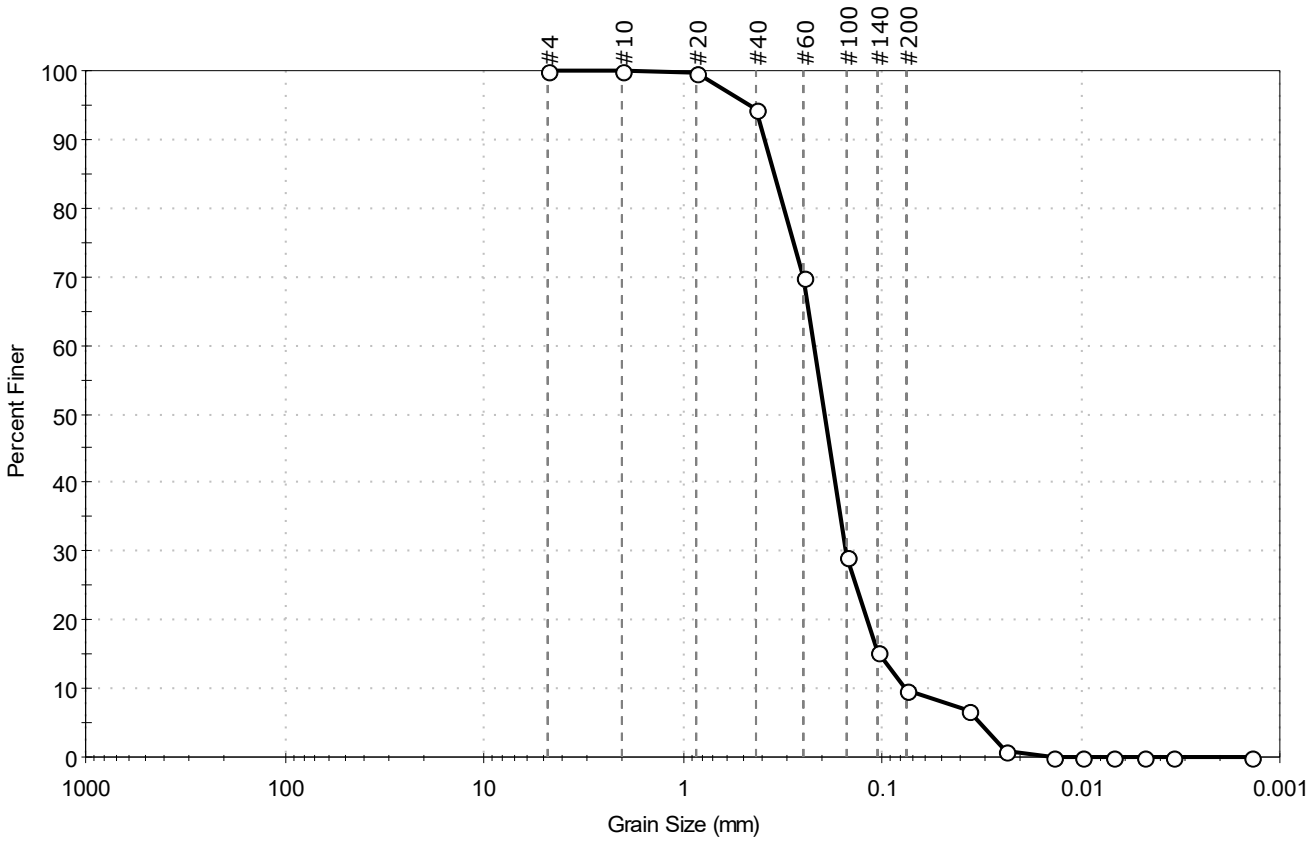
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/27/2022 12:57:02 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5	Test Date:	10/27/22	Checked By:	ank
Depth :	8-10	Test Id:	690143		
Test Comment:	---				
Visual Description:	Moist, pale brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	90.4	9.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	94		
#60	0.25	70		
#100	0.15	29		
#140	0.11	15		
#200	0.075	9.6		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0364	7		
---	0.0237	1		
---	0.0139	0		
---	0.0098	0		
---	0.0069	0		
---	0.0049	0		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 0.3464 mm	D_{30} = 0.1515 mm
D_{60} = 0.2208 mm	D_{15} = 0.1038 mm
D_{50} = 0.1947 mm	D_{10} = 0.0769 mm
C_u = 2.871	C_c = 1.352

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

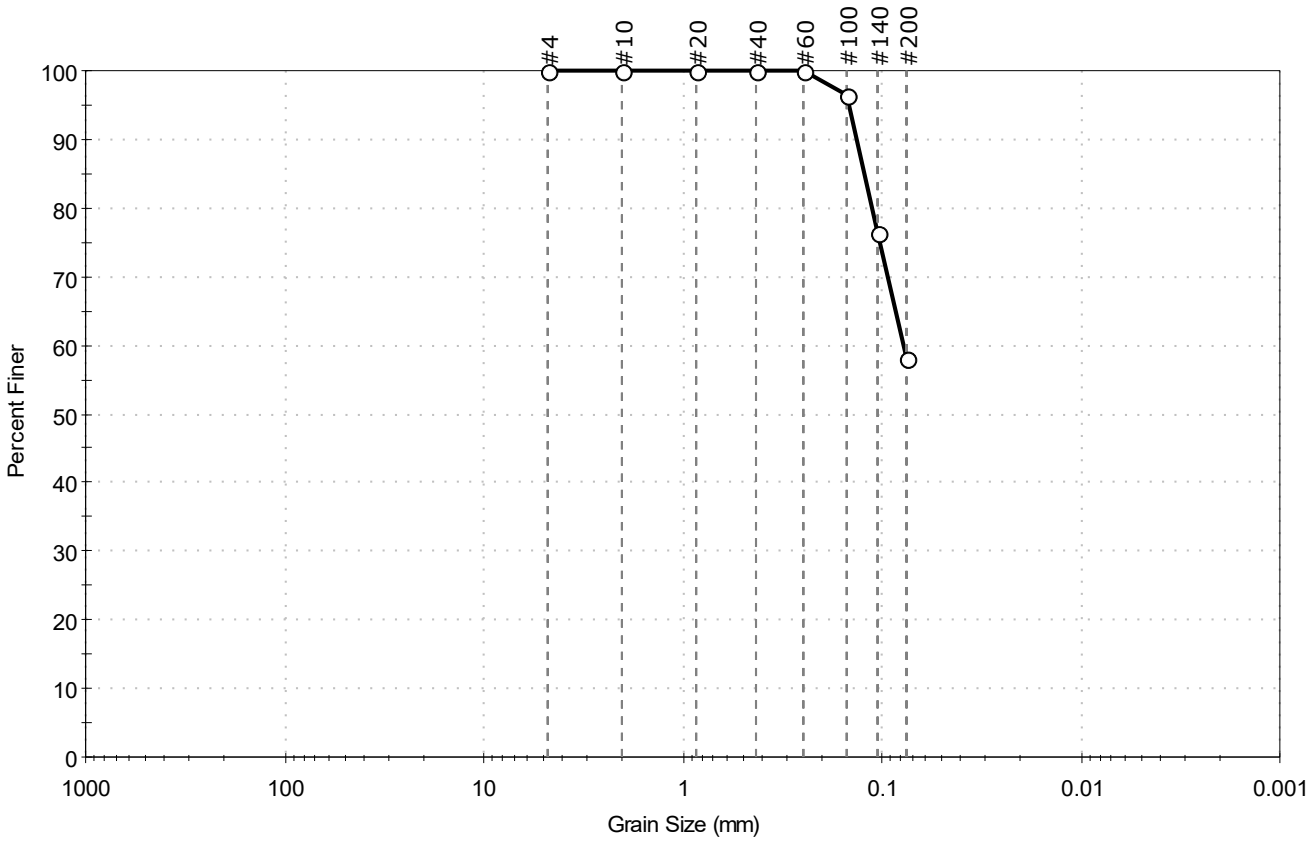
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-10	Test Date:	10/25/22	Checked By:	bfs
Depth :	18-20	Test Id:	690112		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	41.8	58.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	97		
#140	0.11	76		
#200	0.075	58		

Coefficients

D_{85} = 0.1229 mm	D_{30} = N/A
D_{60} = 0.0776 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

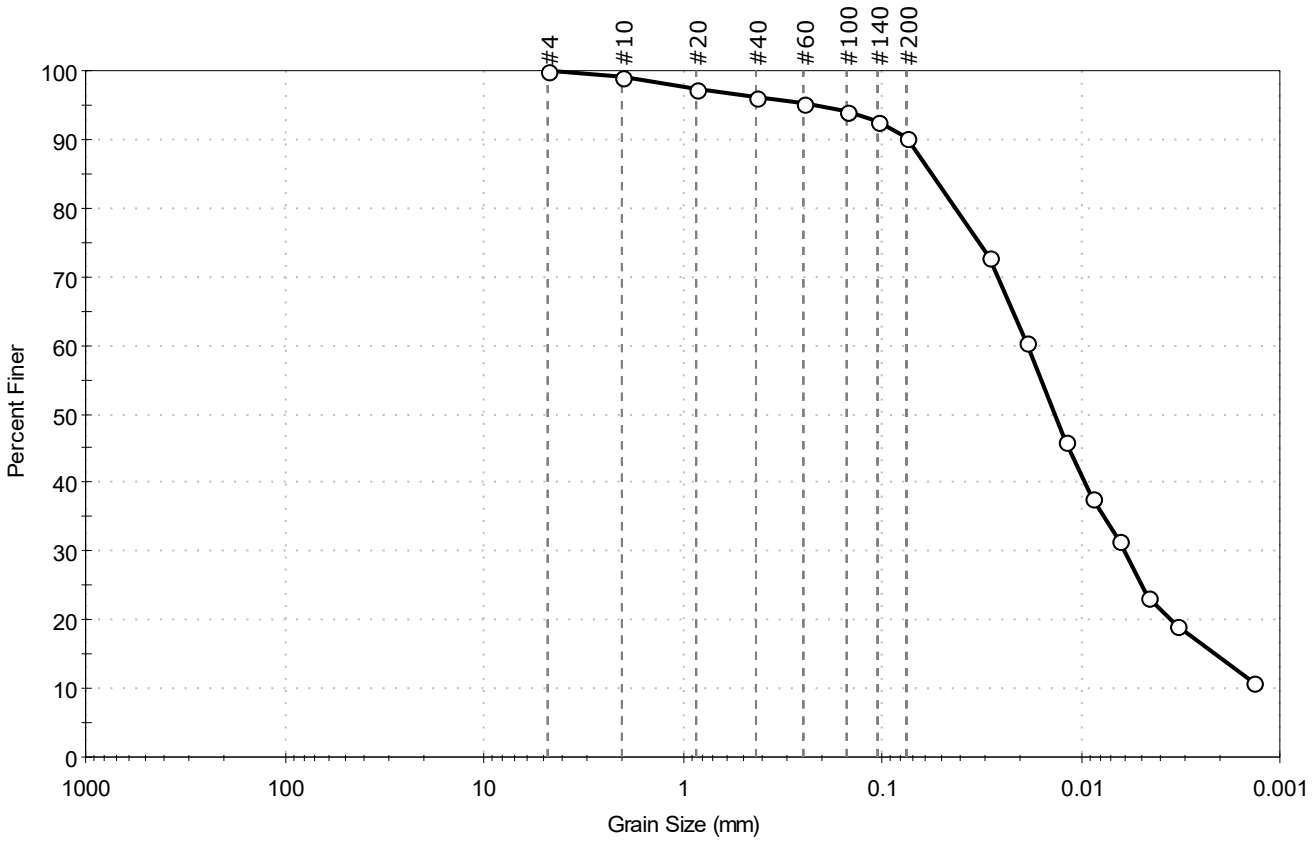
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-19	Test Date:	10/27/22	Checked By:	ank
Depth :	45-47	Test Id:	690144		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	9.8	90.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	97		
#40	0.42	96		
#60	0.25	95		
#100	0.15	94		
#140	0.11	93		
#200	0.075	90		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0288	73		
---	0.0186	60		
---	0.0120	46		
---	0.0088	38		
---	0.0064	32		
---	0.0046	23		
---	0.0033	19		
---	0.0013	11		

Coefficients

D_{85} = 0.0564 mm	D_{30} = 0.0060 mm
D_{60} = 0.0184 mm	D_{15} = 0.0021 mm
D_{50} = 0.0136 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

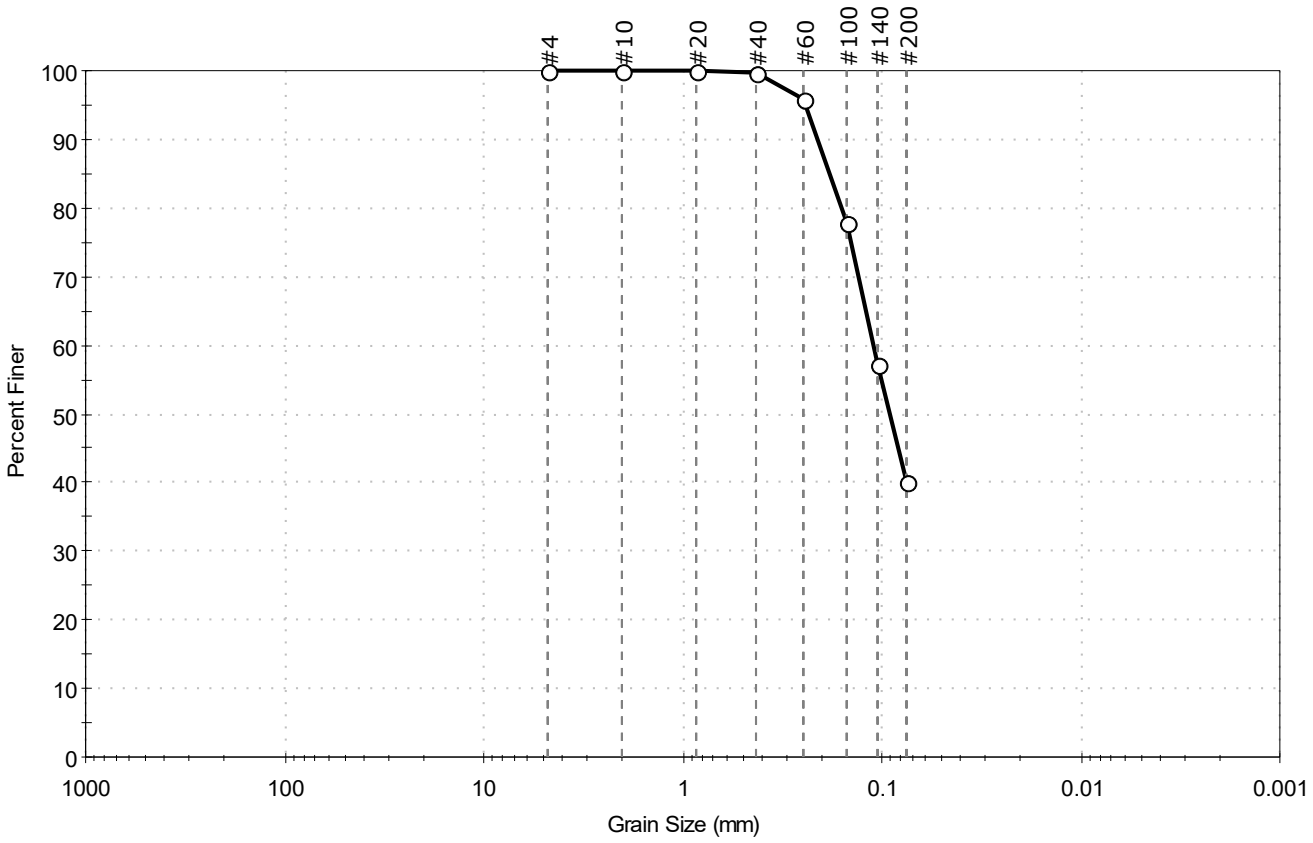
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	10/25/22	Checked By:	bfs
Depth :	50-52	Test Id:	690113		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	59.8	40.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	96		
#100	0.15	78		
#140	0.11	57		
#200	0.075	40		

Coefficients

D_{85} = 0.1831 mm D_{30} = N/A

D_{60} = 0.1111 mm D_{15} = N/A

D_{50} = 0.0916 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

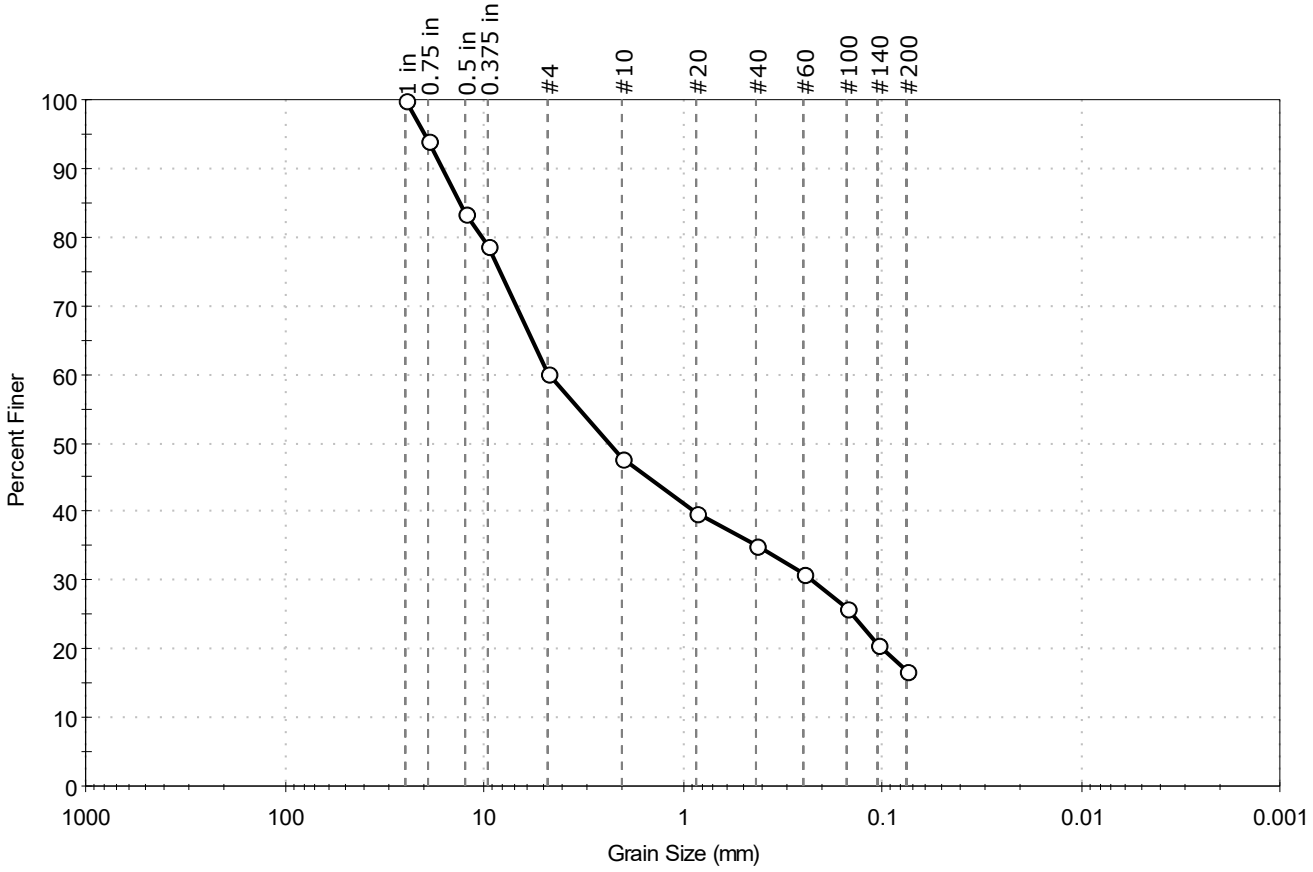
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	10/25/22	Checked By:	bfs
Depth :	70-72	Test Id:	690114		
Test Comment:	---				
Visual Description:	Moist, yellowish brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	39.7	43.5	16.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	94		
0.5 in	12.50	83		
0.375 in	9.50	79		
#4	4.75	60		
#10	2.00	48		
#20	0.85	40		
#40	0.42	35		
#60	0.25	31		
#100	0.15	26		
#140	0.11	21		
#200	0.075	17		

Coefficients

D_{85} = 13.2957 mm	D_{30} = 0.2258 mm
D_{60} = 4.6457 mm	D_{15} = N/A
D_{50} = 2.3308 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

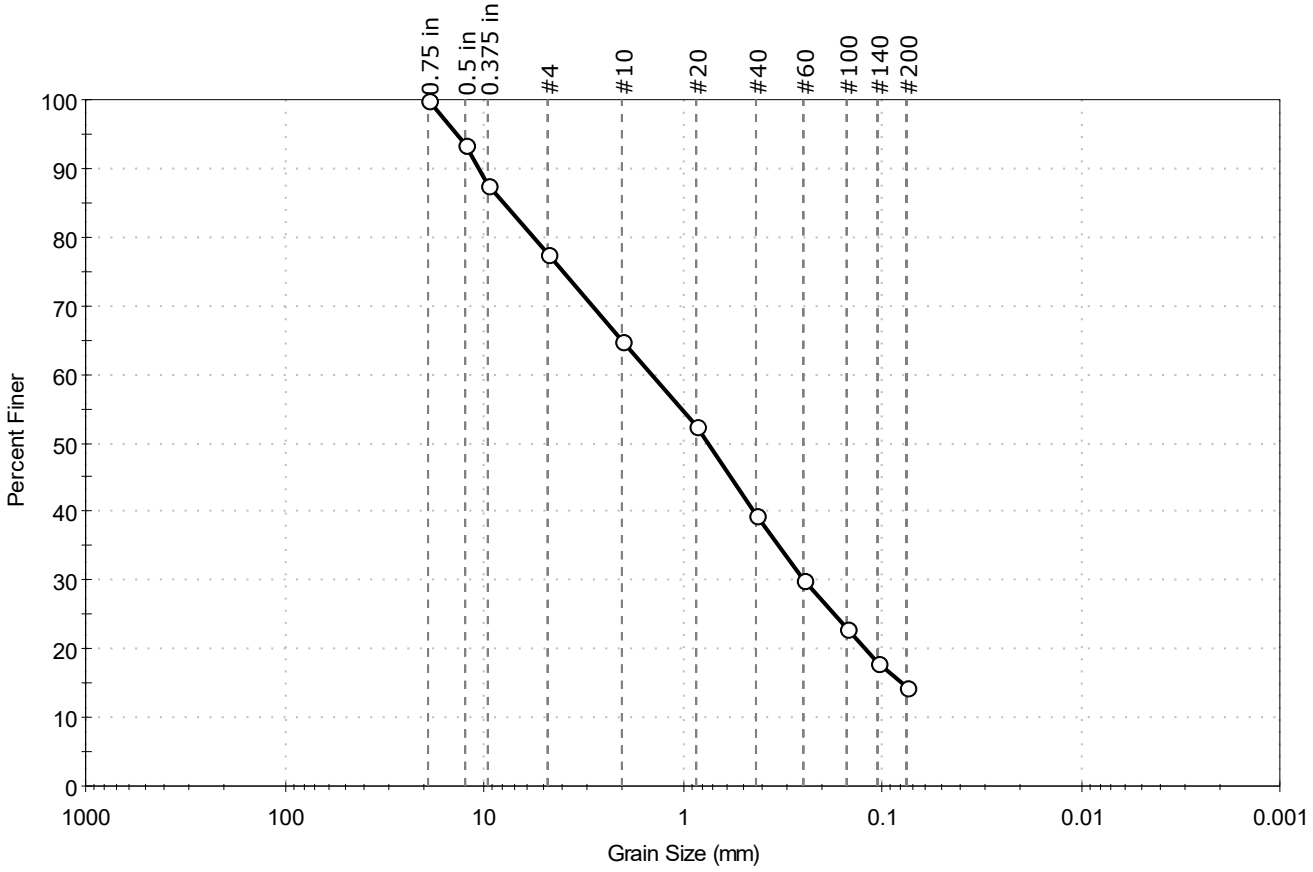
Sand/Gravel Hardness : HARD

printed 10/27/2022 12:57:05 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-31	Test Date:	10/26/22	Checked By:	bfs
Depth :	80-82	Test Id:	690115		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	22.4	63.1	14.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	94		
0.375 in	9.50	88		
#4	4.75	78		
#10	2.00	65		
#20	0.85	53		
#40	0.42	39		
#60	0.25	30		
#100	0.15	23		
#140	0.11	18		
#200	0.075	14		

Coefficients

D_{85} = 7.8813 mm
D_{30} = 0.2493 mm
D_{60} = 1.4148 mm
D_{15} = 0.0788 mm
D_{50} = 0.7414 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM: Silty SAND with Gravel (SM)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (0))

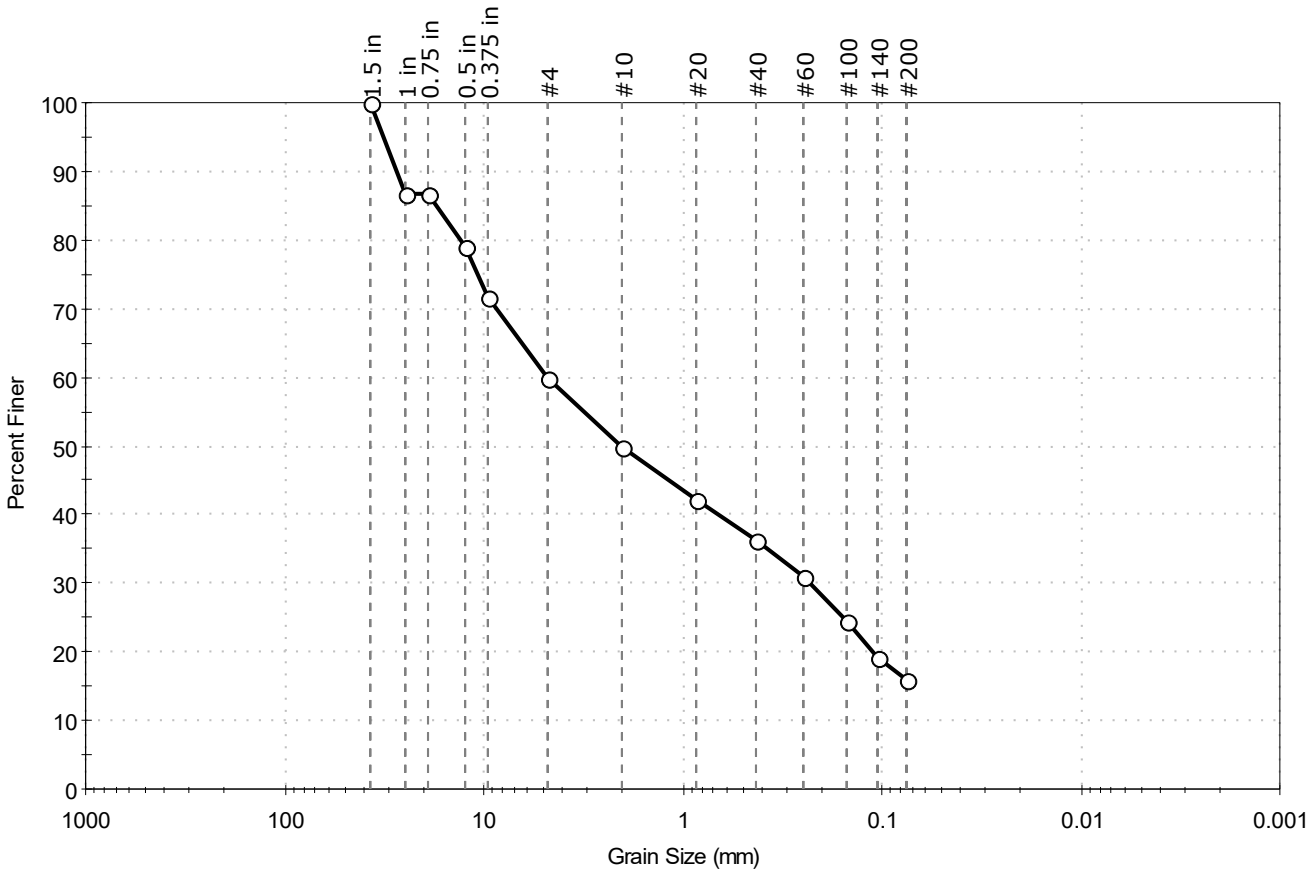
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-33	Test Date:	10/25/22	Checked By:	bfs
Depth :	90-92	Test Id:	690116		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	40.1	44.0	15.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	87		
0.75 in	19.00	87		
0.5 in	12.50	79		
0.375 in	9.50	72		
#4	4.75	60		
#10	2.00	50		
#20	0.85	42		
#40	0.42	36		
#60	0.25	31		
#100	0.15	24		
#140	0.11	19		
#200	0.075	16		

Coefficients

D_{85} = 17.2780 mm	D_{30} = 0.2326 mm
D_{60} = 4.7735 mm	D_{15} = N/A
D_{50} = 2.0035 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

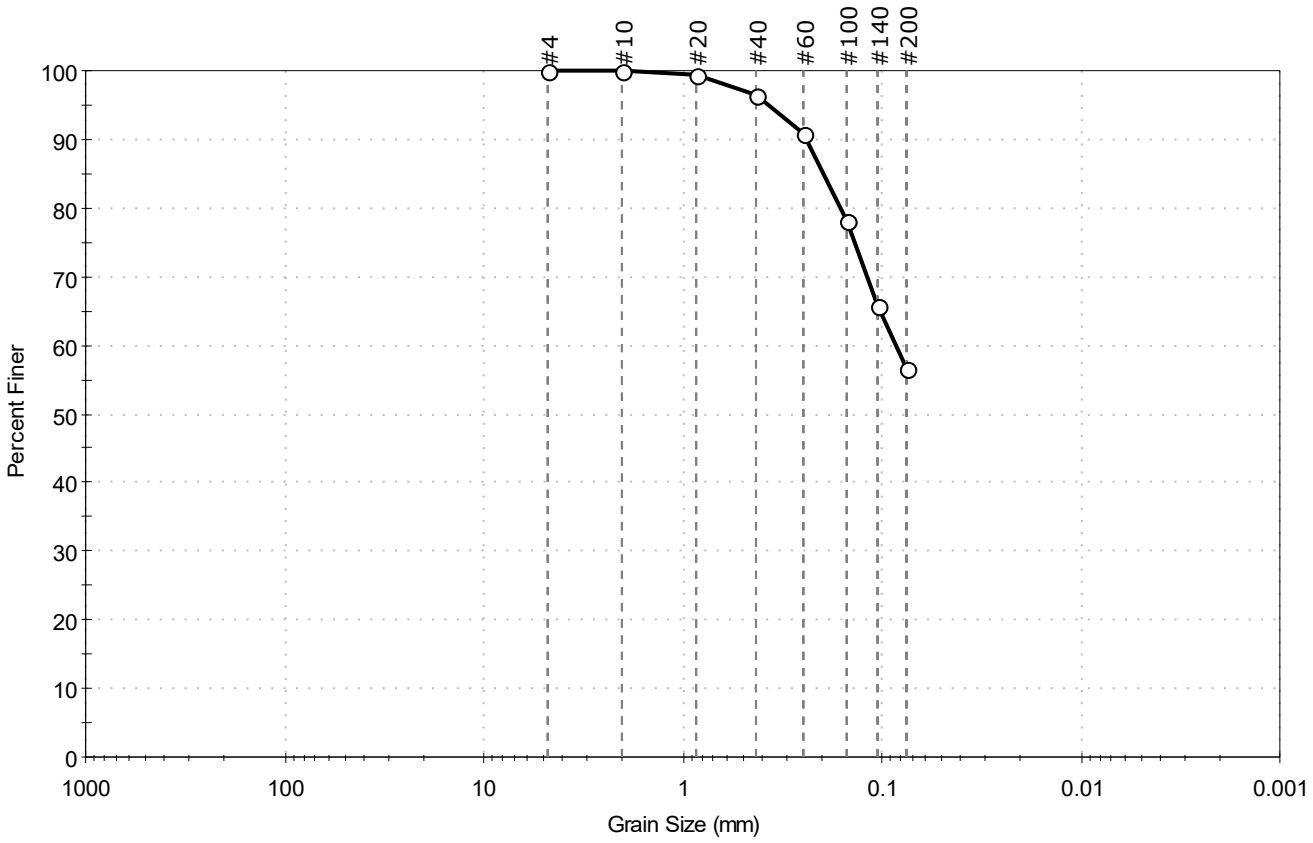
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-8, S-9	Test Date:	10/25/22	Checked By:	bfs
Depth :	14-16, 16-18	Test Id:	690106		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	43.5	56.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	91		
#100	0.15	78		
#140	0.11	66		
#200	0.075	57		

Coefficients

D_{85} = 0.1982 mm	D_{30} = N/A
D_{60} = 0.0853 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

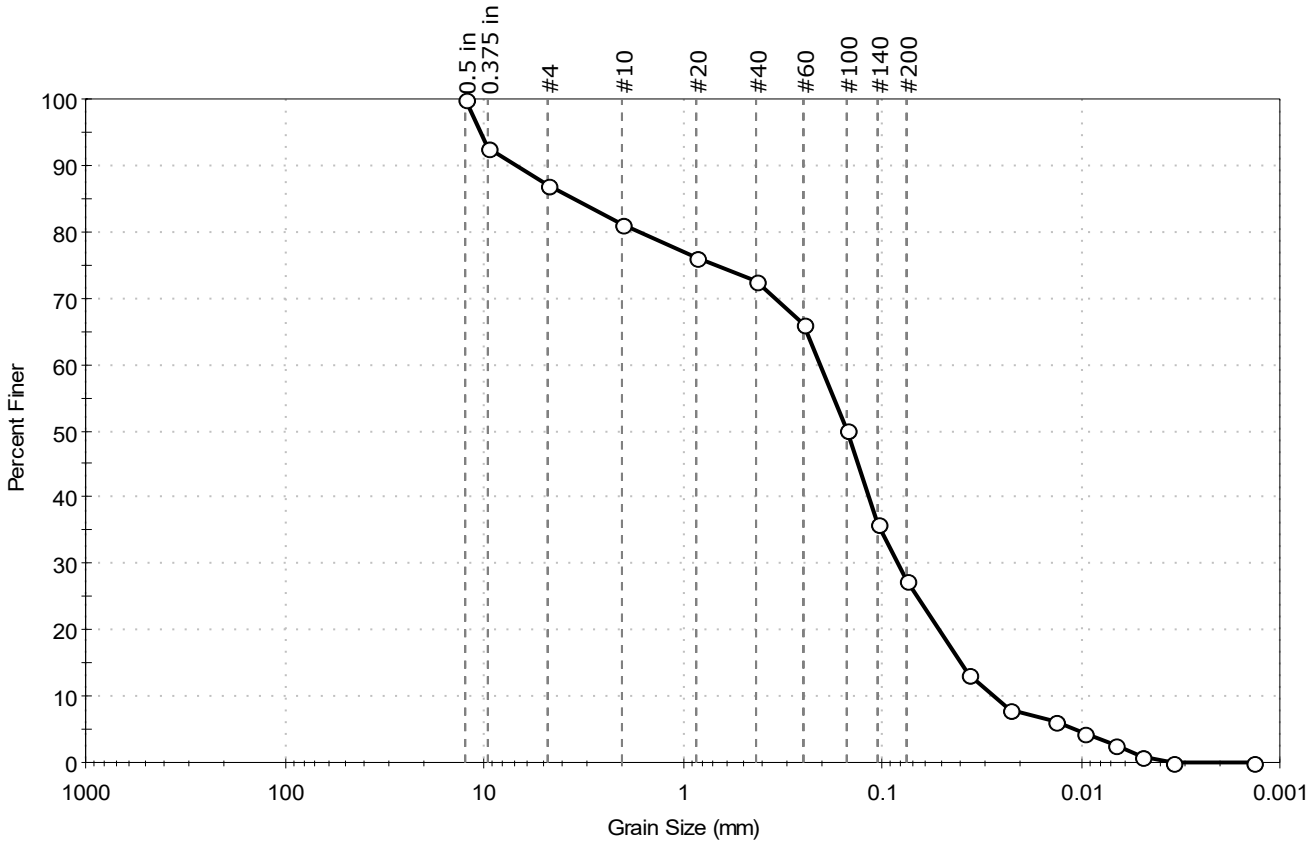
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16	Test Date:	10/27/22	Checked By:	ank
Depth :	30-32	Test Id:	690141		
Test Comment:	---				
Visual Description:	Moist, yellowish brown and gray silty sand				
Sample Comment:	1 in rock removed				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	13.0	59.5	27.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	93		
#4	4.75	87		
#10	2.00	81		
#20	0.85	76		
#40	0.42	73		
#60	0.25	66		
#100	0.15	50		
#140	0.11	36		
#200	0.075	27		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0368	13		
---	0.0227	8		
---	0.0135	6		
---	0.0096	4		
---	0.0068	3		
---	0.0049	1		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 3.5500 mm	D_{30} = 0.0831 mm
D_{60} = 0.2055 mm	D_{15} = 0.0400 mm
D_{50} = 0.1494 mm	D_{10} = 0.0271 mm
C_u = 7.583	C_c = 1.240

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

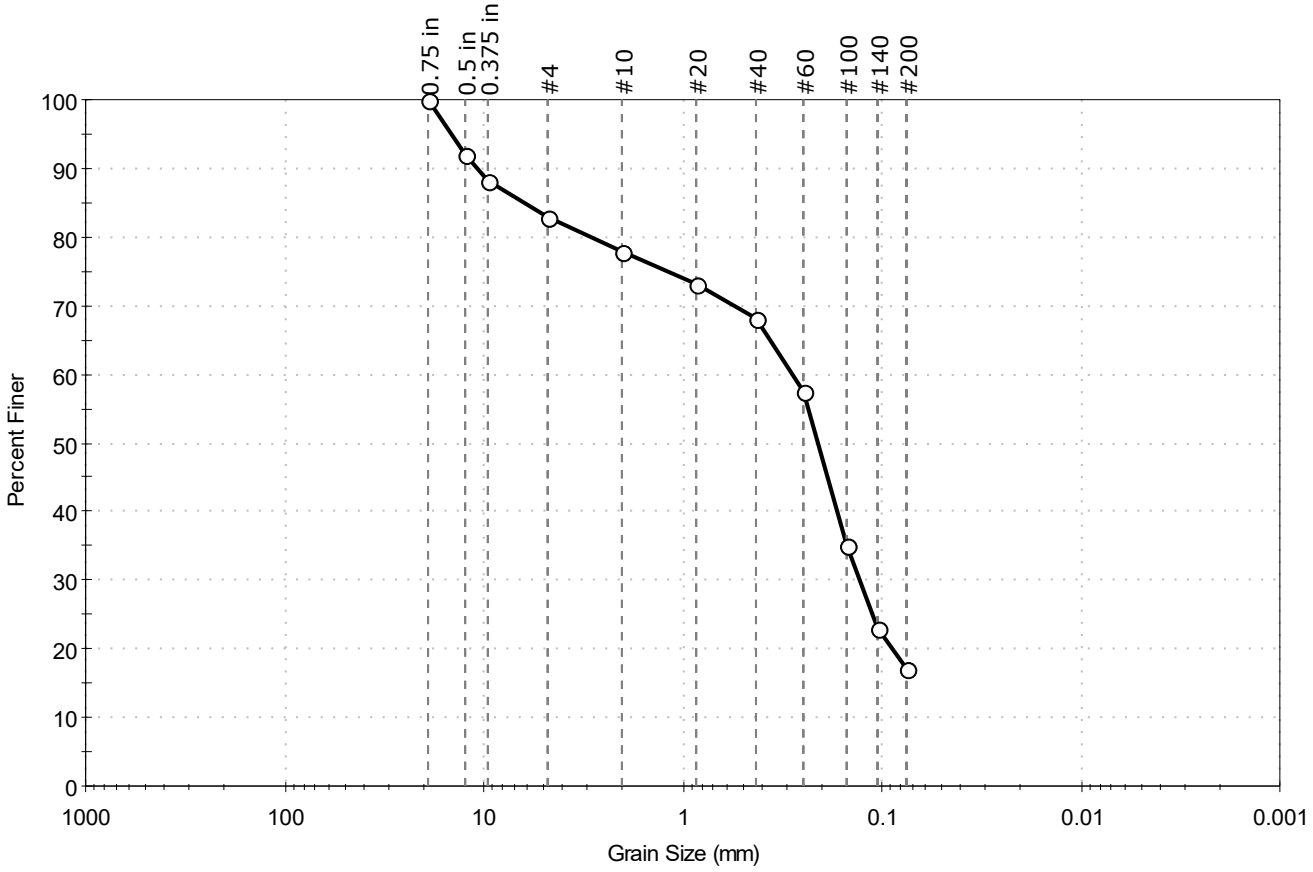
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	10/25/22	Checked By:	bfs
Depth :	50-52	Test Id:	690107		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	17.3	65.7	17.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	92		
0.375 in	9.50	88		
#4	4.75	83		
#10	2.00	78		
#20	0.85	73		
#40	0.42	68		
#60	0.25	57		
#100	0.15	35		
#140	0.11	23		
#200	0.075	17		

Coefficients

D_{85} = 6.3439 mm D_{30} = 0.1292 mm

D_{60} = 0.2832 mm D_{15} = N/A

D_{50} = 0.2105 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

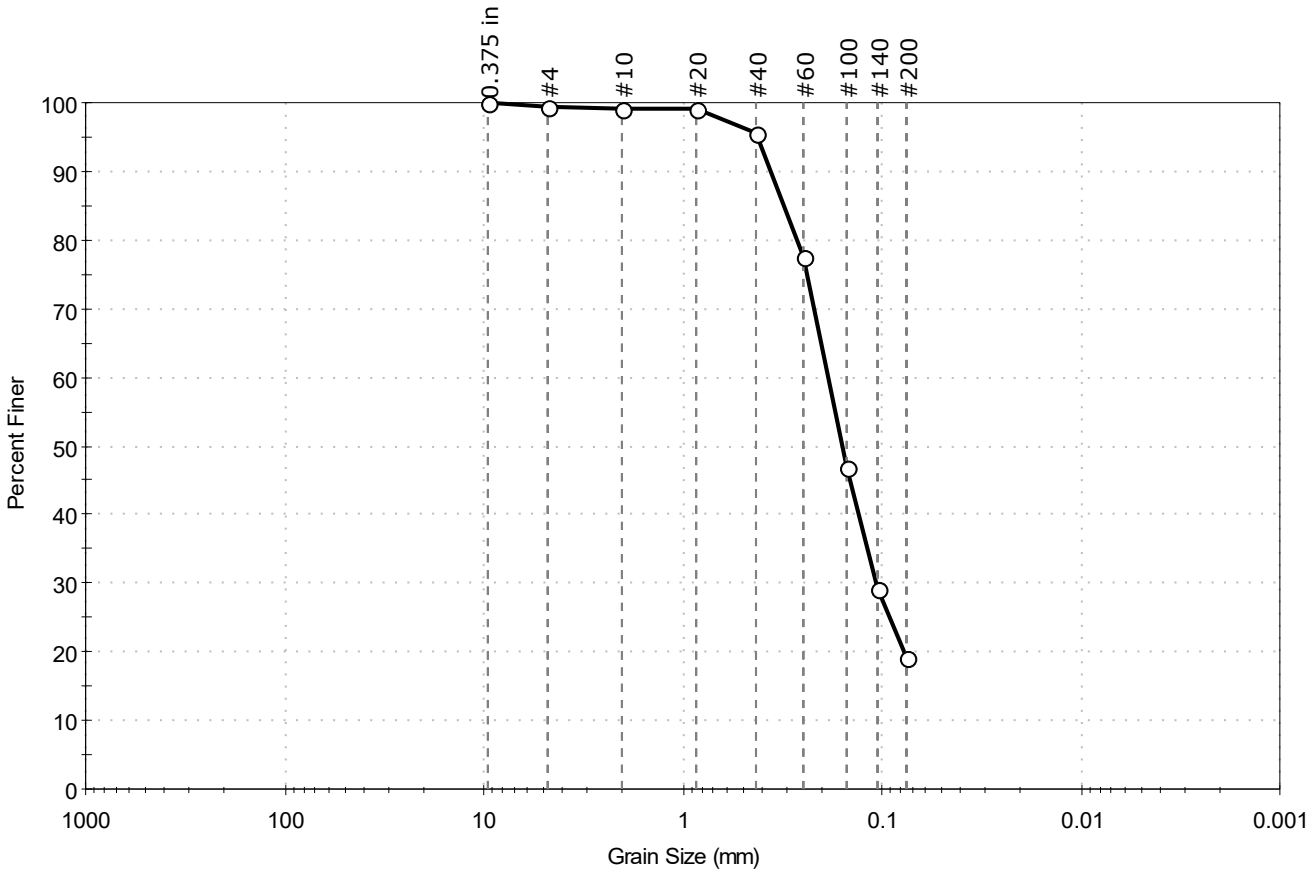
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	10/25/22	Checked By:	bfs
Depth :	65-67	Test Id:	690108		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.5	80.2	19.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	99		
#20	0.85	99		
#40	0.42	95		
#60	0.25	78		
#100	0.15	47		
#140	0.11	29		
#200	0.075	19		

Coefficients

D_{85} = 0.3110 mm D_{30} = 0.1079 mm

D_{60} = 0.1862 mm D_{15} = N/A

D_{50} = 0.1576 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

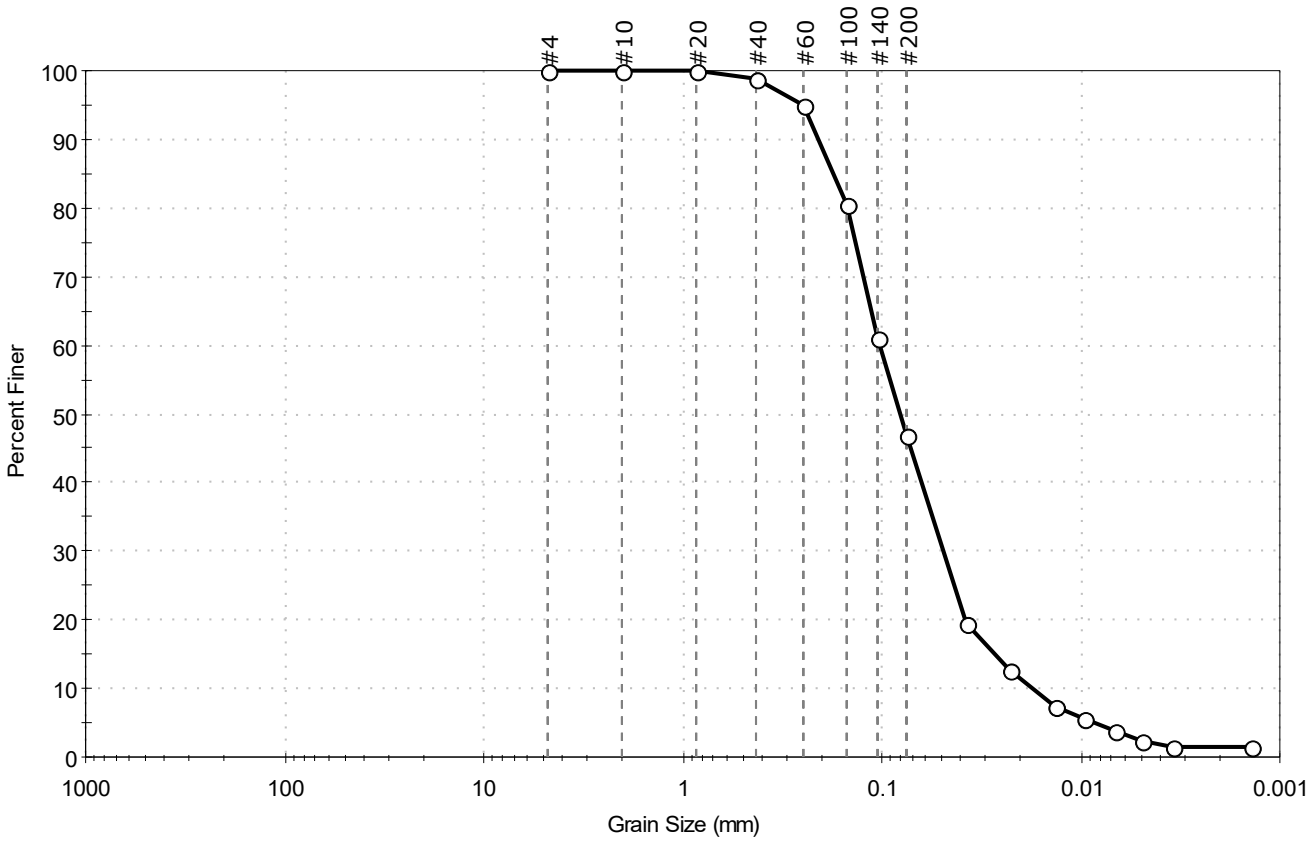
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	10/27/22	Checked By:	ank
Depth :	73-75	Test Id:	690142		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	53.2	46.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	95		
#100	0.15	80		
#140	0.11	61		
#200	0.075	47		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0372	20		
---	0.0230	13		
---	0.0134	7		
---	0.0096	6		
---	0.0068	4		
---	0.0049	2		
---	0.0035	1		
---	0.0014	1		

Coefficients

D_{85} = 0.1761 mm	D_{30} = 0.0487 mm
D_{60} = 0.1032 mm	D_{15} = 0.0271 mm
D_{50} = 0.0811 mm	D_{10} = 0.0175 mm
C_u = 5.897	C_c = 1.313

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

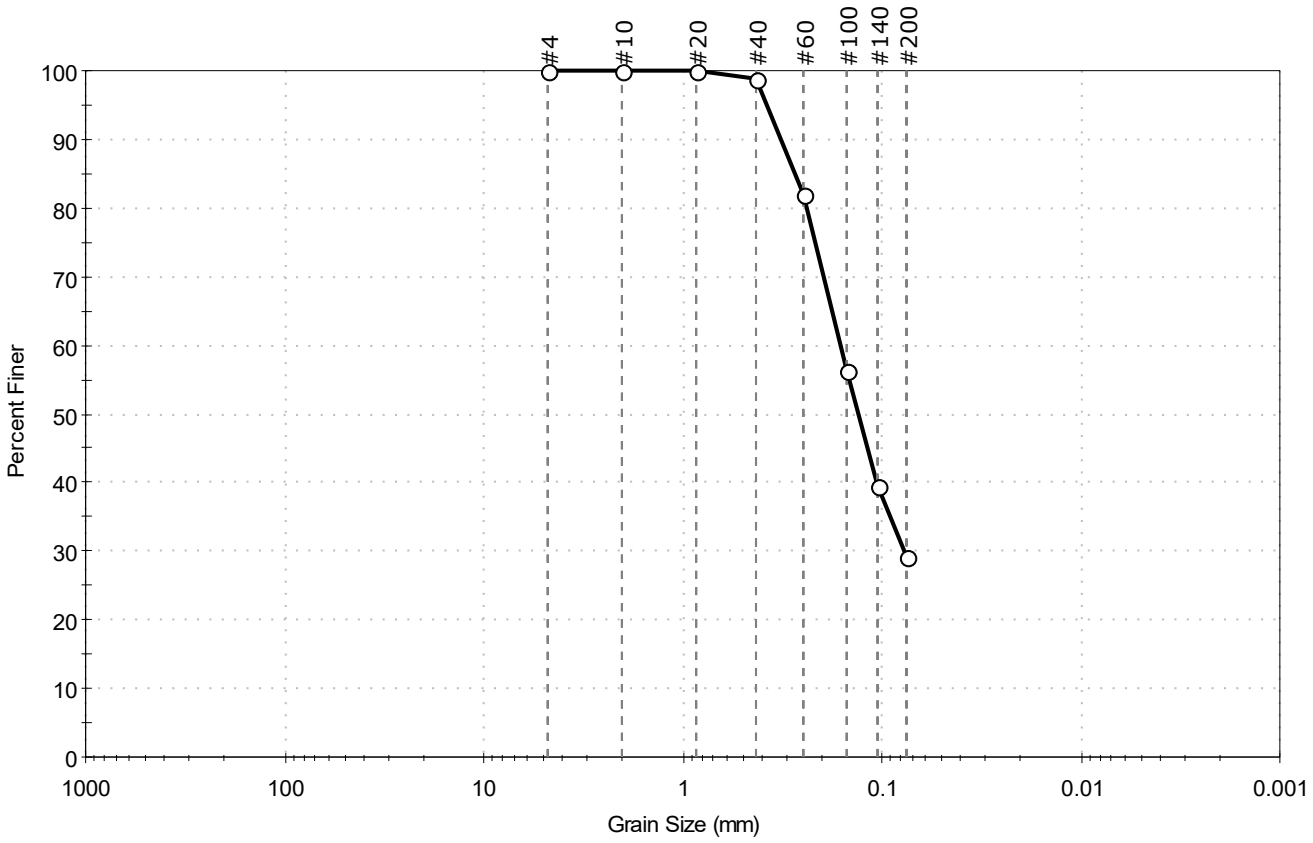
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-30	Test Date:	10/26/22	Checked By:	bfs
Depth :	79-81	Test Id:	690109		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	70.8	29.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	82		
#100	0.15	56		
#140	0.11	40		
#200	0.075	29		

Coefficients

D_{85} = 0.2745 mm	D_{30} = 0.0770 mm
D_{60} = 0.1612 mm	D_{15} = N/A
D_{50} = 0.1315 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

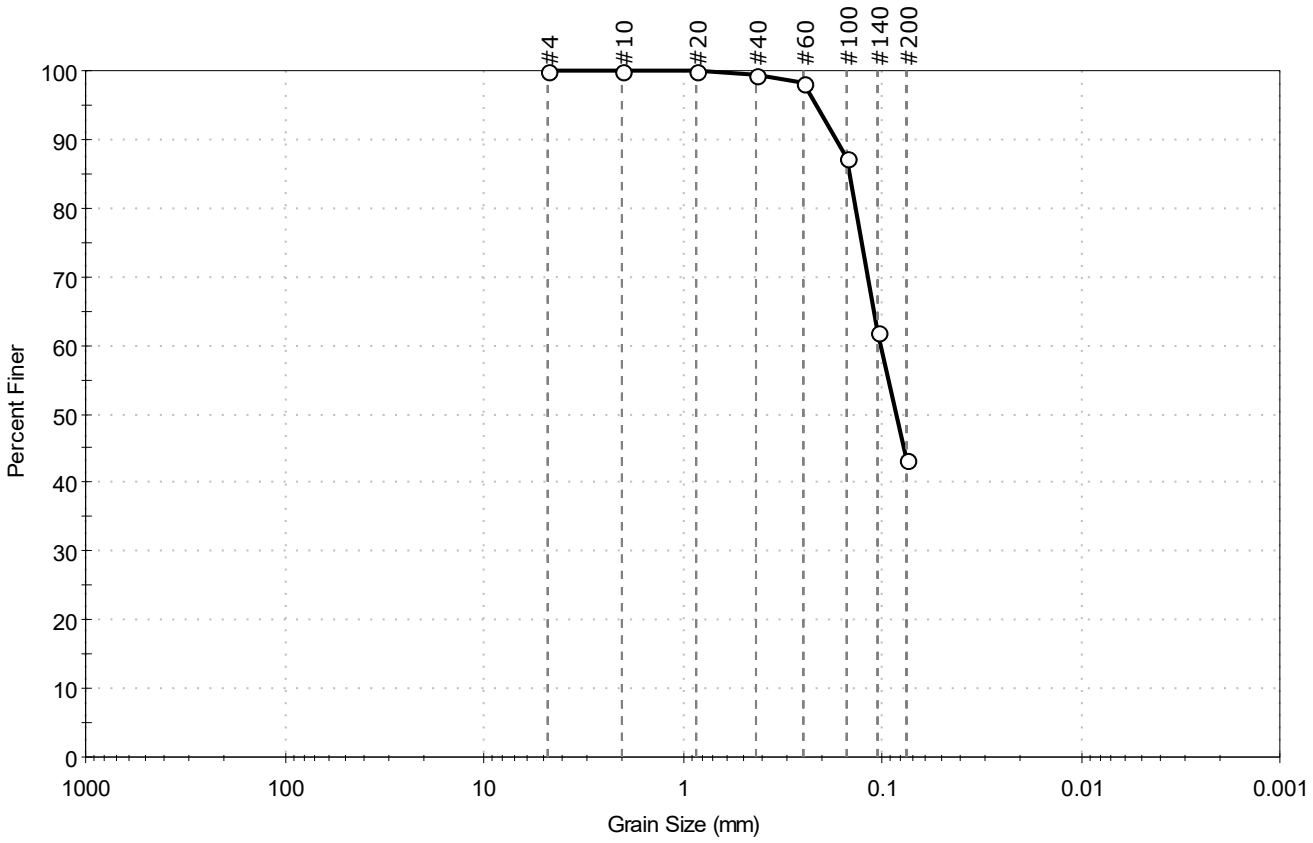
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-31	Test Date:	10/25/22	Checked By:	bfs
Depth :	85-87	Test Id:	690110		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	56.6	43.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	98		
#100	0.15	87		
#140	0.11	62		
#200	0.075	43		

Coefficients

D_{85} = 0.1455 mm D_{30} = N/A
D_{60} = 0.1025 mm D_{15} = N/A
D_{50} = 0.0849 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

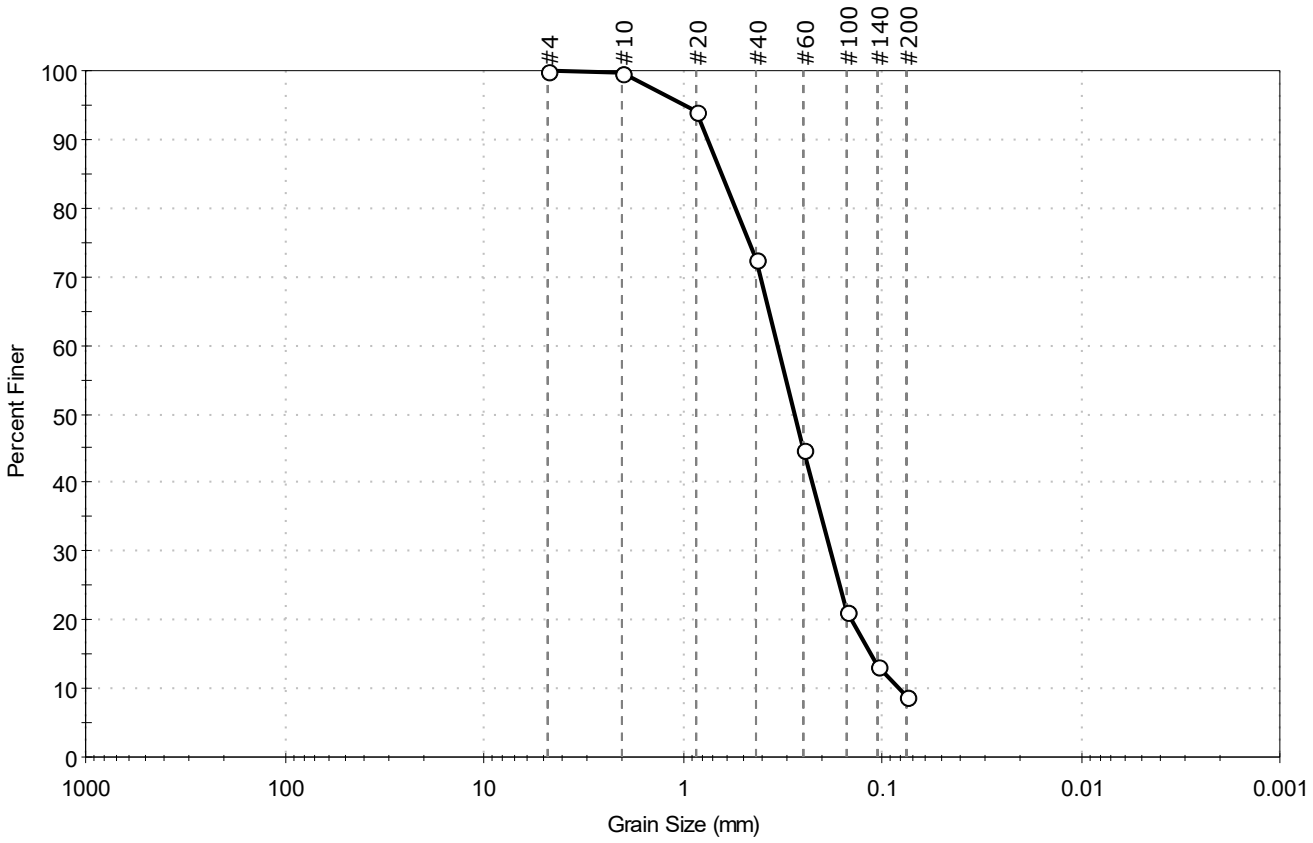
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-4	Test Date:	07/26/22	Checked By:	bfs
Depth :	6-8'	Test Id:	679653		
Test Comment:	---				
Visual Description:	Moist, light gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	91.2	8.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	94		
#40	0.42	73		
#60	0.25	45		
#100	0.15	21		
#140	0.11	13		
#200	0.075	8.8		

Coefficients

D_{85} = 0.6337 mm	D_{30} = 0.1815 mm
D_{60} = 0.3339 mm	D_{15} = 0.1149 mm
D_{50} = 0.2756 mm	D_{10} = 0.0825 mm
C_u = 4.047	C_c = 1.196

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

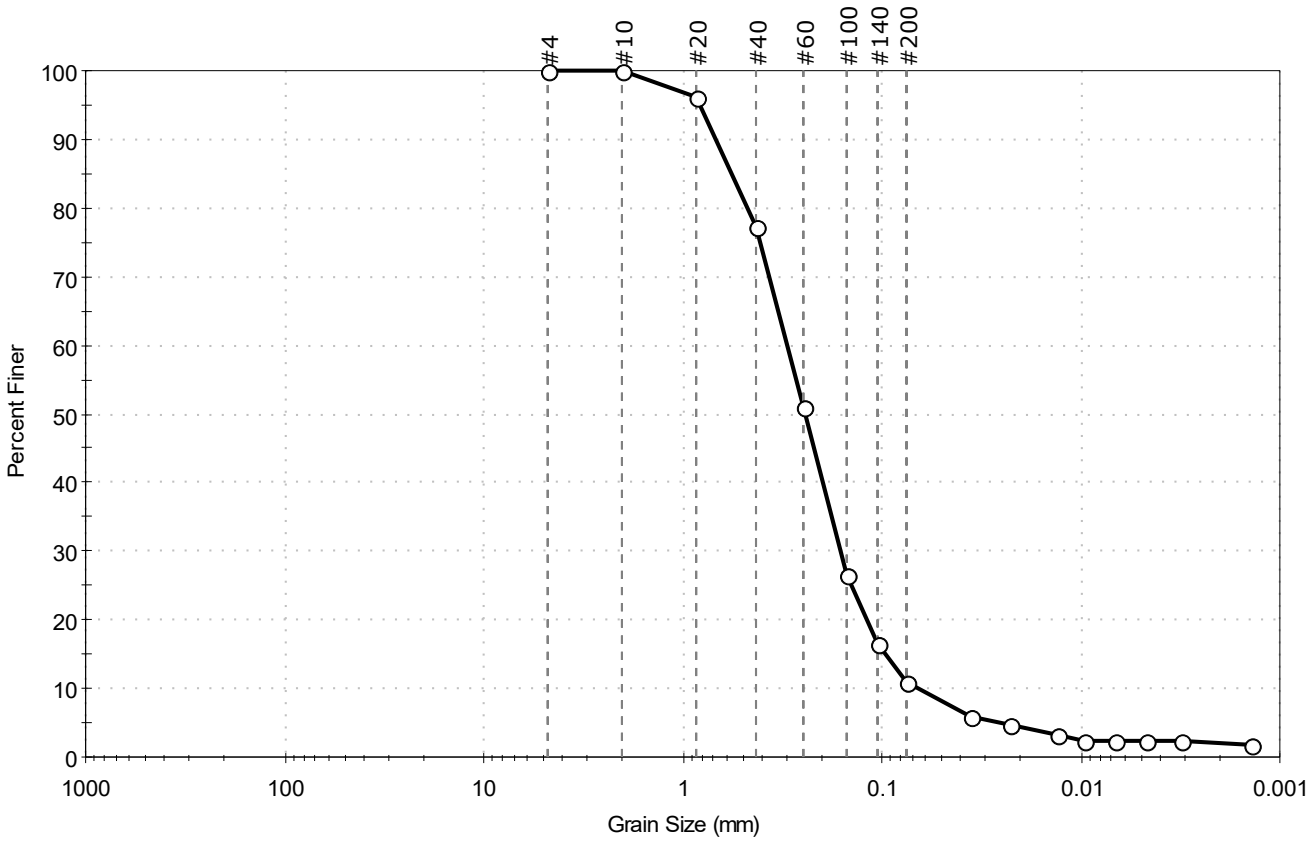
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 8/10/2022 10:15:56 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5	Test Date:	08/01/22	Checked By:	bfs
Depth :	8-10'	Test Id:	679673		
Test Comment:	---				
Visual Description:	Moist, light grayish brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	89.2	10.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	77		
#60	0.25	51		
#100	0.15	26		
#140	0.11	16		
#200	0.075	11		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0359	6		
---	0.0226	5		
---	0.0133	3		
---	0.0096	2		
---	0.0068	2		
---	0.0048	2		
---	0.0031	2		
---	0.0014	2		

Coefficients

D_{85} = 0.5653 mm D_{30} = 0.1614 mm
D_{60} = 0.2996 mm D_{15} = 0.0972 mm
D_{50} = 0.2444 mm D_{10} = 0.0664 mm
C_u = 4.512 C_c = 1.309

Classification

ASTM N/A

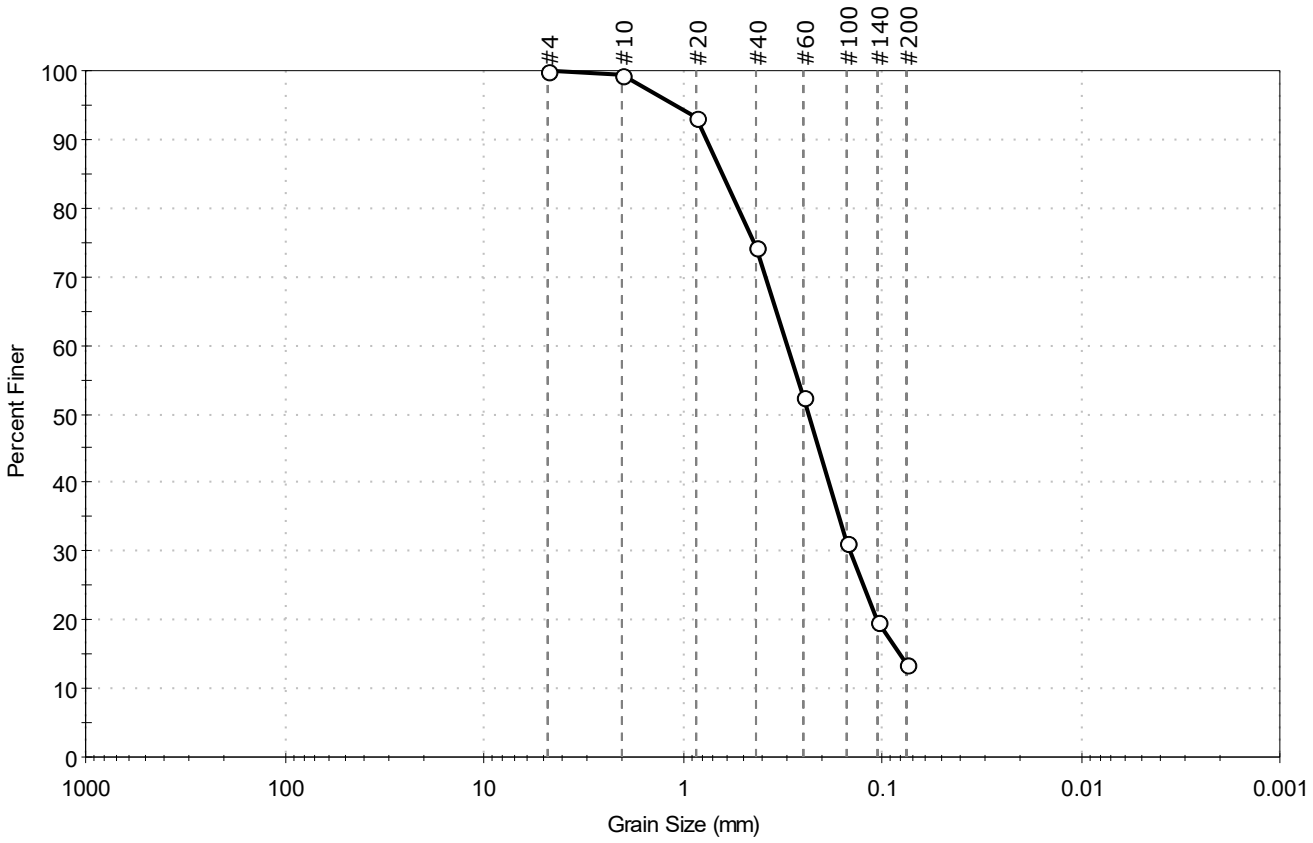
AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-6, S-7	Test Date:	07/29/22	Checked By:	bfs
Depth :	10-14'	Test Id:	679654		
Test Comment:	---				
Visual Description:	Moist, light gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	86.4	13.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	93		
#40	0.42	74		
#60	0.25	53		
#100	0.15	31		
#140	0.11	20		
#200	0.075	14		

Coefficients

D_{85} = 0.6300 mm	D_{30} = 0.1445 mm
D_{60} = 0.3000 mm	D_{15} = 0.0812 mm
D_{50} = 0.2351 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

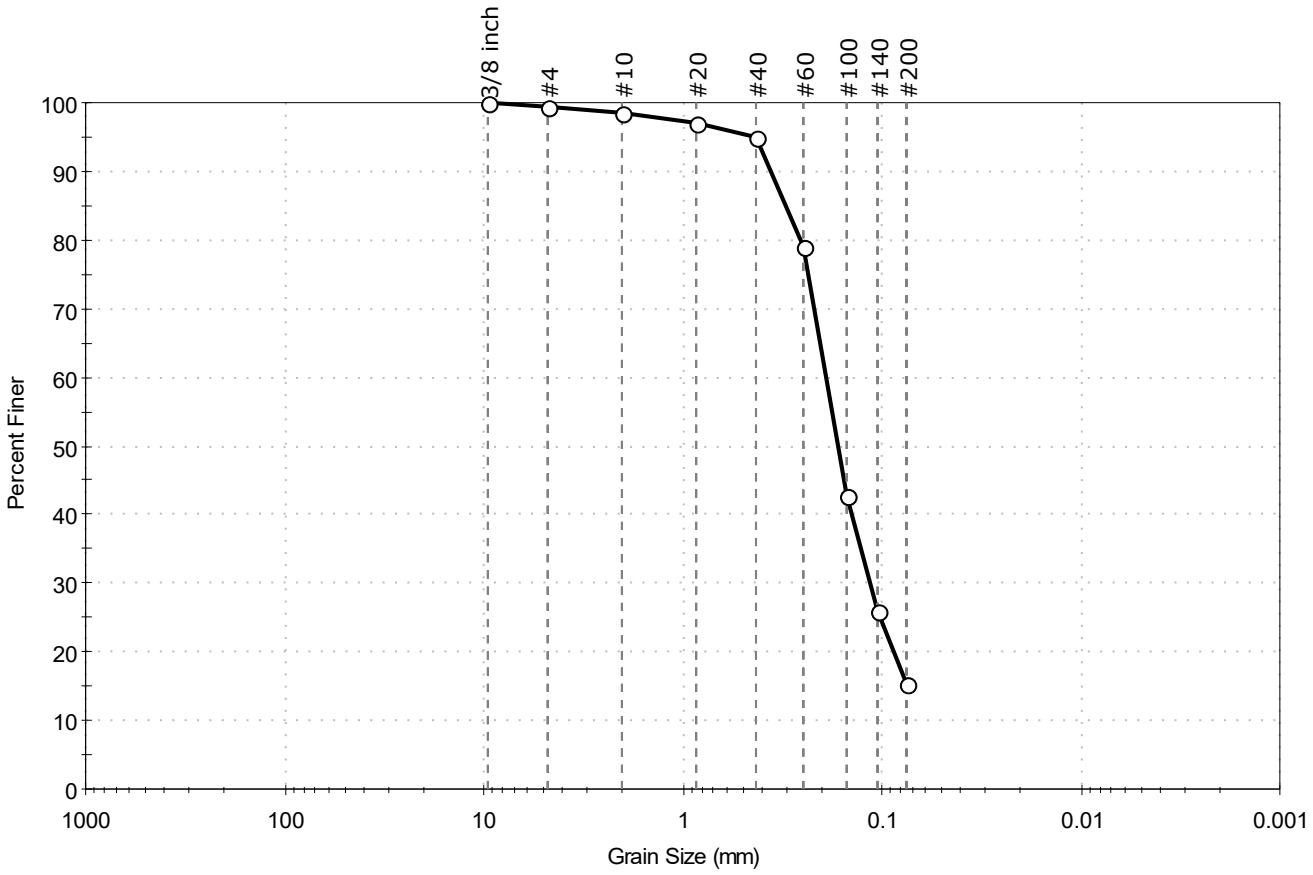
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-10, S-11	Test Date:	08/01/22	Checked By:	bfs
Depth :	18-22'	Test Id:	679655		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.6	84.0	15.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	99		
#10	2.00	98		
#20	0.85	97		
#40	0.42	95		
#60	0.25	79		
#100	0.15	43		
#140	0.11	26		
#200	0.075	15		

Coefficients

D_{85} = 0.3050 mm D_{30} = 0.1154 mm

D_{60} = 0.1911 mm D_{15} = N/A

D_{50} = 0.1660 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

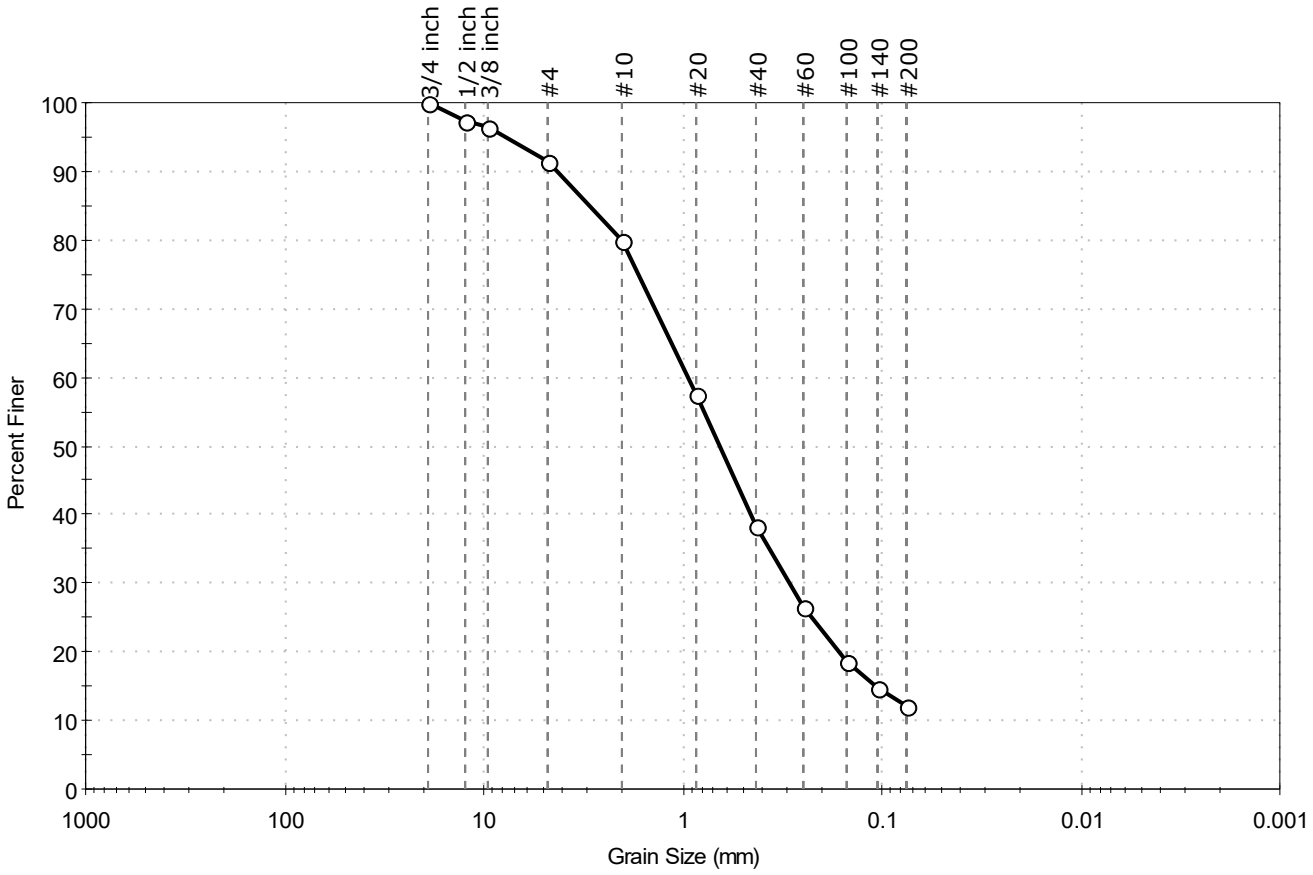
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-15, S-16	Test Date:	08/01/22	Checked By:	bfs
Depth :	28-32'	Test Id:	679656		
Test Comment:	---				
Visual Description:	Moist, light brownish gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	8.4	79.6	12.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	97		
3/8 inch	9.50	96		
#4	4.75	92		
#10	2.00	80		
#20	0.85	57		
#40	0.42	38		
#60	0.25	27		
#100	0.15	19		
#140	0.11	15		
#200	0.075	12		

Coefficients

D_{85} = 2.9152 mm
D_{30} = 0.2920 mm
D_{60} = 0.9385 mm
D_{15} = 0.1087 mm
D_{50} = 0.6495 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

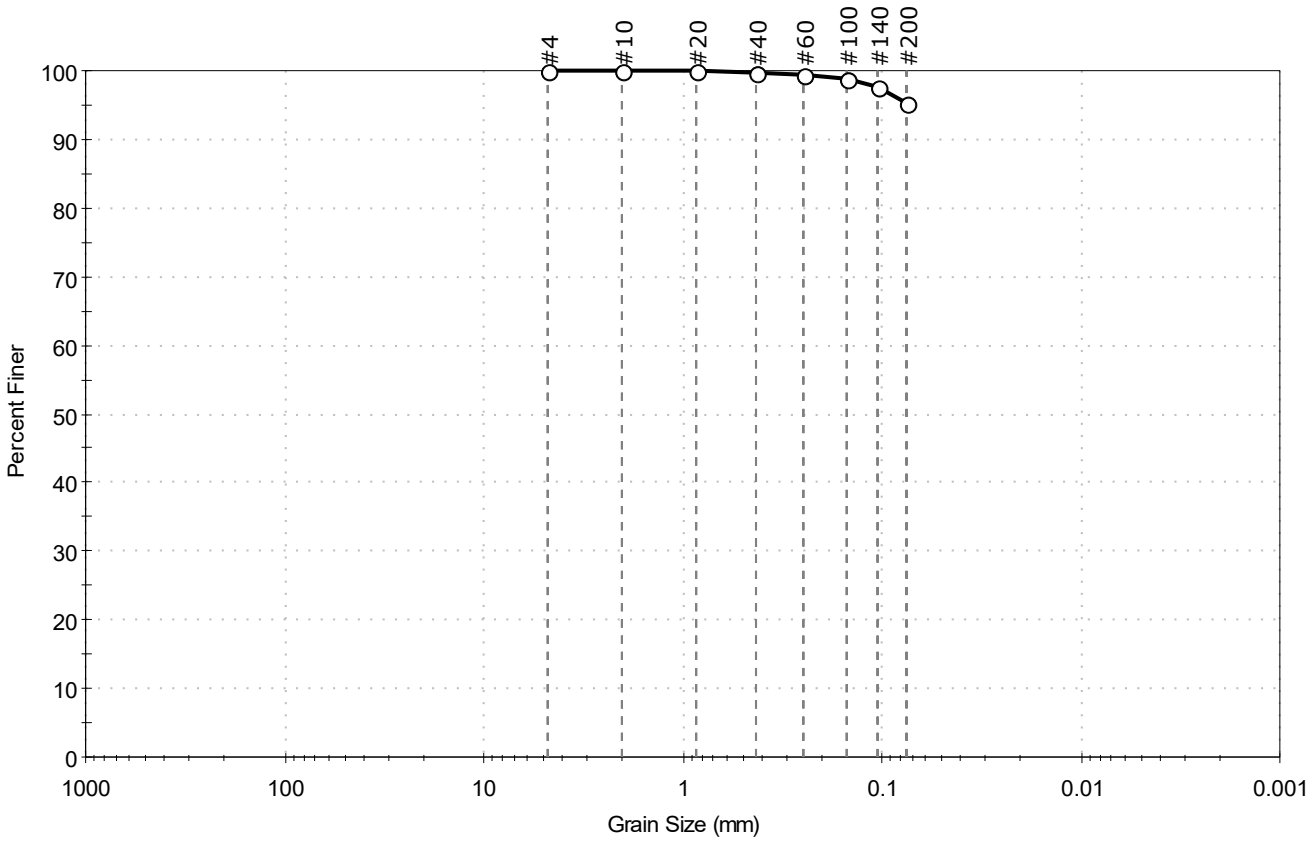
Sand/Gravel Hardness : HARD

printed 8/10/2022 10:16:01 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-21	Test Date:	07/26/22	Checked By:	bfs
Depth :	46-48'	Test Id:	679657		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	4.8	95.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	99		
#140	0.11	98		
#200	0.075	95		

Coefficients

D_{85} = N/A	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT (ML)

AASHTO Silty Soils (A-4 (0))

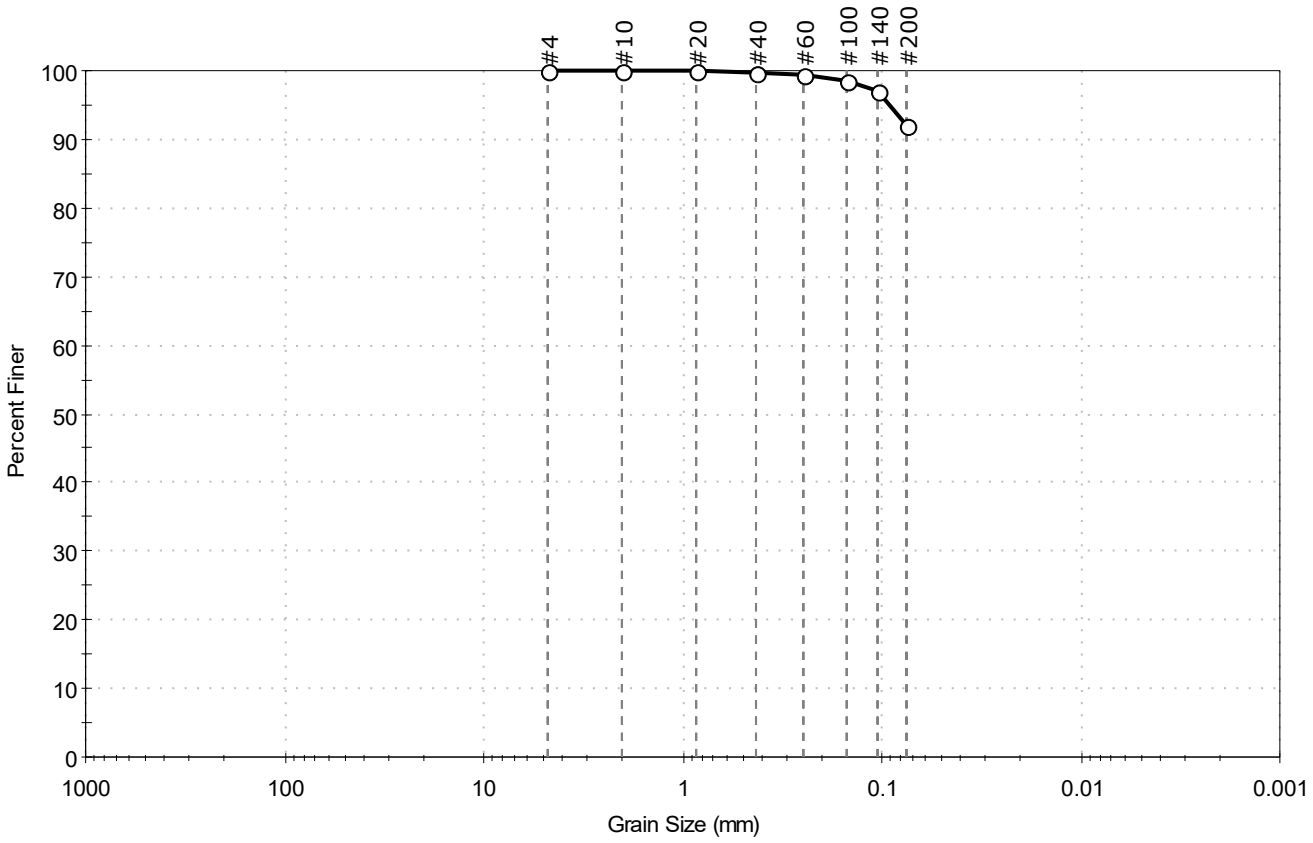
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-22	Test Date:	07/26/22	Checked By:	bfs
Depth :	48-50'	Test Id:	679658		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	7.9	92.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	99		
#140	0.11	97		
#200	0.075	92		

Coefficients

D_{85} = N/A	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

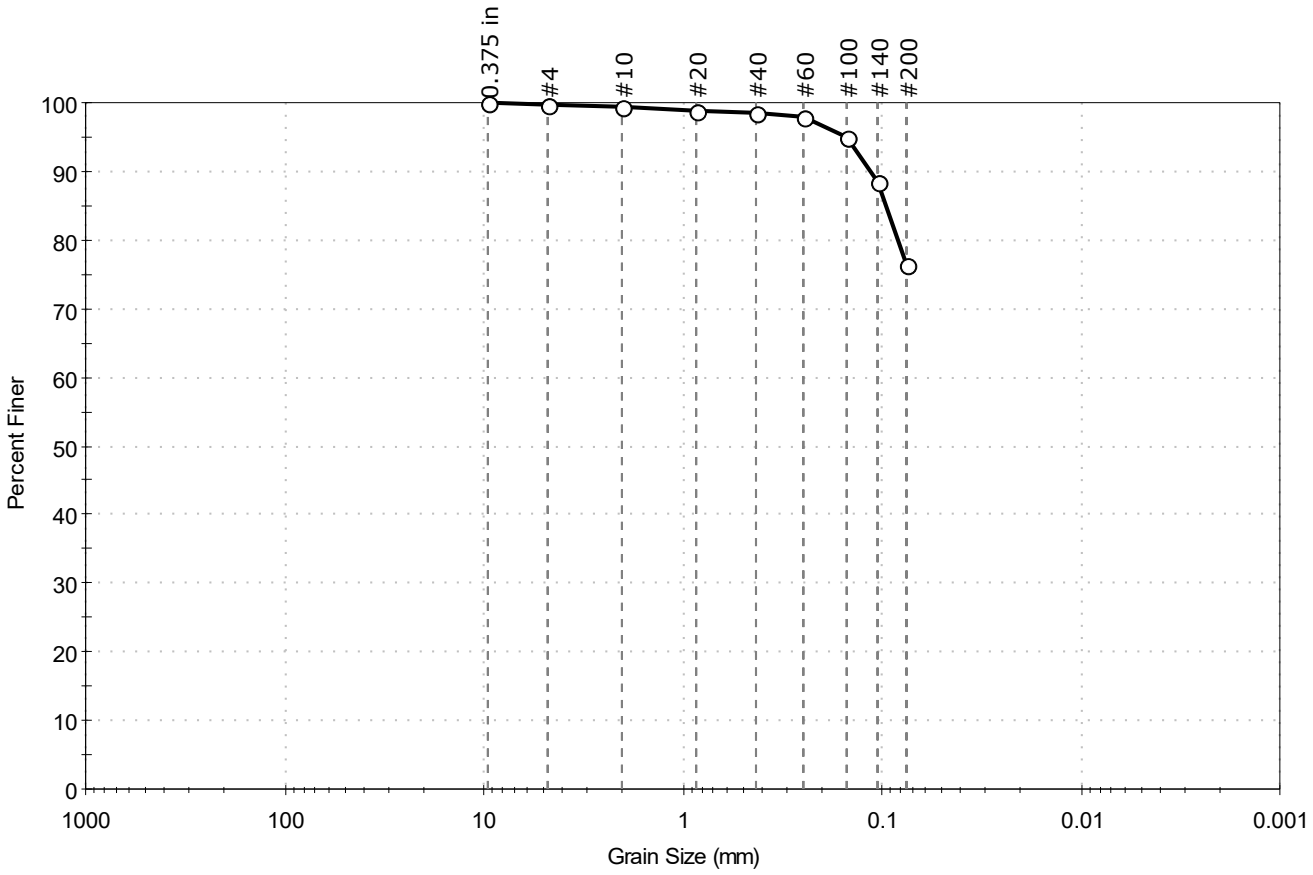
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	07/26/22	Checked By:	bfs
Depth :	56-58'	Test Id:	679659		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.3	23.2	76.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	98		
#100	0.15	95		
#140	0.11	88		
#200	0.075	76		

Coefficients

D_{85} = 0.0959 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

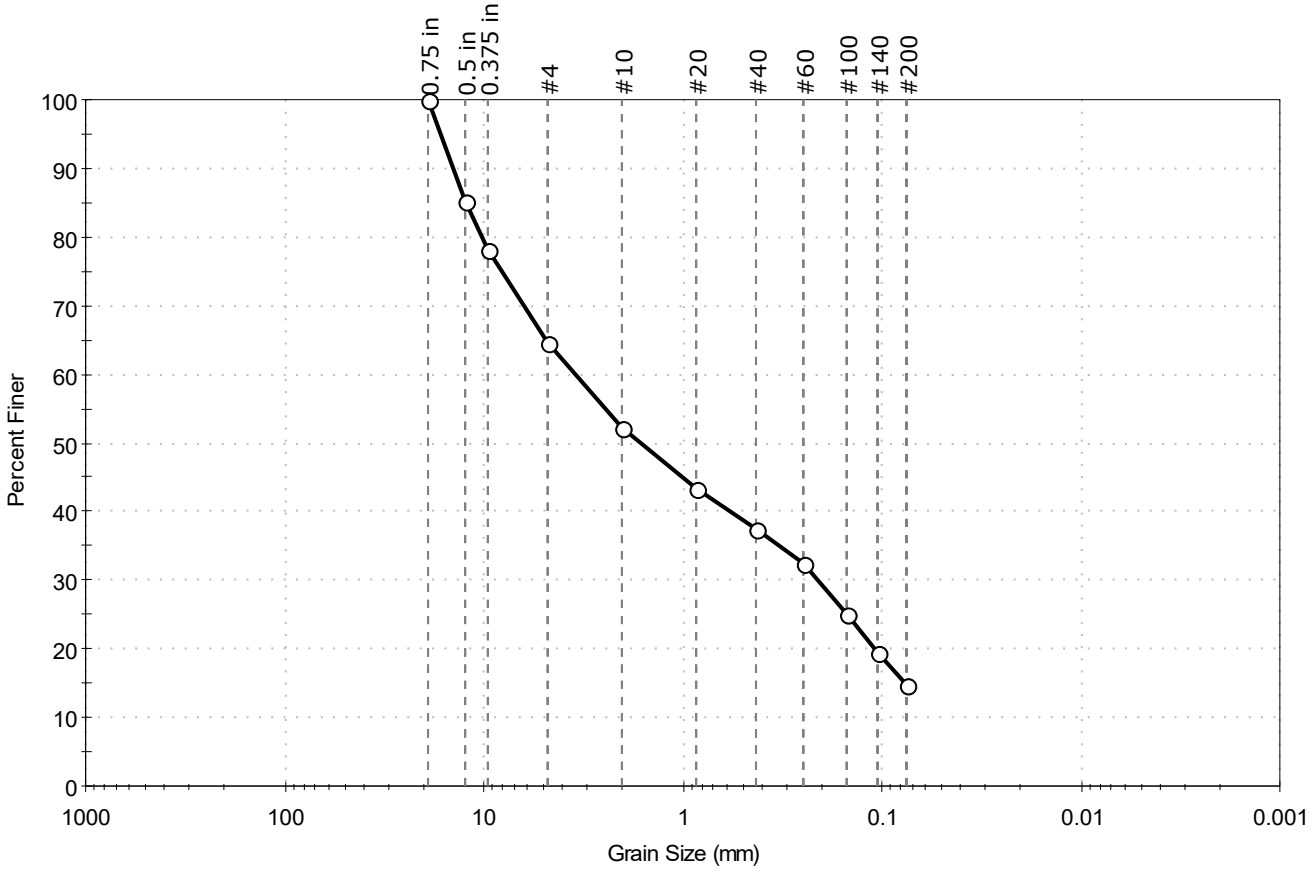
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	07/26/22	Checked By:	bfs
Depth :	58-60'	Test Id:	679660		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	35.4	50.0	14.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	85		
0.375 in	9.50	78		
#4	4.75	65		
#10	2.00	52		
#20	0.85	43		
#40	0.42	37		
#60	0.25	32		
#100	0.15	25		
#140	0.11	19		
#200	0.075	15		

Coefficients

D_{85} = 12.3381 mm D_{30} = 0.2107 mm

D_{60} = 3.4527 mm D_{15} = 0.0770 mm

D_{50} = 1.6272 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

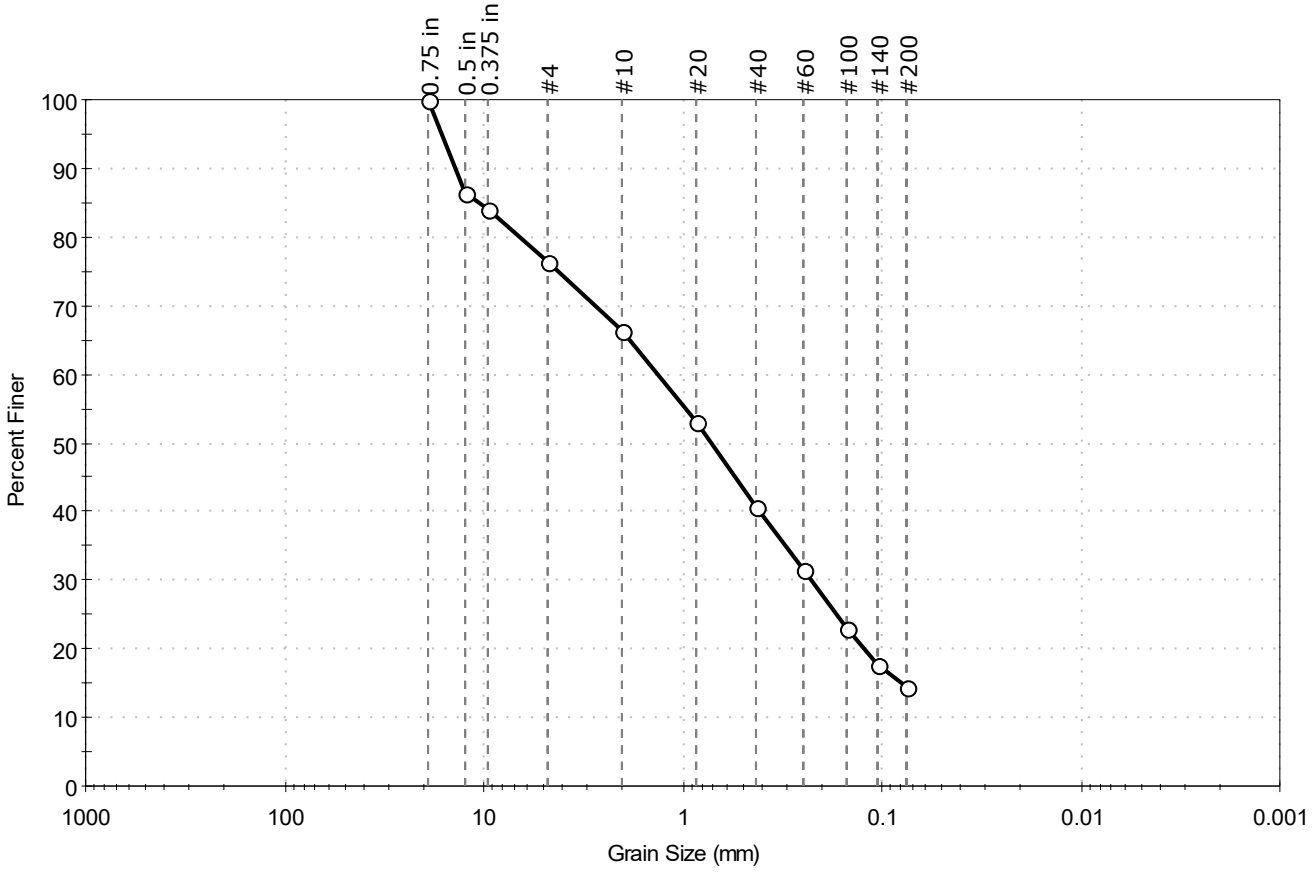
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-30	Test Date:	07/26/22	Checked By:	bfs
Depth :	70-72'	Test Id:	679661		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	23.6	62.0	14.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	87		
0.375 in	9.50	84		
#4	4.75	76		
#10	2.00	66		
#20	0.85	53		
#40	0.42	41		
#60	0.25	31		
#100	0.15	23		
#140	0.11	18		
#200	0.075	14		

Coefficients

D_{85} = 10.6174 mm	D_{30} = 0.2293 mm
D_{60} = 1.3246 mm	D_{15} = 0.0800 mm
D_{50} = 0.7104 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

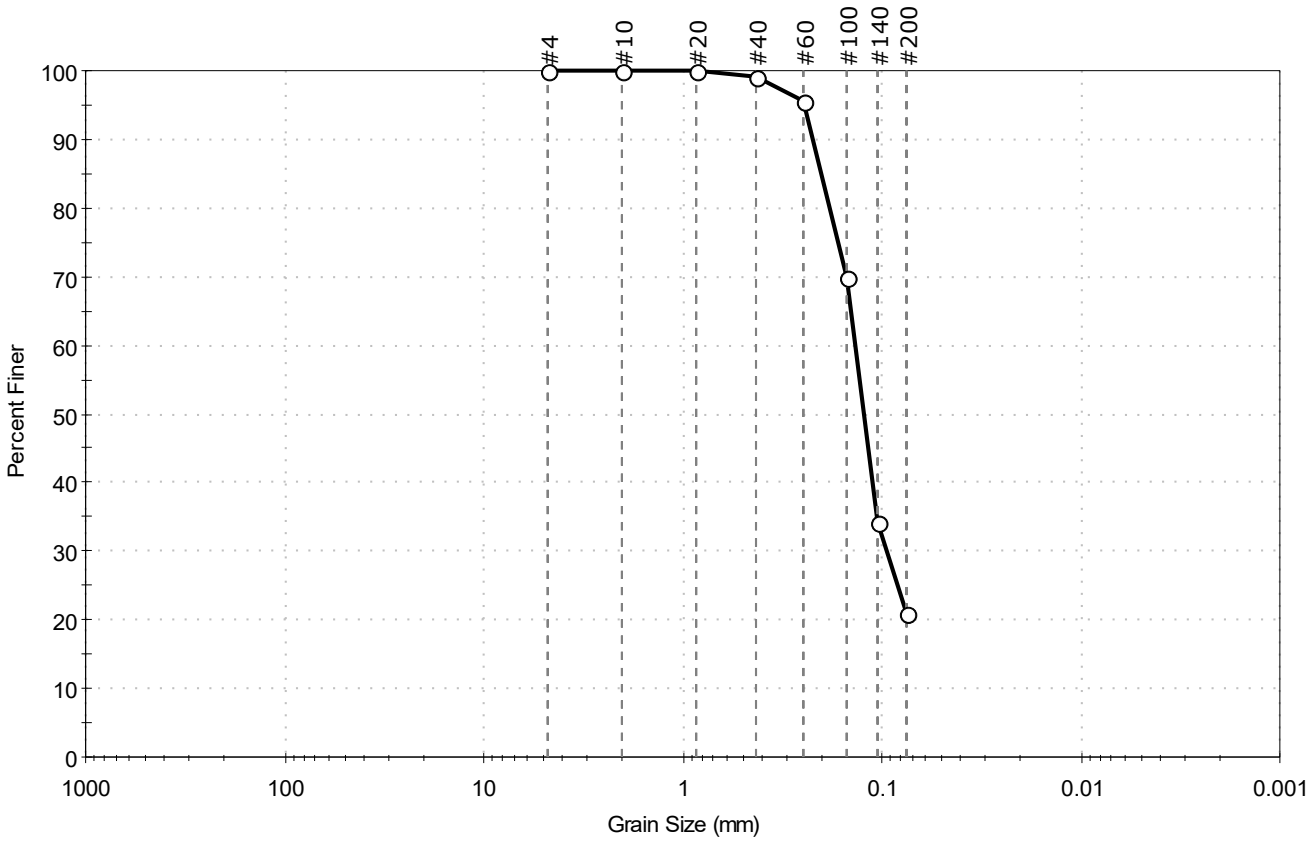
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	10/25/22	Checked By:	bfs
Depth :	4-6, 6-8	Test Id:	690100		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	78.9	21.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	95		
#100	0.15	70		
#140	0.11	34		
#200	0.075	21		

Coefficients

D_{85} = 0.2027 mm	D_{30} = 0.0947 mm
D_{60} = 0.1361 mm	D_{15} = N/A
D_{50} = 0.1235 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

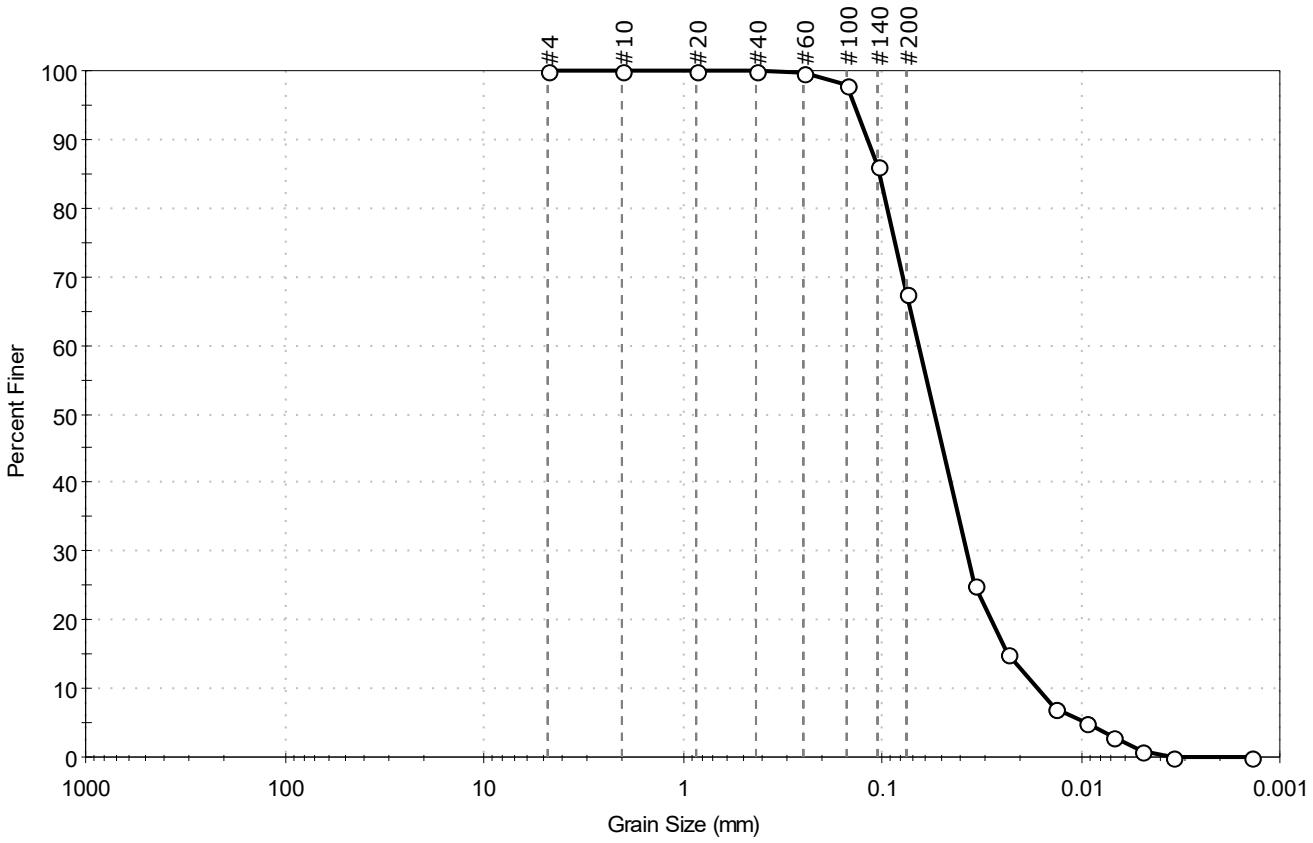
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-7, S-8	Test Date:	10/27/22	Checked By:	ank
Depth :	12-14, 14-16	Test Id:	690139		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	32.6	67.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	86		
#200	0.075	67		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0339	25		
---	0.0231	15		
---	0.0135	7		
---	0.0094	5		
---	0.0069	3		
---	0.0049	1		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 0.1038 mm	D_{30} = 0.0373 mm
D_{60} = 0.0653 mm	D_{15} = 0.0231 mm
D_{50} = 0.0542 mm	D_{10} = 0.0165 mm
C_u = 3.958	C_c = 1.291

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

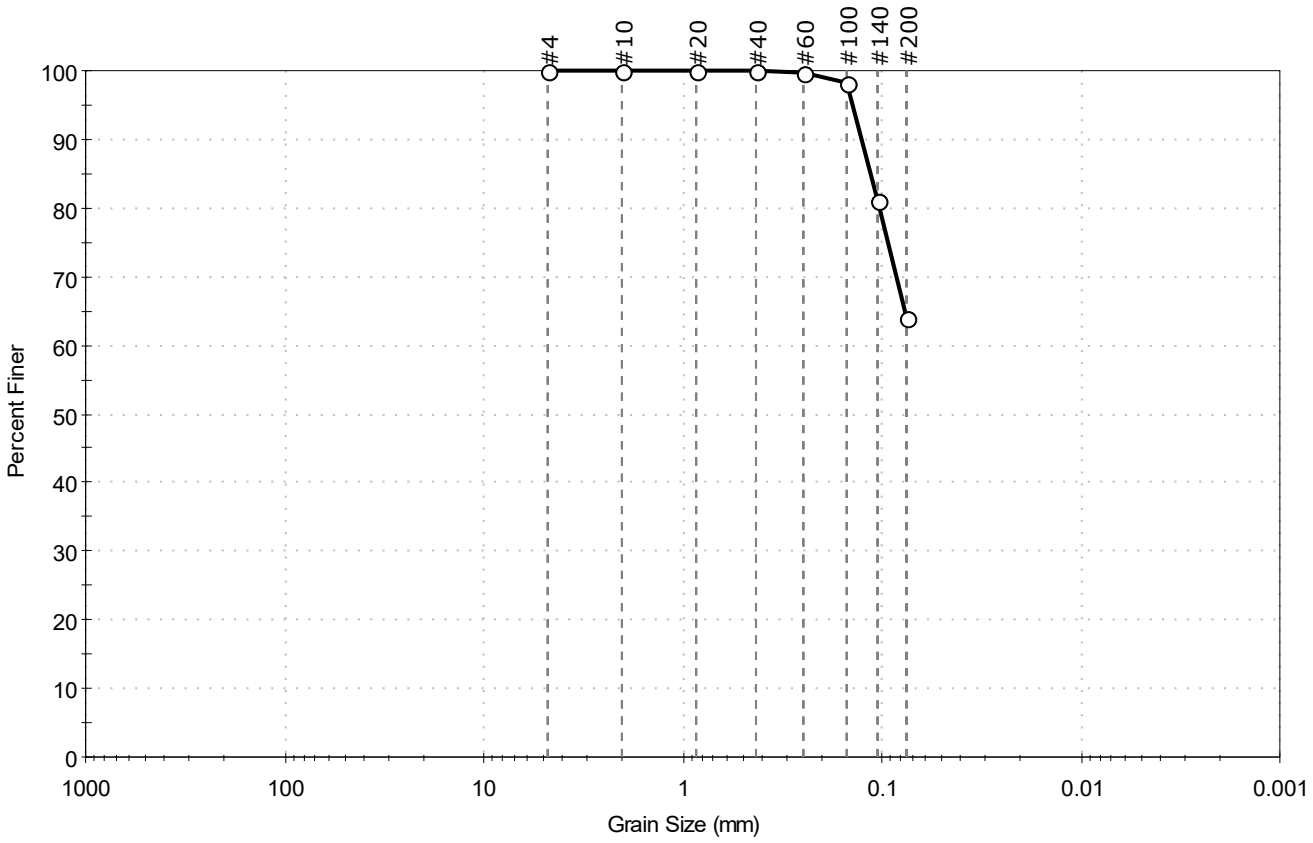
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-12	Test Date:	10/25/22	Checked By:	bfs
Depth :	22-24	Test Id:	690101		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	35.9	64.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	81		
#200	0.075	64		

Coefficients

D_{85} = 0.1146 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

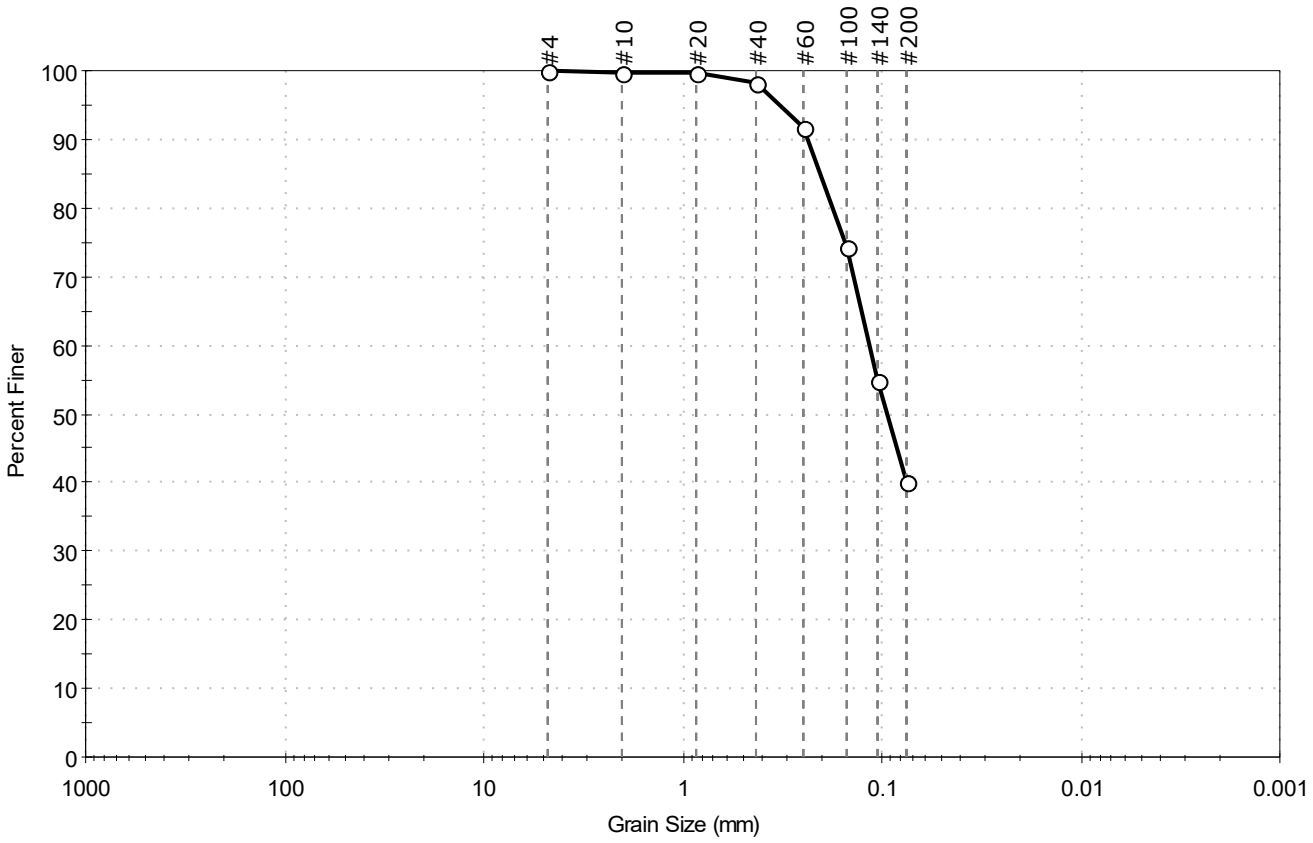
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16	Test Date:	10/25/22	Checked By:	bfs
Depth :	30-32	Test Id:	690102		
Test Comment:	---				
Visual Description:	Moist, light brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	59.9	40.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	92		
#100	0.15	74		
#140	0.11	55		
#200	0.075	40		

Coefficients

D_{85} = 0.2046 mm D_{30} = N/A
D_{60} = 0.1163 mm D_{15} = N/A
D_{50} = 0.0947 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

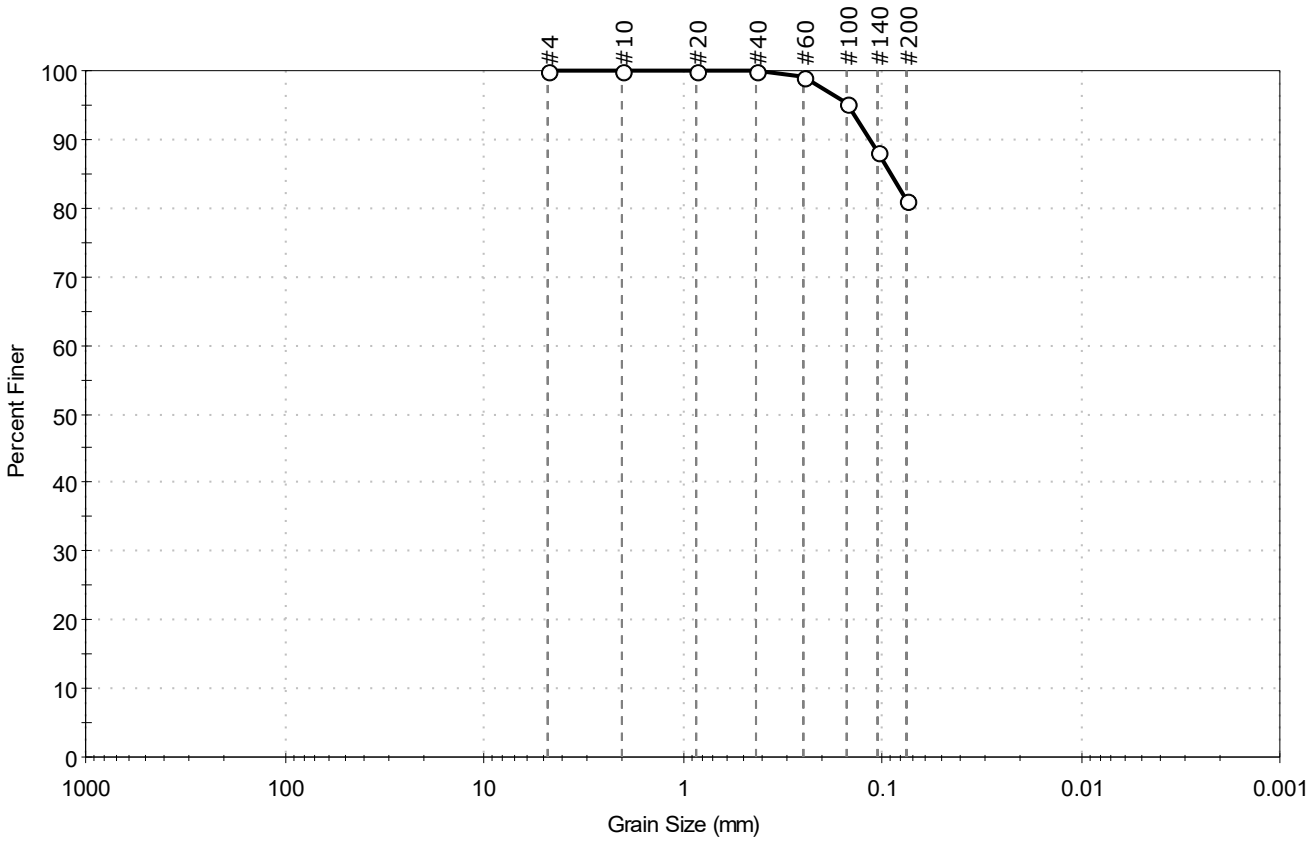
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-21	Test Date:	10/26/22	Checked By:	bfs
Depth :	55-57	Test Id:	690103		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	18.7	81.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	95		
#140	0.11	88		
#200	0.075	81		

Coefficients

D_{85} = 0.0906 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

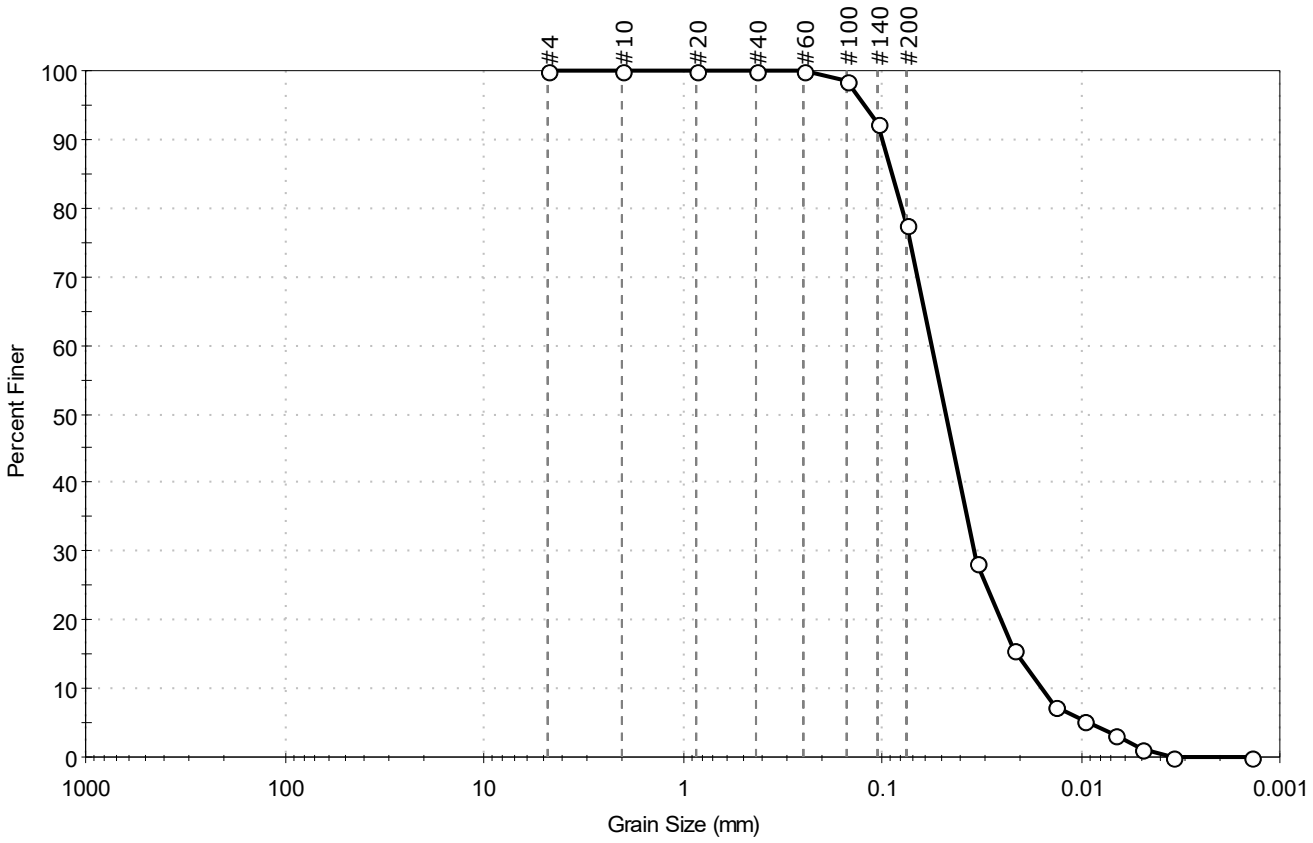
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/27/2022 12:56:54 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	10/27/22	Checked By:	ank
Depth :	65-67	Test Id:	690140		
Test Comment:	---				
Visual Description:	Moist, pale brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	22.5	77.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	92		
#200	0.075	78		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0336	28		
---	0.0219	16		
---	0.0135	7		
---	0.0097	5		
---	0.0068	3		
---	0.0049	1		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 0.0893 mm	D_{30} = 0.0346 mm
D_{60} = 0.0563 mm	D_{15} = 0.0210 mm
D_{50} = 0.0479 mm	D_{10} = 0.0158 mm
C_u = 3.563	C_c = 1.346

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

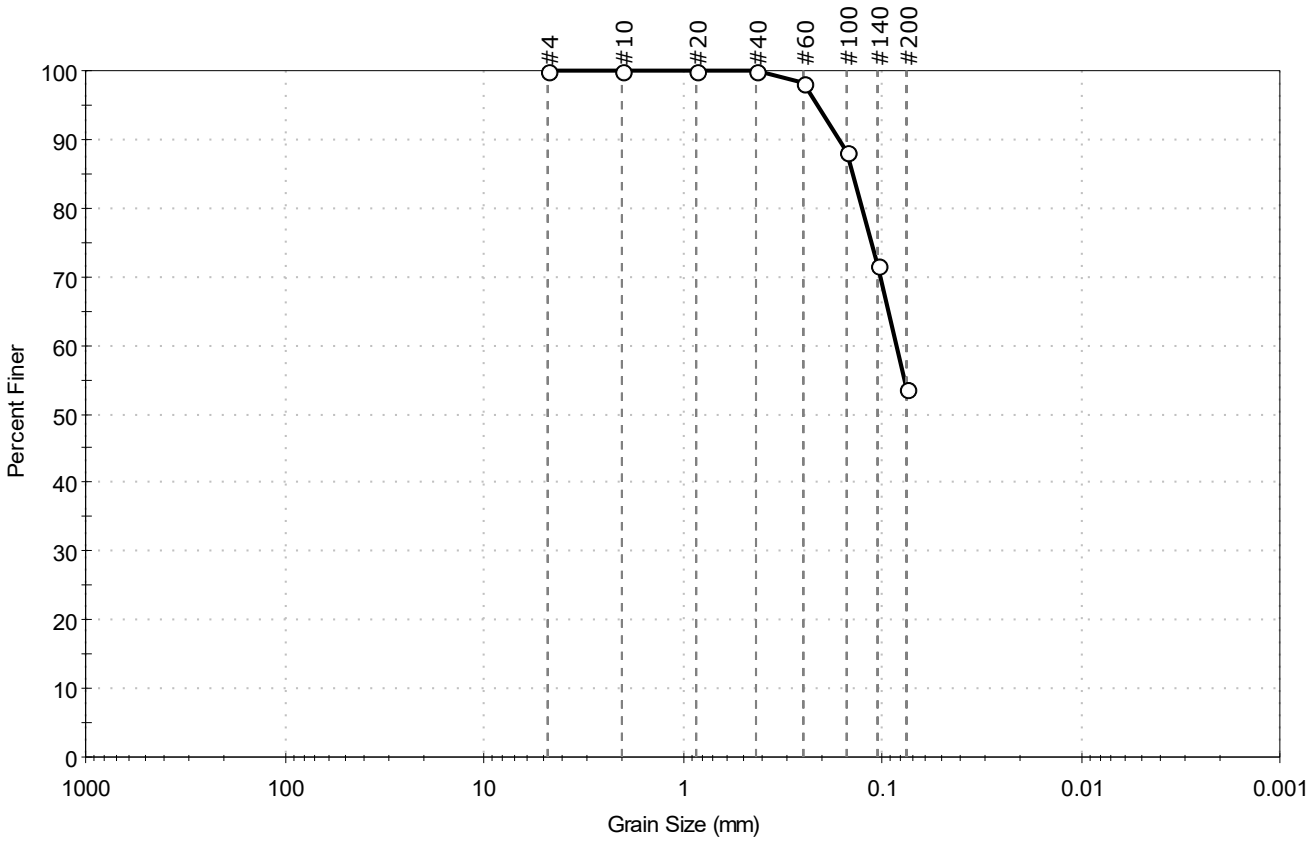
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-28, S-29	Test Date:	10/25/22	Checked By:	bfs
Depth :	69-71, 71-73	Test Id:	690104		
Test Comment:	---				
Visual Description:	Moist, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	46.4	53.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	88		
#140	0.11	72		
#200	0.075	54		

Coefficients

D_{85} = 0.1400 mm D_{30} = N/A
D_{60} = 0.0849 mm D_{15} = N/A
D_{50} = N/A D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

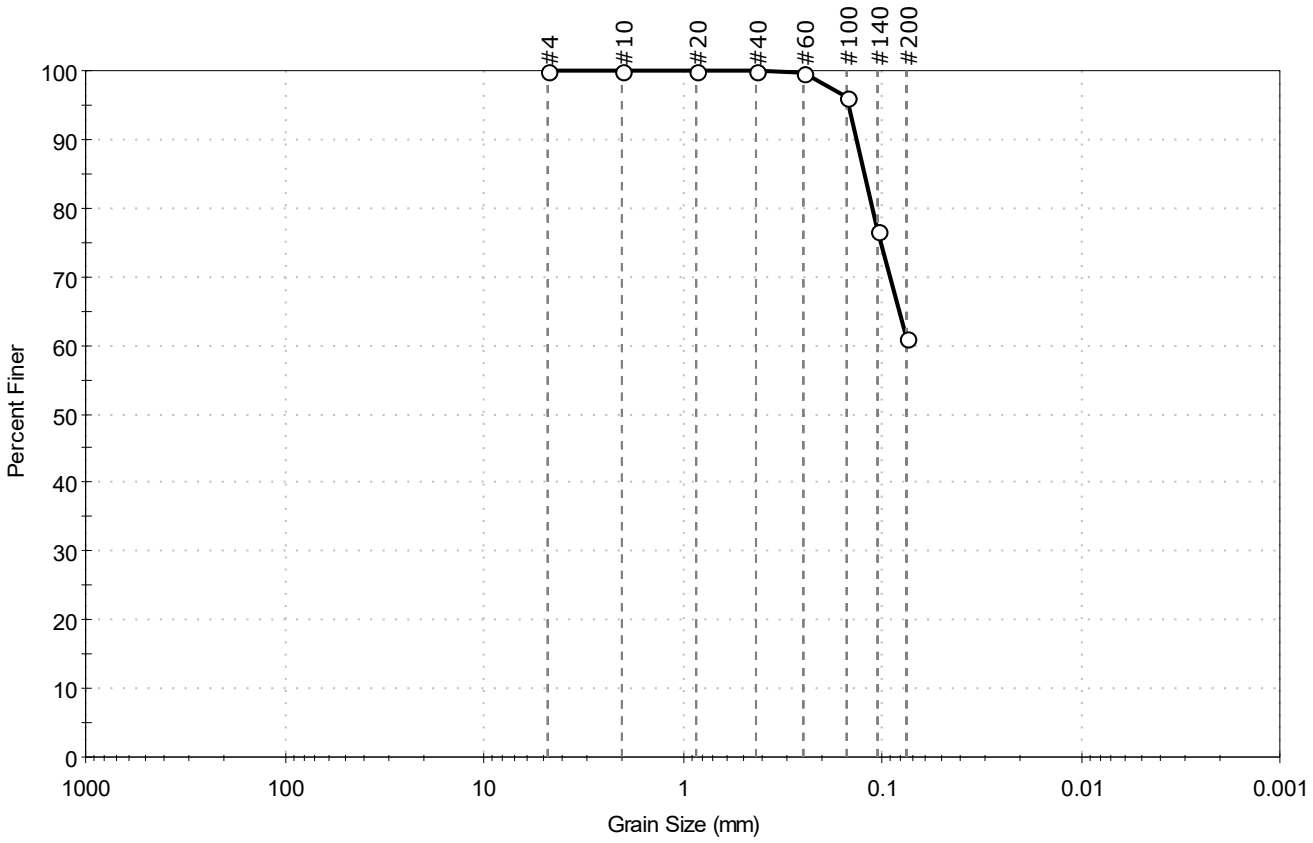
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-32	Test Date:	10/25/22	Checked By:	bfs
Depth :	80-82	Test Id:	690105		
Test Comment:	---				
Visual Description:	Moist, light brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	38.9	61.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	96		
#140	0.11	77		
#200	0.075	61		

Coefficients

D_{85} = 0.1230 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

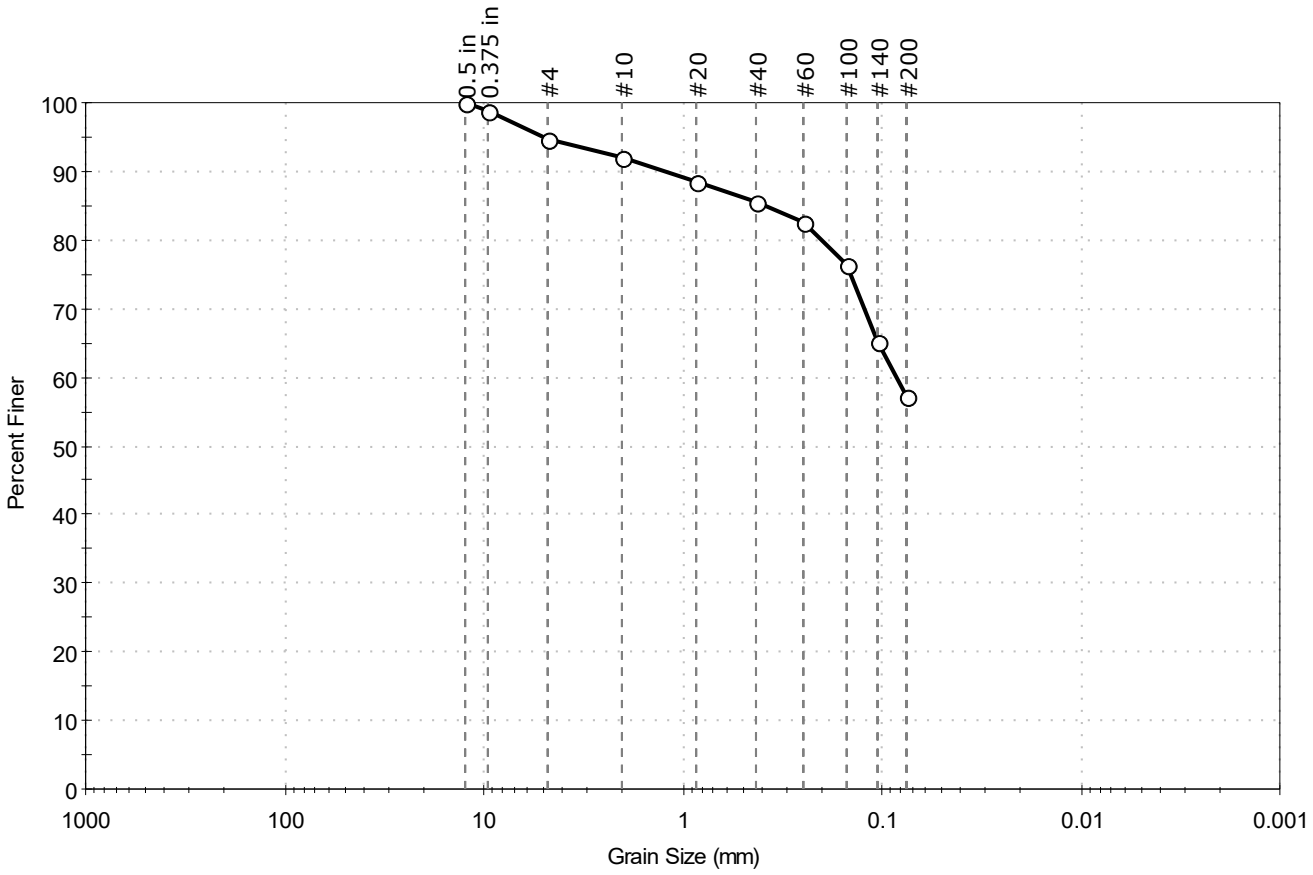
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2, S-3	Test Date:	10/25/22	Checked By:	bfs
Depth :	2-4, 4-6	Test Id:	690117		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	5.2	37.5	57.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	99		
#4	4.75	95		
#10	2.00	92		
#20	0.85	89		
#40	0.42	86		
#60	0.25	83		
#100	0.15	76		
#140	0.11	65		
#200	0.075	57		

Coefficients

D_{85} = 0.3861 mm	D_{30} = N/A
D_{60} = 0.0842 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

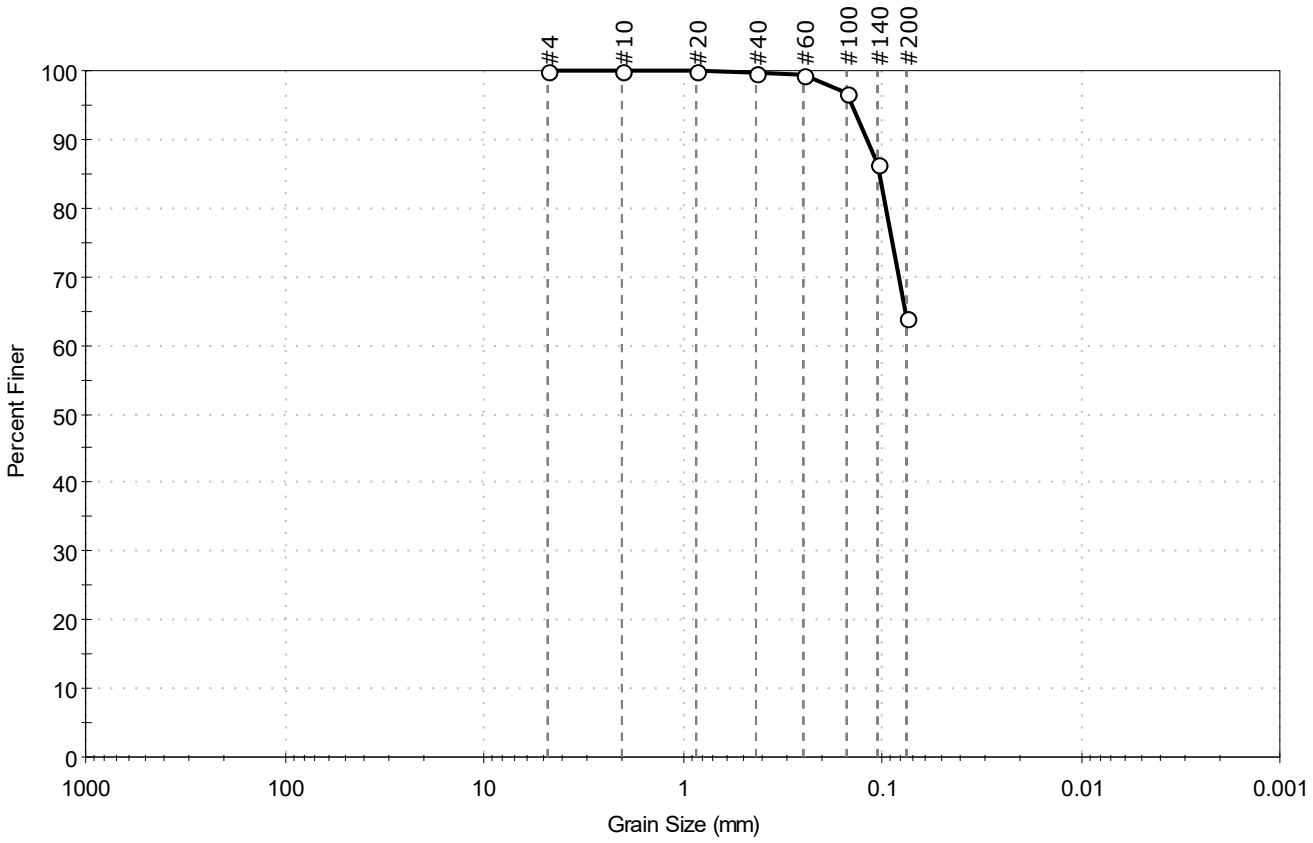
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-7, S-8	Test Date:	10/25/22	Checked By:	bfs
Depth :	12-14, 14-16	Test Id:	690118		
Test Comment:	---				
Visual Description:	Moist, light brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	36.0	64.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	97		
#140	0.11	86		
#200	0.075	64		

Coefficients

D_{85} = 0.1038 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

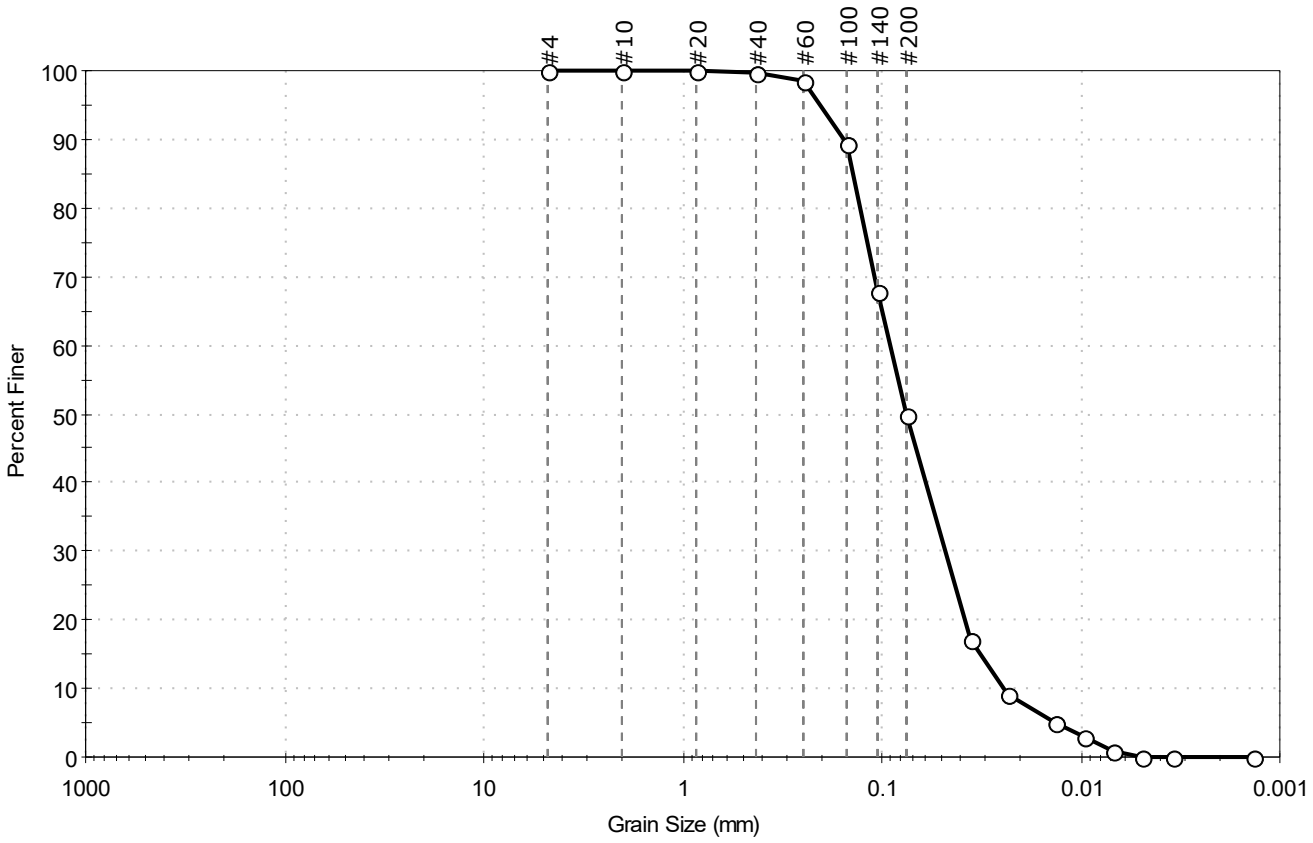
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-11	Test Date:	10/27/22	Checked By:	ank
Depth :	20-22	Test Id:	690145		
Test Comment:	---				
Visual Description:	Moist, light brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	50.2	49.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	89		
#140	0.11	68		
#200	0.075	50		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0363	17		
---	0.0232	9		
---	0.0135	5		
---	0.0096	3		
---	0.0070	1		
---	0.0049	0		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 0.1398 mm D_{30} = 0.0483 mm
D_{60} = 0.0912 mm D_{15} = 0.0323 mm
D_{50} = 0.0752 mm D_{10} = 0.0244 mm
C_u = 3.738 C_c = 1.048

Classification

ASTM N/A

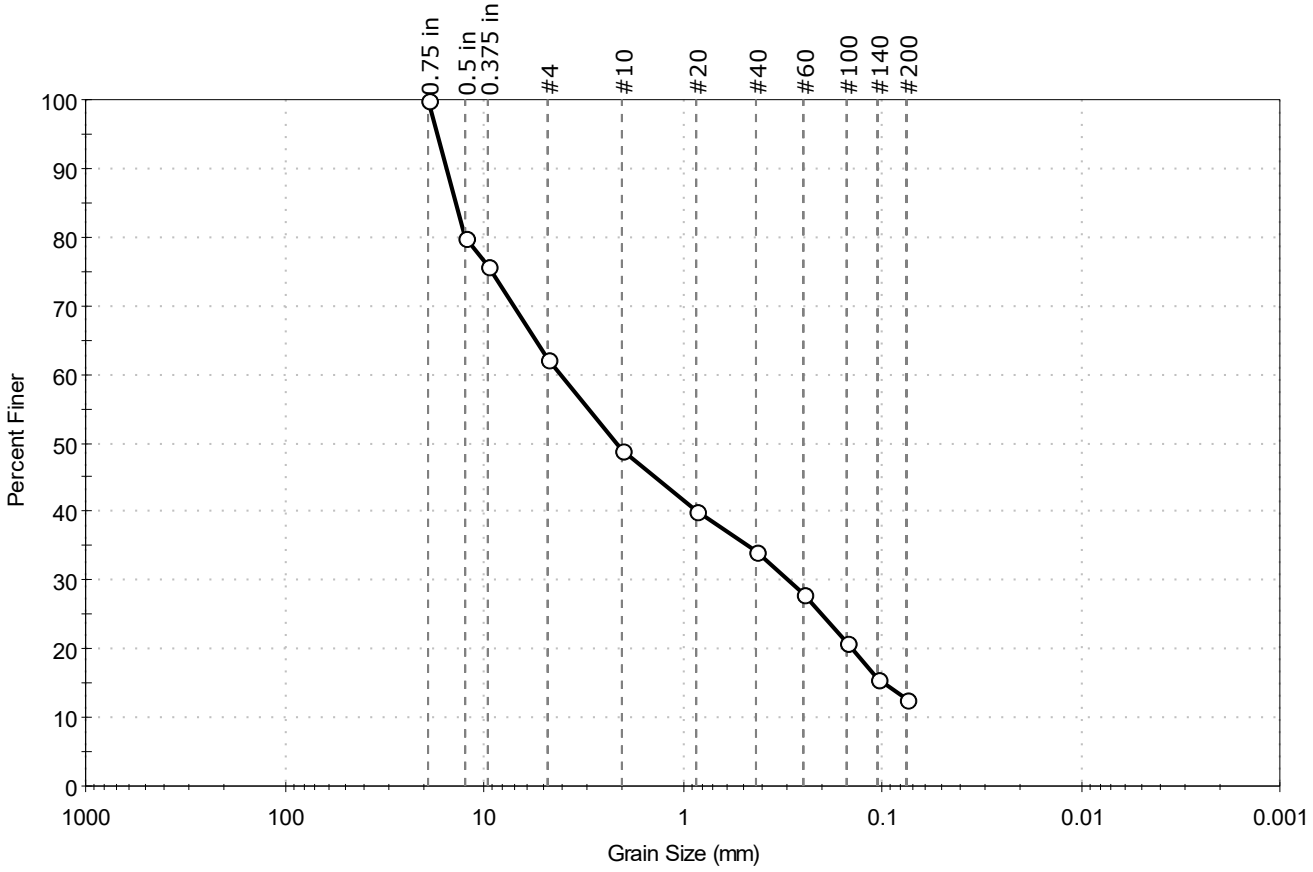
AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16	Test Date:	10/25/22	Checked By:	bfs
Depth :	30-32	Test Id:	690119		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	37.8	49.6	12.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	80		
0.375 in	9.50	76		
#4	4.75	62		
#10	2.00	49		
#20	0.85	40		
#40	0.42	34		
#60	0.25	28		
#100	0.15	21		
#140	0.11	16		
#200	0.075	13		

Coefficients

D_{85} = 13.8841 mm D_{30} = 0.2991 mm

D_{60} = 4.1179 mm D_{15} = 0.0977 mm

D_{50} = 2.1424 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

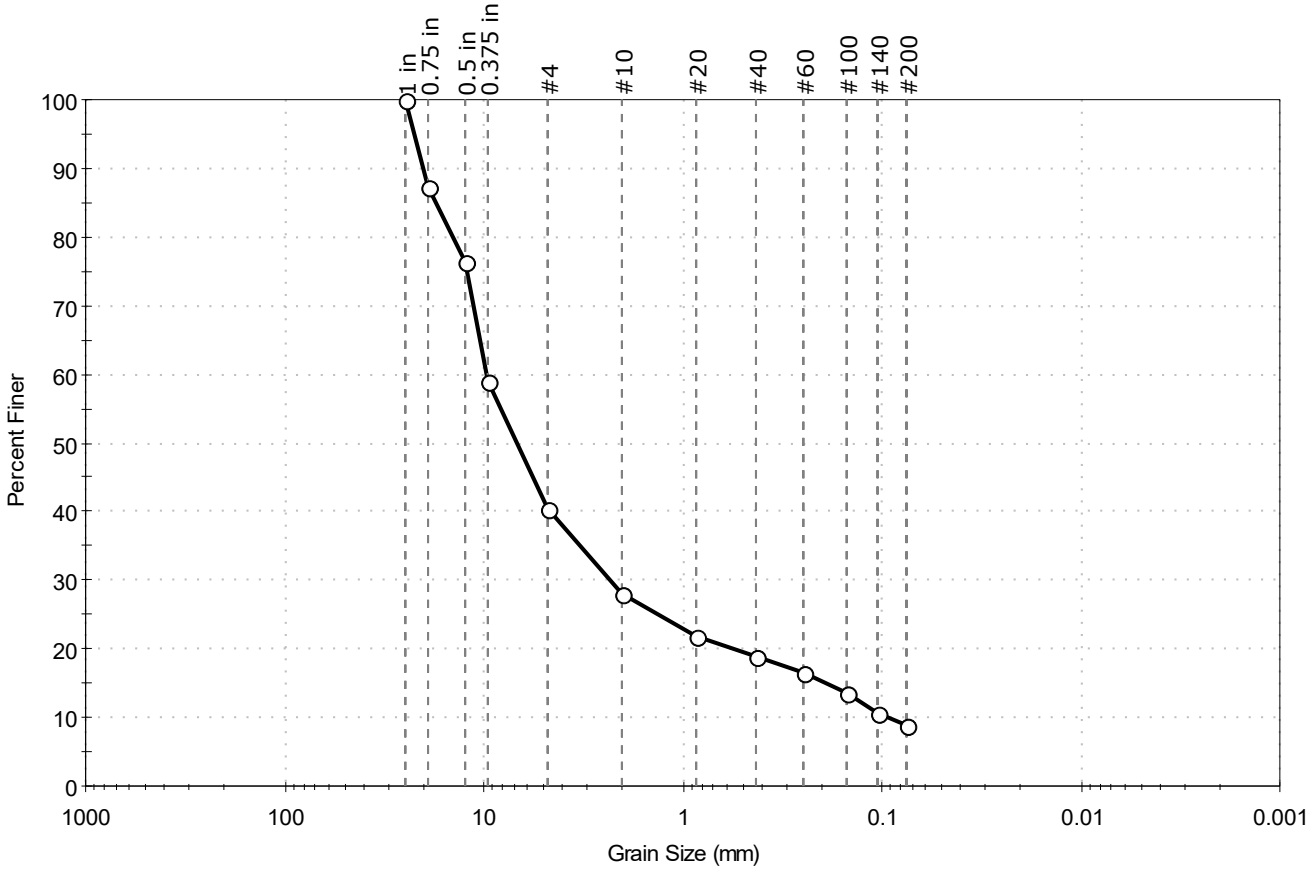
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-17, S-18	Test Date:	10/25/22	Checked By:	bfs
Depth :	32-34, 34-36	Test Id:	690120		
Test Comment:	---				
Visual Description:	Moist, pale brown gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	59.5	31.8	8.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	87		
0.5 in	12.50	76		
0.375 in	9.50	59		
#4	4.75	40		
#10	2.00	28		
#20	0.85	22		
#40	0.42	19		
#60	0.25	17		
#100	0.15	13		
#140	0.11	11		
#200	0.075	8.7		

Coefficients

D_{85} = 17.3369 mm	D_{30} = 2.2920 mm
D_{60} = 9.6597 mm	D_{15} = 0.1916 mm
D_{50} = 6.7935 mm	D_{10} = 0.0943 mm
C_u = 102.436	C_c = 5.767

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (1))

Sample/Test Description

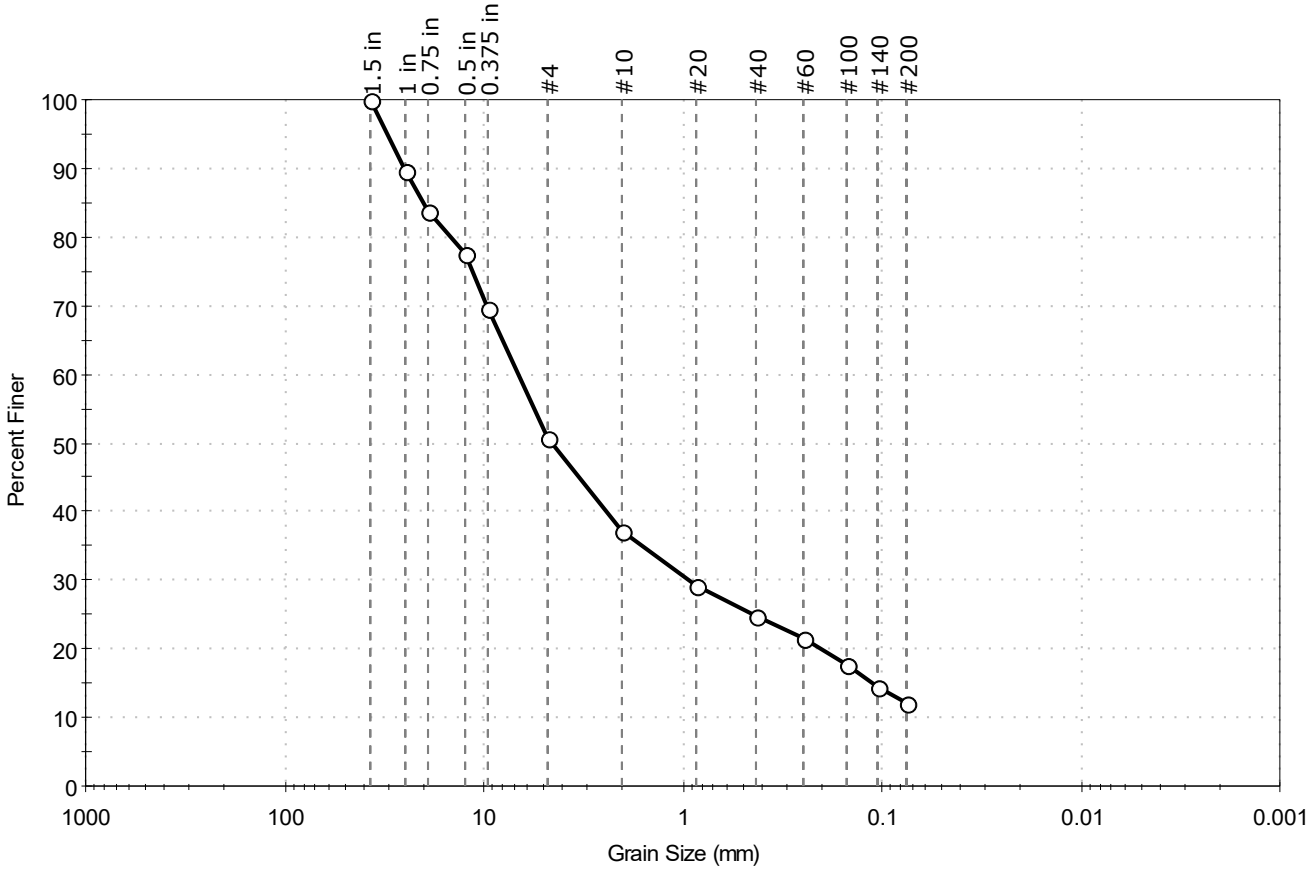
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	10/26/22	Checked By:	bfs
Depth :	44-46	Test Id:	690121		
Test Comment:	---				
Visual Description:	Moist, pale brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	49.4	38.4	12.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	90		
0.75 in	19.00	84		
0.5 in	12.50	78		
0.375 in	9.50	70		
#4	4.75	51		
#10	2.00	37		
#20	0.85	29		
#40	0.42	25		
#60	0.25	22		
#100	0.15	18		
#140	0.11	14		
#200	0.075	12		

Coefficients

D_{85} = 20.1825 mm	D_{30} = 0.9193 mm
D_{60} = 6.6789 mm	D_{15} = 0.1137 mm
D_{50} = 4.5554 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM — Silty GRAVEL with Sand (GM)

AASHTO — Stone Fragments, Gravel and Sand (A-1-a (0))

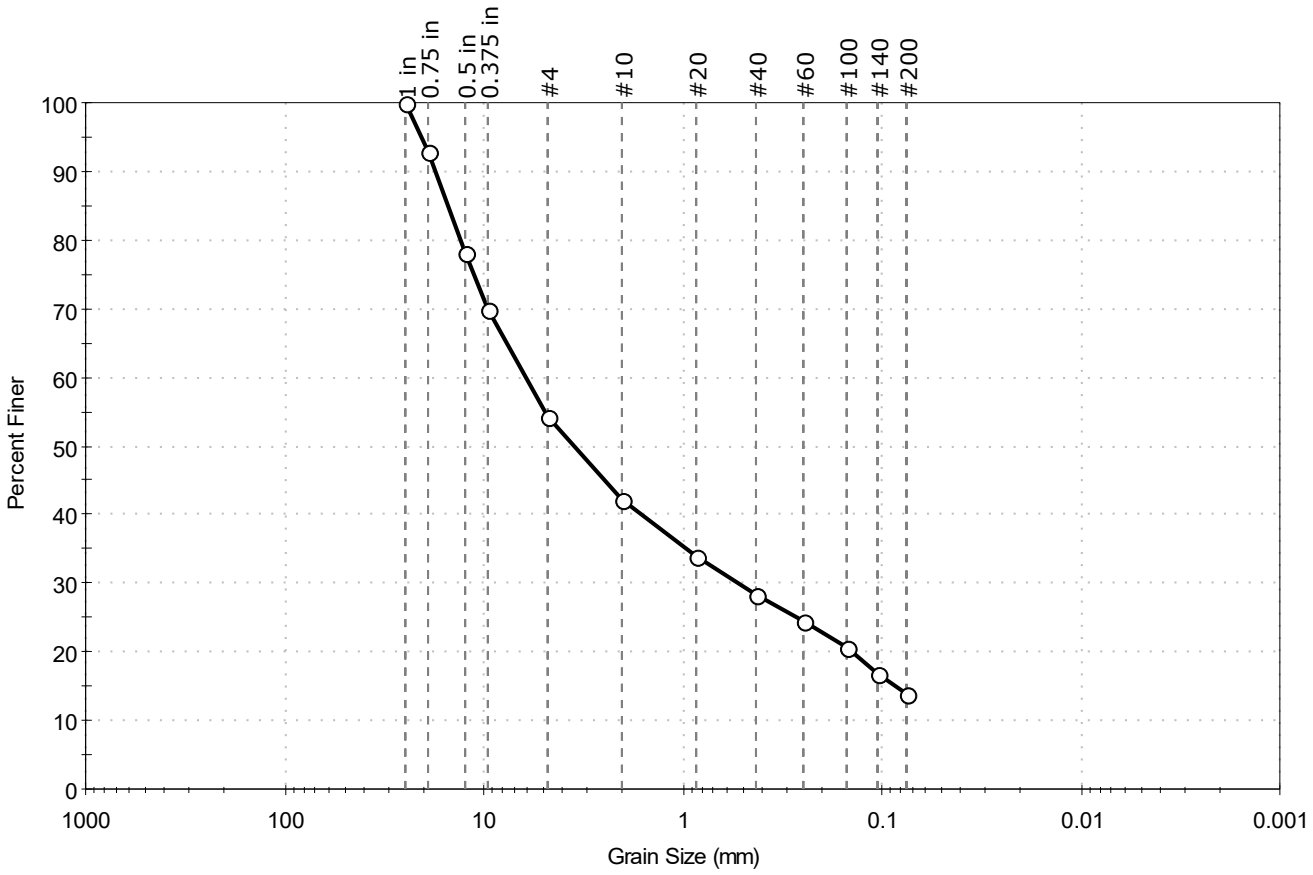
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-25	Test Date:	10/25/22	Checked By:	bfs
Depth :	50-52	Test Id:	690122		
Test Comment:	---				
Visual Description:	Moist, pale brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	45.7	40.5	13.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	93		
0.5 in	12.50	78		
0.375 in	9.50	70		
#4	4.75	54		
#10	2.00	42		
#20	0.85	34		
#40	0.42	28		
#60	0.25	25		
#100	0.15	21		
#140	0.11	17		
#200	0.075	14		

Coefficients

D_{85} = 15.1832 mm	D_{30} = 0.5290 mm
D_{60} = 6.1122 mm	D_{15} = 0.0860 mm
D_{50} = 3.4996 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (0))

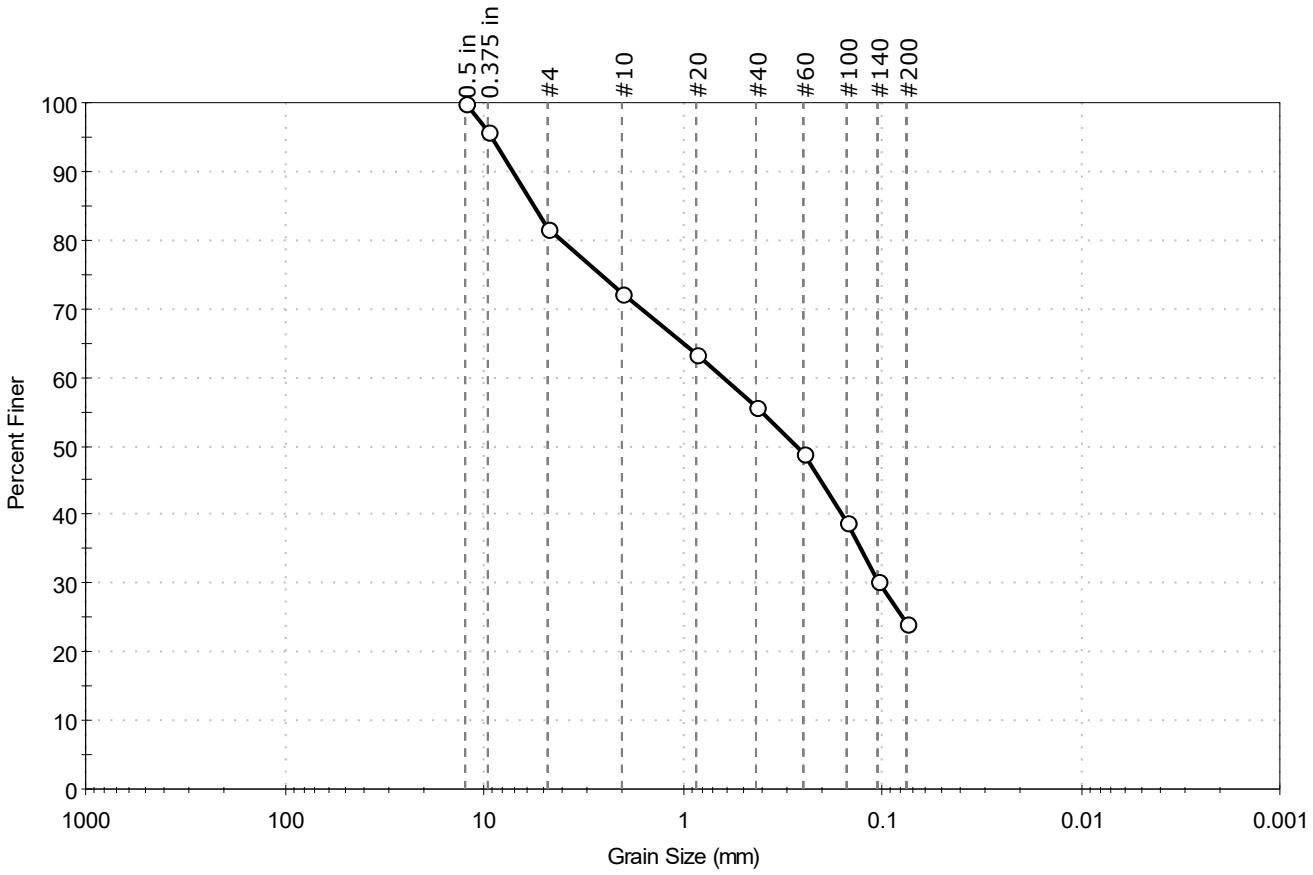
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-28	Test Date:	10/25/22	Checked By:	bfs
Depth :	64-66	Test Id:	690123		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	18.4	57.3	24.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	96		
#4	4.75	82		
#10	2.00	72		
#20	0.85	63		
#40	0.42	56		
#60	0.25	49		
#100	0.15	39		
#140	0.11	30		
#200	0.075	24		

Coefficients

D_{85} = 5.5826 mm D_{30} = 0.1043 mm

D_{60} = 0.6266 mm D_{15} = N/A

D_{50} = 0.2721 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

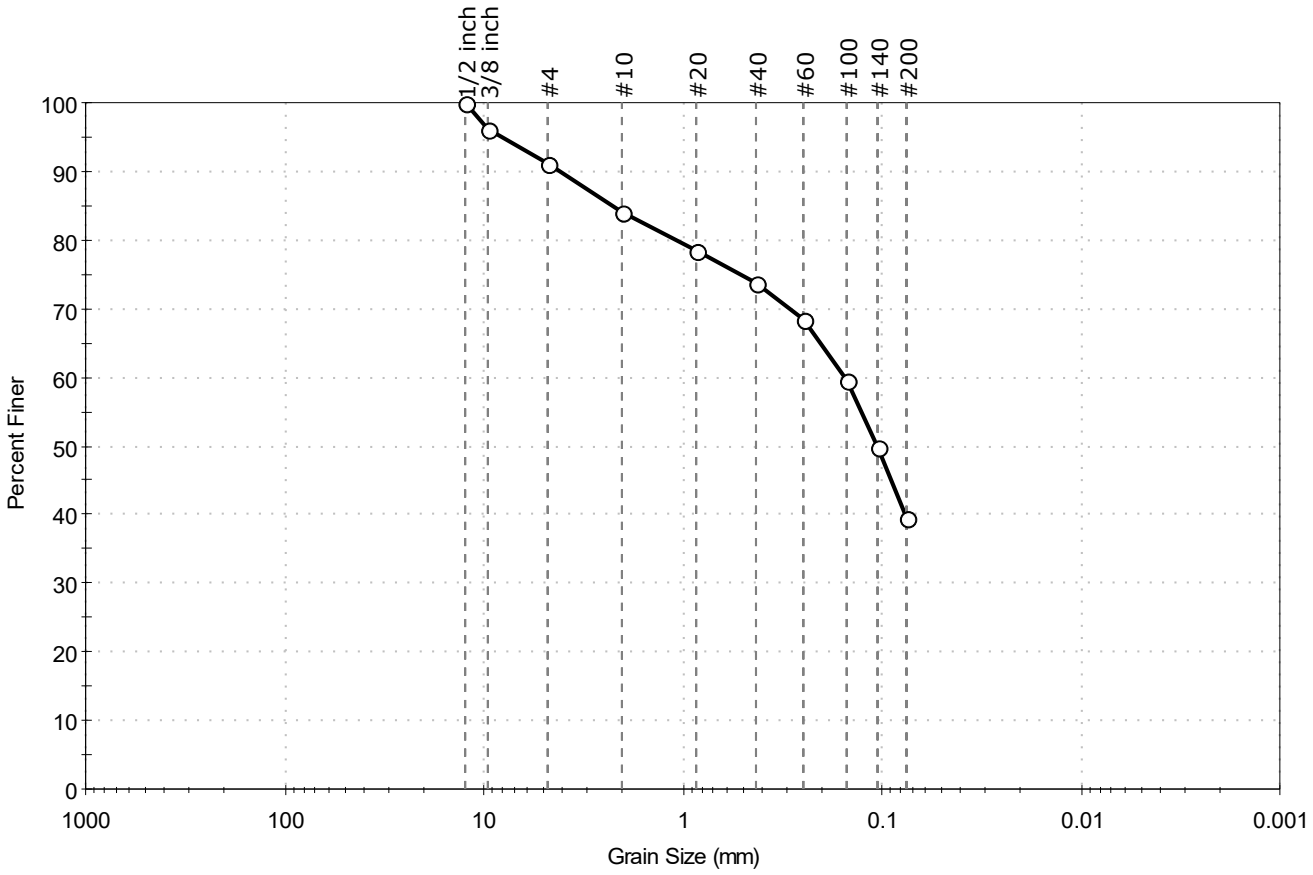
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2, S-3	Test Date:	08/01/22	Checked By:	bfs
Depth :	2-6'	Test Id:	679647		
Test Comment:	---				
Visual Description:	Moist, dark brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	8.9	51.6	39.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2 inch	12.50	100		
3/8 inch	9.50	96		
#4	4.75	91		
#10	2.00	84		
#20	0.85	79		
#40	0.42	74		
#60	0.25	68		
#100	0.15	60		
#140	0.11	50		
#200	0.075	40		

Coefficients

D_{85} = 2.2153 mm D_{30} = N/A
D_{60} = 0.1532 mm D_{15} = N/A
D_{50} = 0.1070 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

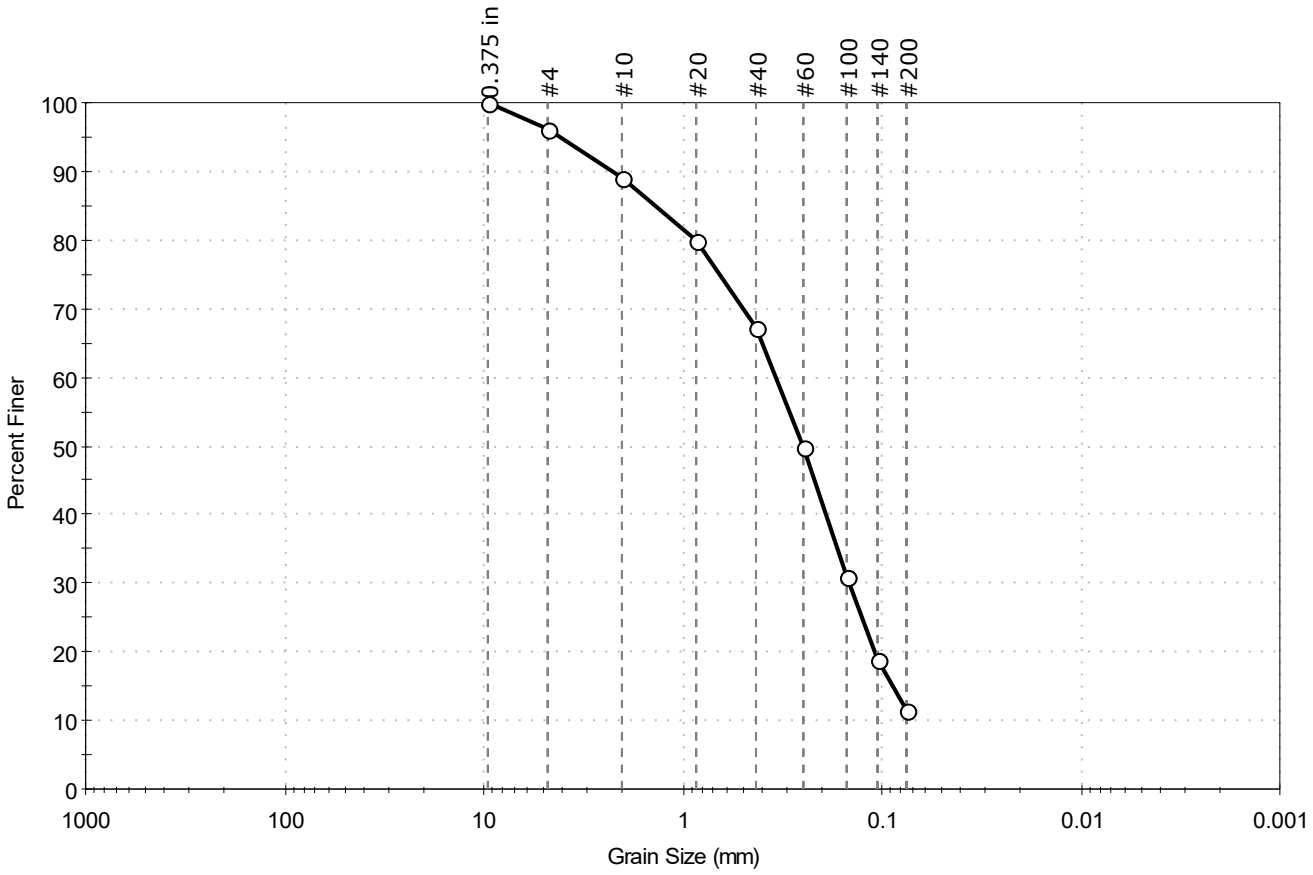
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5	Test Date:	07/26/22	Checked By:	bfs
Depth :	8-10'	Test Id:	679648		
Test Comment:	---				
Visual Description:	Moist, brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.9	84.5	11.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	89		
#20	0.85	80		
#40	0.42	67		
#60	0.25	50		
#100	0.15	31		
#140	0.11	19		
#200	0.075	12		

Coefficients

D_{85} = 1.3591 mm
D_{30} = 0.1458 mm
D_{60} = 0.3417 mm
D_{15} = 0.0882 mm
D_{50} = 0.2520 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

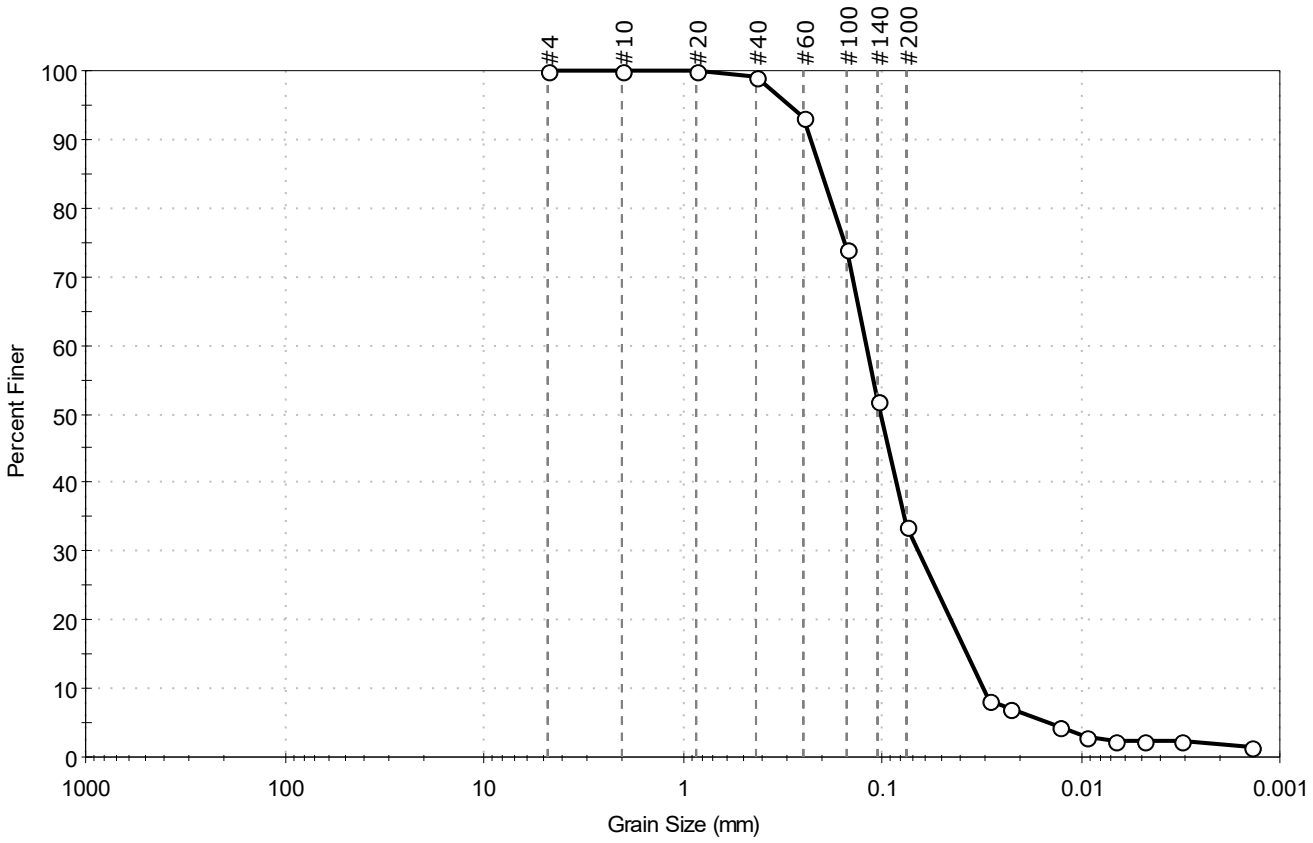
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-10	Test Date:	08/01/22	Checked By:	bfs
Depth :	18-20'	Test Id:	679671		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	66.4	33.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	93		
#100	0.15	74		
#140	0.11	52		
#200	0.075	34		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0287	8		
---	0.0228	7		
---	0.0129	4		
---	0.0094	3		
---	0.0067	2		
---	0.0048	2		
---	0.0031	2		
---	0.0014	2		

Coefficients

D_{85} =0.2010 mm	D_{30} =0.0654 mm
D_{60} =0.1202 mm	D_{15} =0.0370 mm
D_{50} =0.1022 mm	D_{10} =0.0305 mm
C_u =3.941	C_c =1.167

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

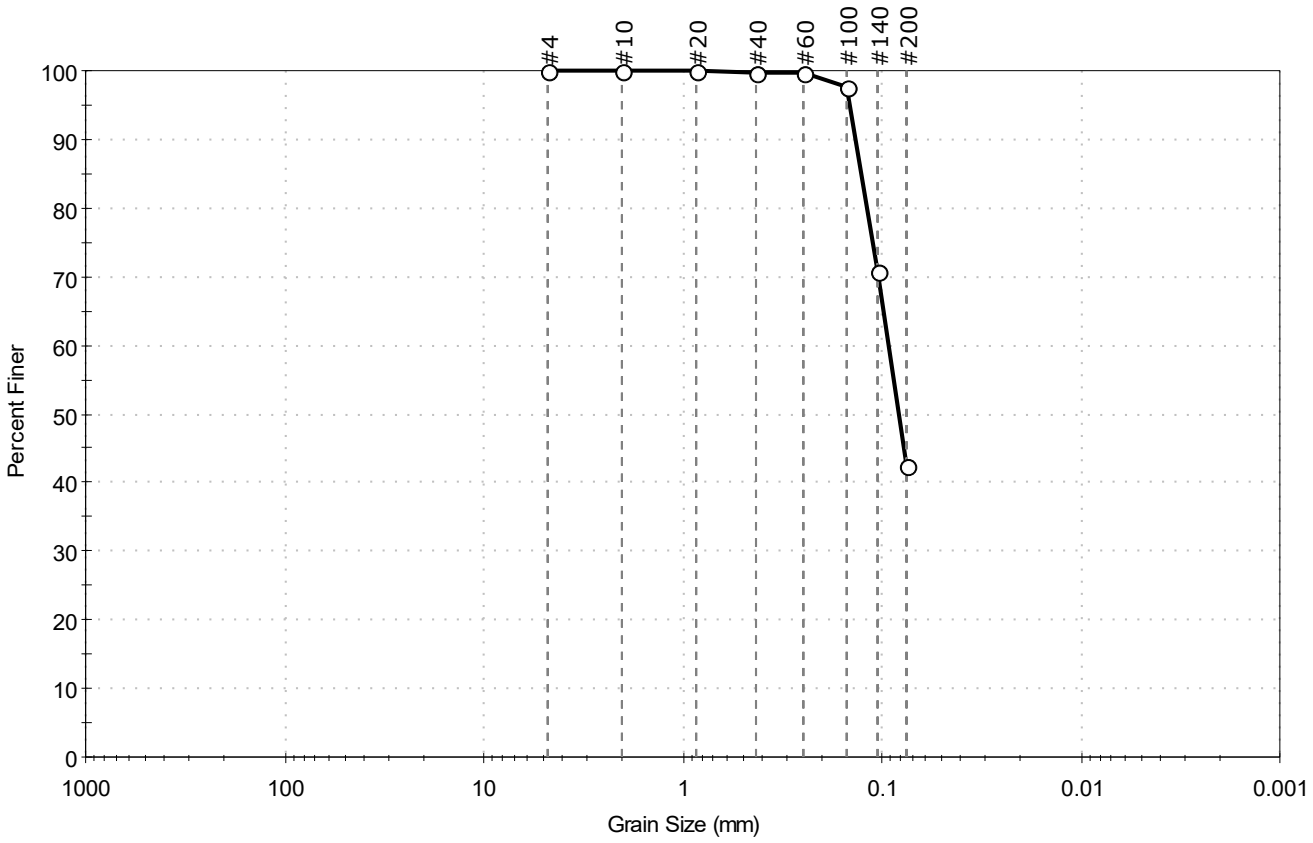
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13, S-14	Test Date:	08/01/22	Checked By:	bfs
Depth :	24-28'	Test Id:	679649		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	57.5	42.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	71		
#200	0.075	42		

Coefficients

D_{85} = 0.1273 mm D_{30} = N/A
D_{60} = 0.0929 mm D_{15} = N/A
D_{50} = 0.0822 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

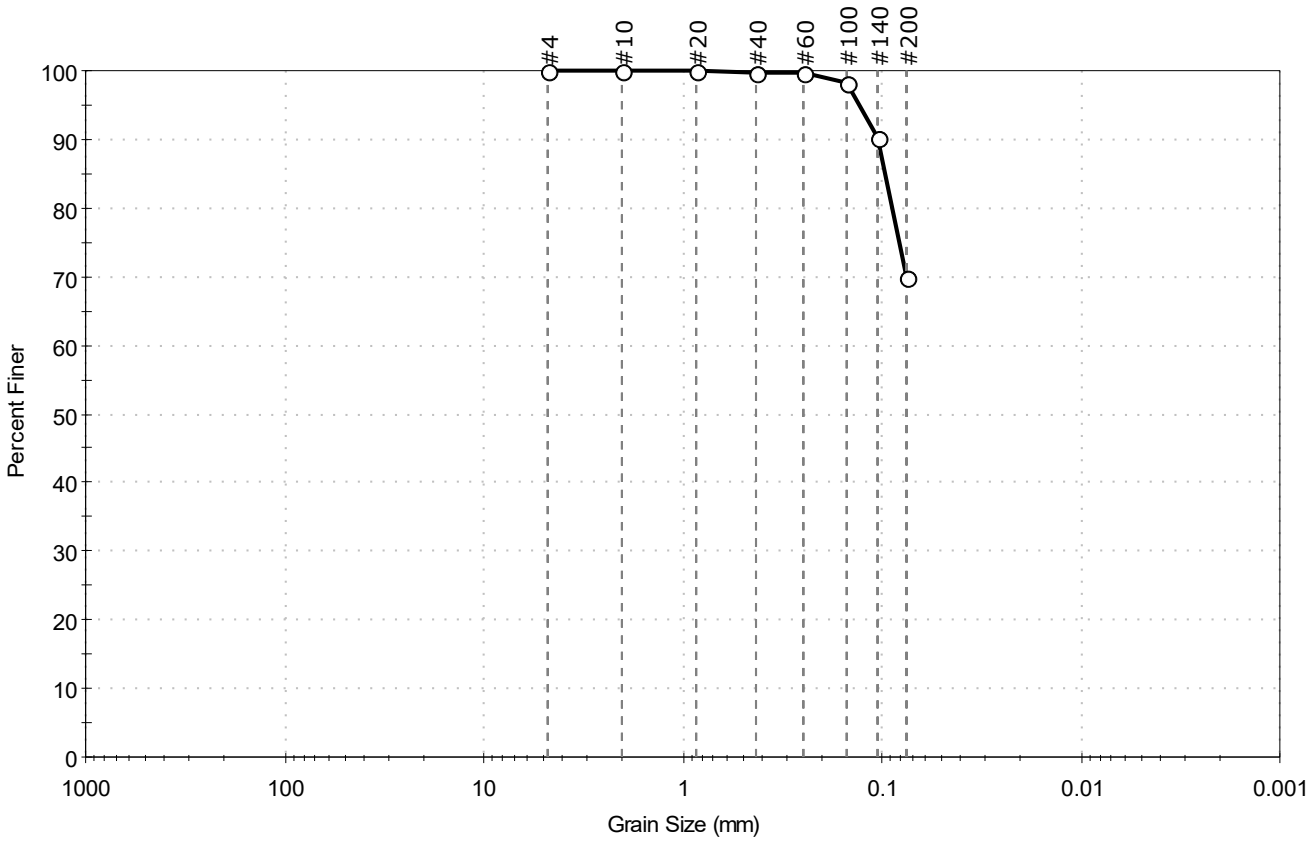
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16, S-17	Test Date:	08/01/22	Checked By:	bfs
Depth :	30-34'	Test Id:	679650		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	30.1	69.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	90		
#200	0.075	70		

Coefficients

D_{85} = 0.0971 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

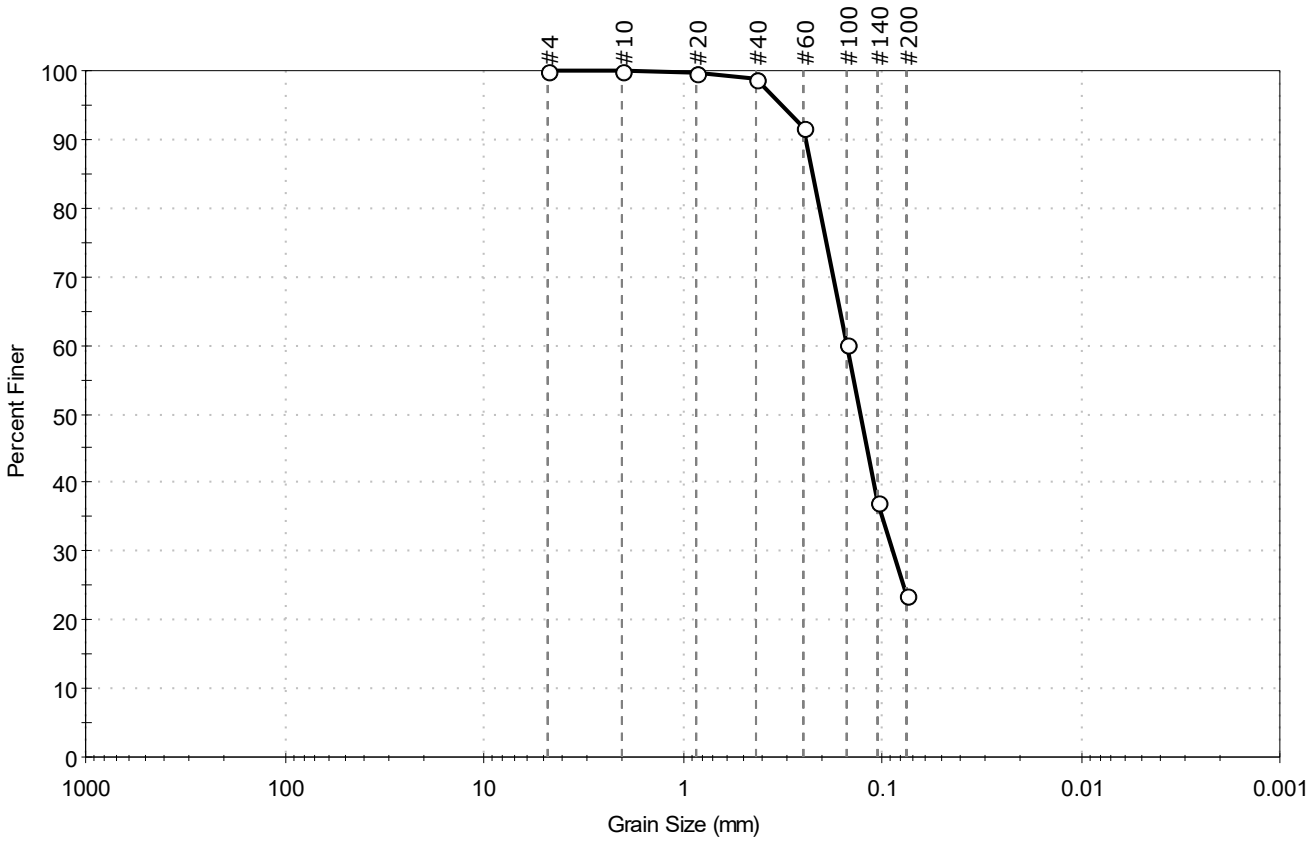
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20, S-21	Test Date:	07/29/22	Checked By:	bfs
Depth :	38-40'	Test Id:	679651		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	76.4	23.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	92		
#100	0.15	60		
#140	0.11	37		
#200	0.075	24		

Coefficients

D_{85} = 0.2244 mm
D_{30} = 0.0883 mm
D_{60} = 0.1496 mm
D_{15} = N/A
D_{50} = 0.1287 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

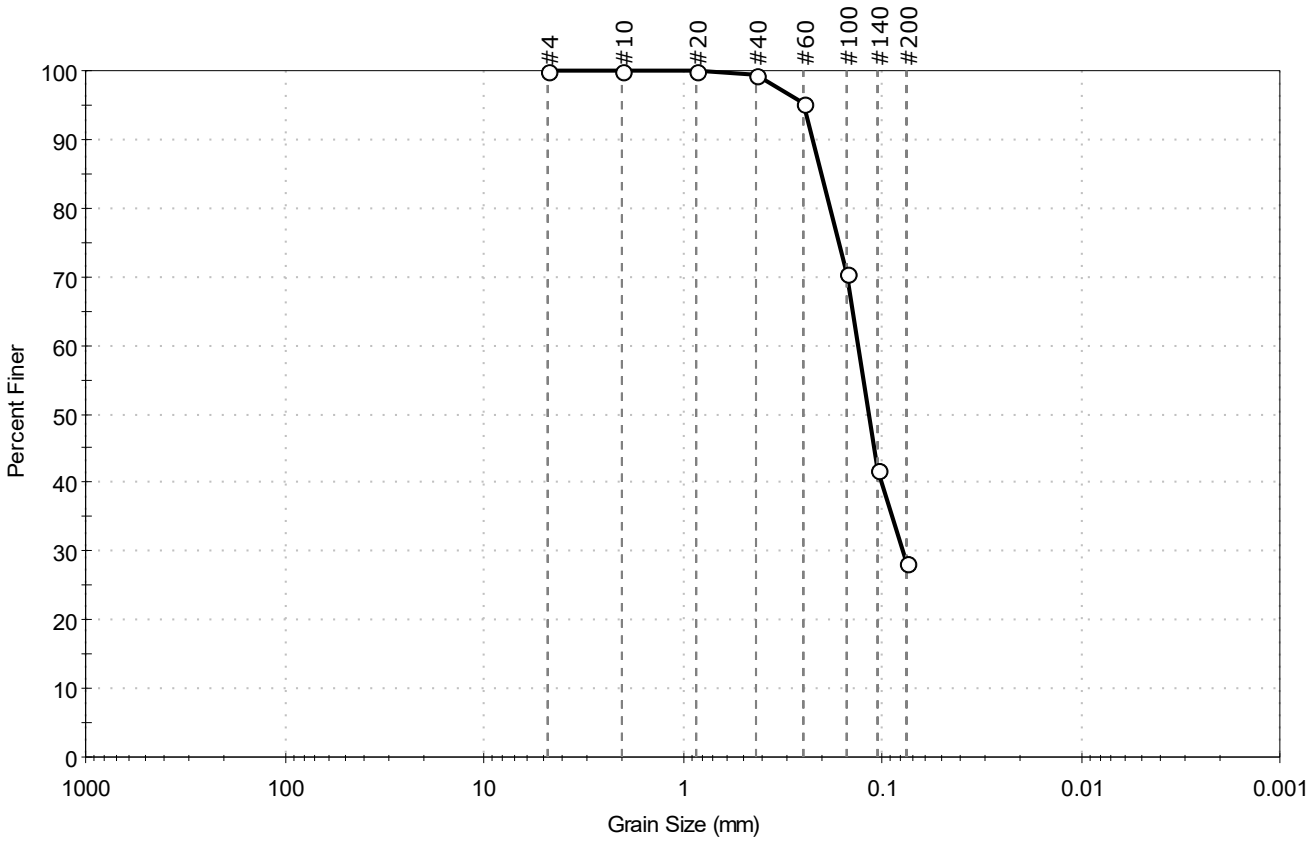
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	07/26/22	Checked By:	bfs
Depth :	50-52'	Test Id:	679652		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	71.6	28.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	95		
#100	0.15	71		
#140	0.11	42		
#200	0.075	28		

Coefficients

D_{85} = 0.2025 mm	D_{30} = 0.0782 mm
D_{60} = 0.1320 mm	D_{15} = N/A
D_{50} = 0.1170 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

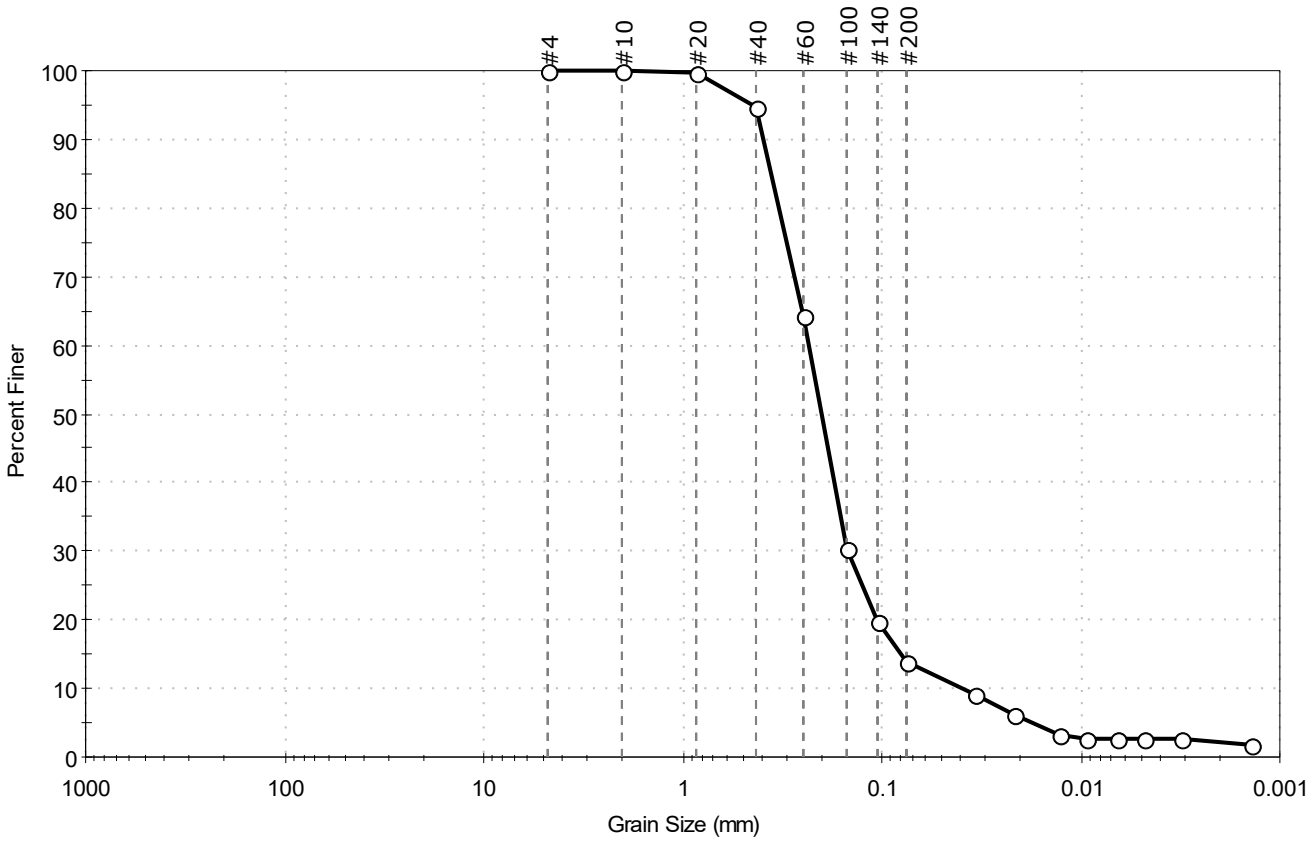
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-28	Test Date:	08/01/22	Checked By:	bfs
Depth :	60-62'	Test Id:	679672		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	86.1	13.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	95		
#60	0.25	64		
#100	0.15	30		
#140	0.11	20		
#200	0.075	14		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0345	9		
---	0.0219	6		
---	0.0129	3		
---	0.0094	3		
---	0.0067	3		
---	0.0048	3		
---	0.0031	3		
---	0.0014	2		

Coefficients

D_{85} = 0.3595 mm	D_{30} = 0.1479 mm
D_{60} = 0.2345 mm	D_{15} = 0.0799 mm
D_{50} = 0.2016 mm	D_{10} = 0.0392 mm
C_u = 5.982	C_c = 2.380

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

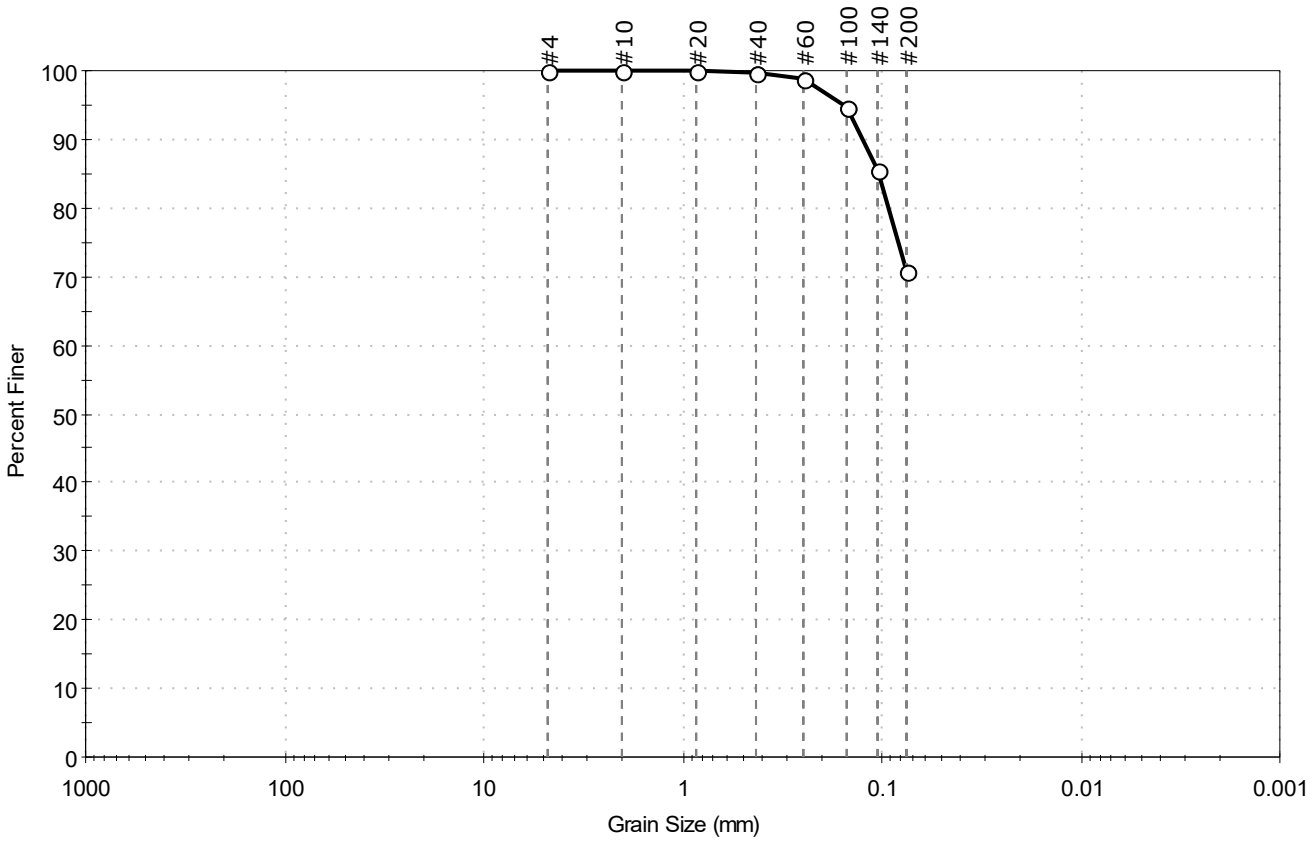
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	07/29/22	Checked By:	bfs
Depth :	4-8'	Test Id:	679641		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	29.2	70.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	95		
#140	0.11	86		
#200	0.075	71		

Coefficients

D_{85} = 0.1044 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

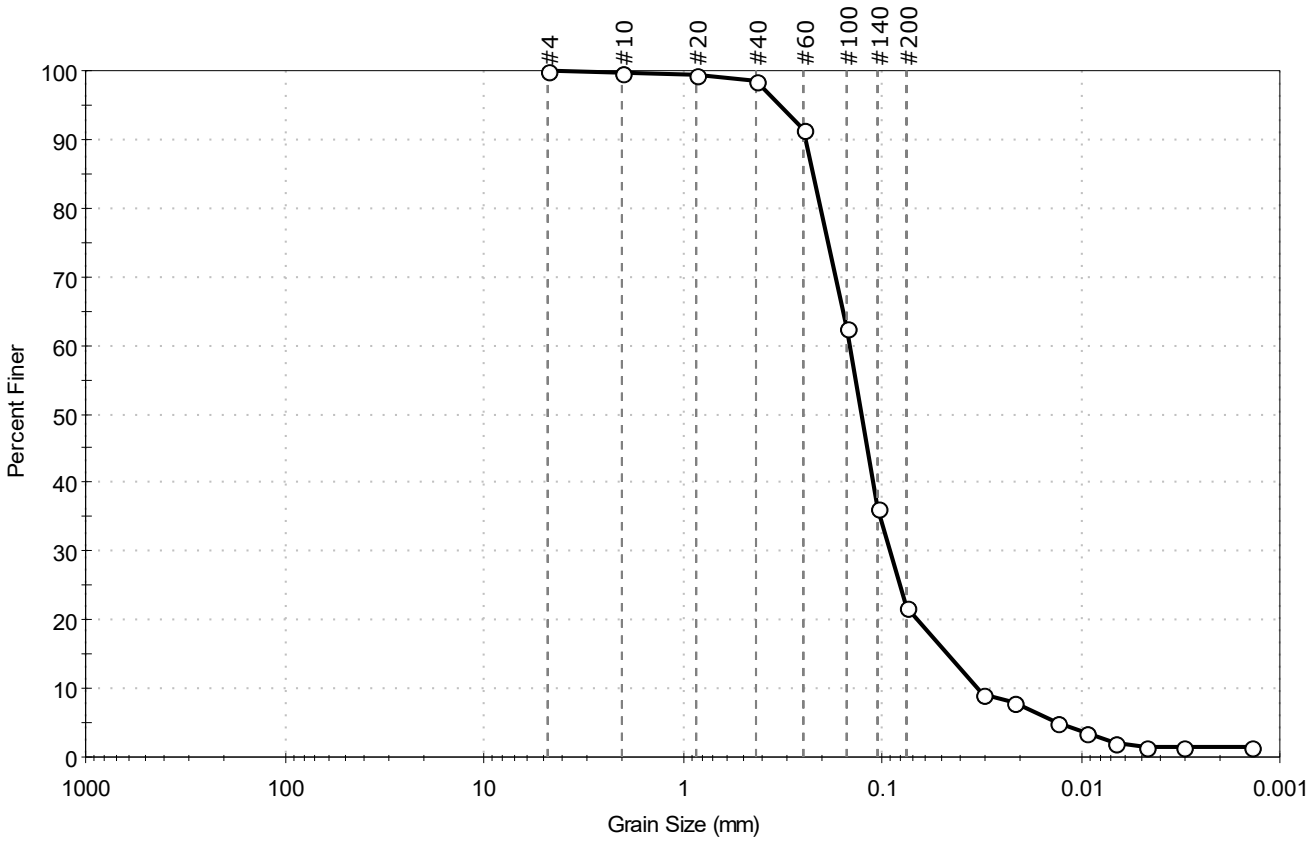
Sand/Gravel Hardness : ---

printed 8/10/2022 10:15:45 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5, S-6	Test Date:	08/01/22	Checked By:	bfs
Depth :	8-12'	Test Id:	679669		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	78.0	22.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	91		
#100	0.15	63		
#140	0.11	36		
#200	0.075	22		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0311	9		
---	0.0220	8		
---	0.0130	5		
---	0.0094	4		
---	0.0068	2		
---	0.0047	1		
---	0.0031	1		
---	0.0014	1		

Coefficients

D_{85} =0.2232 mm	D_{30} =0.0909 mm
D_{60} =0.1450 mm	D_{15} =0.0463 mm
D_{50} =0.1270 mm	D_{10} =0.0327 mm
C_u =4.434	C_c =1.743

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

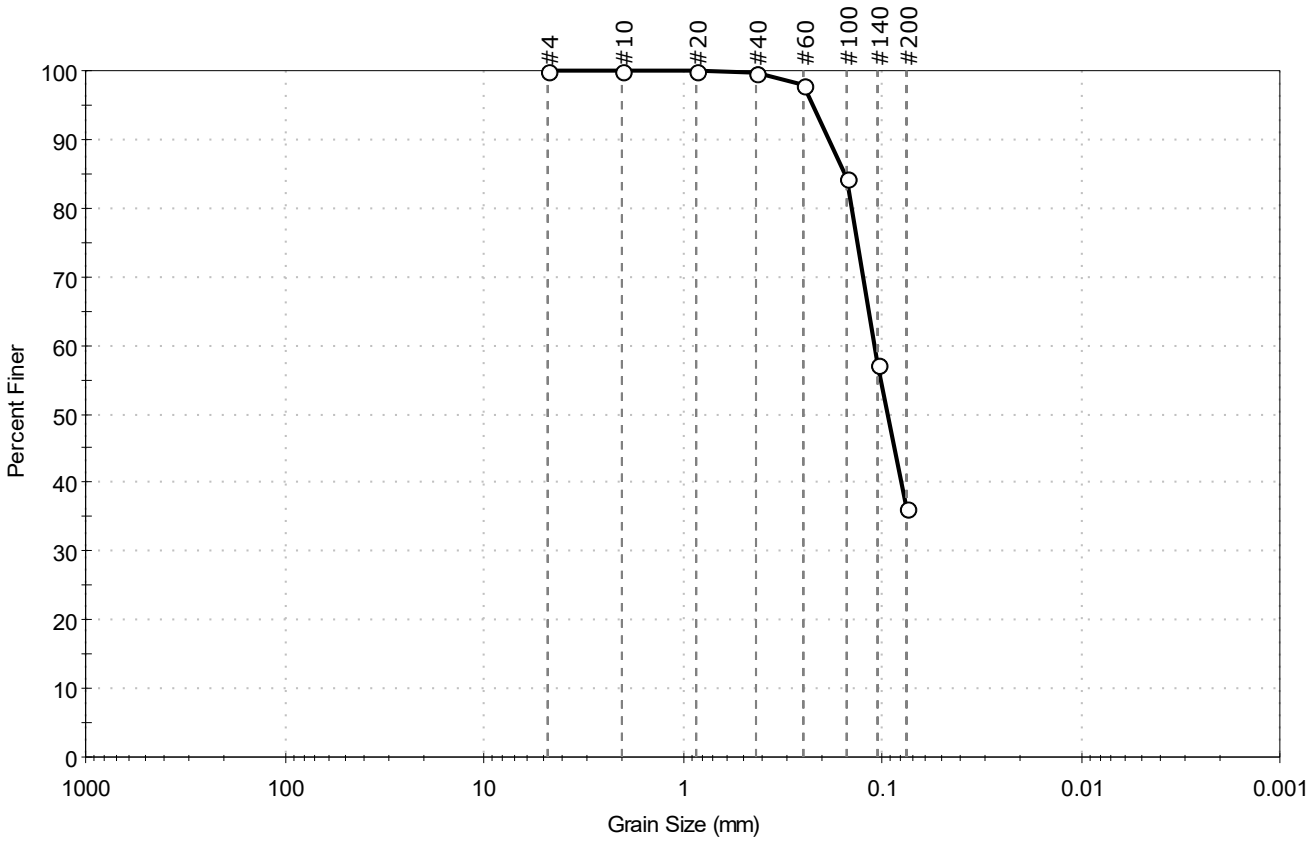
Separation of Sample: #200 Sieve

printed 8/10/2022 10:15:47 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-9, S10	Test Date:	07/29/22	Checked By:	bfs
Depth :	16-20'	Test Id:	679642		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	63.7	36.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	84		
#140	0.11	57		
#200	0.075	36		

Coefficients

D_{85} = 0.1530 mm D_{30} = N/A
D_{60} = 0.1100 mm D_{15} = N/A
D_{50} = 0.0942 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

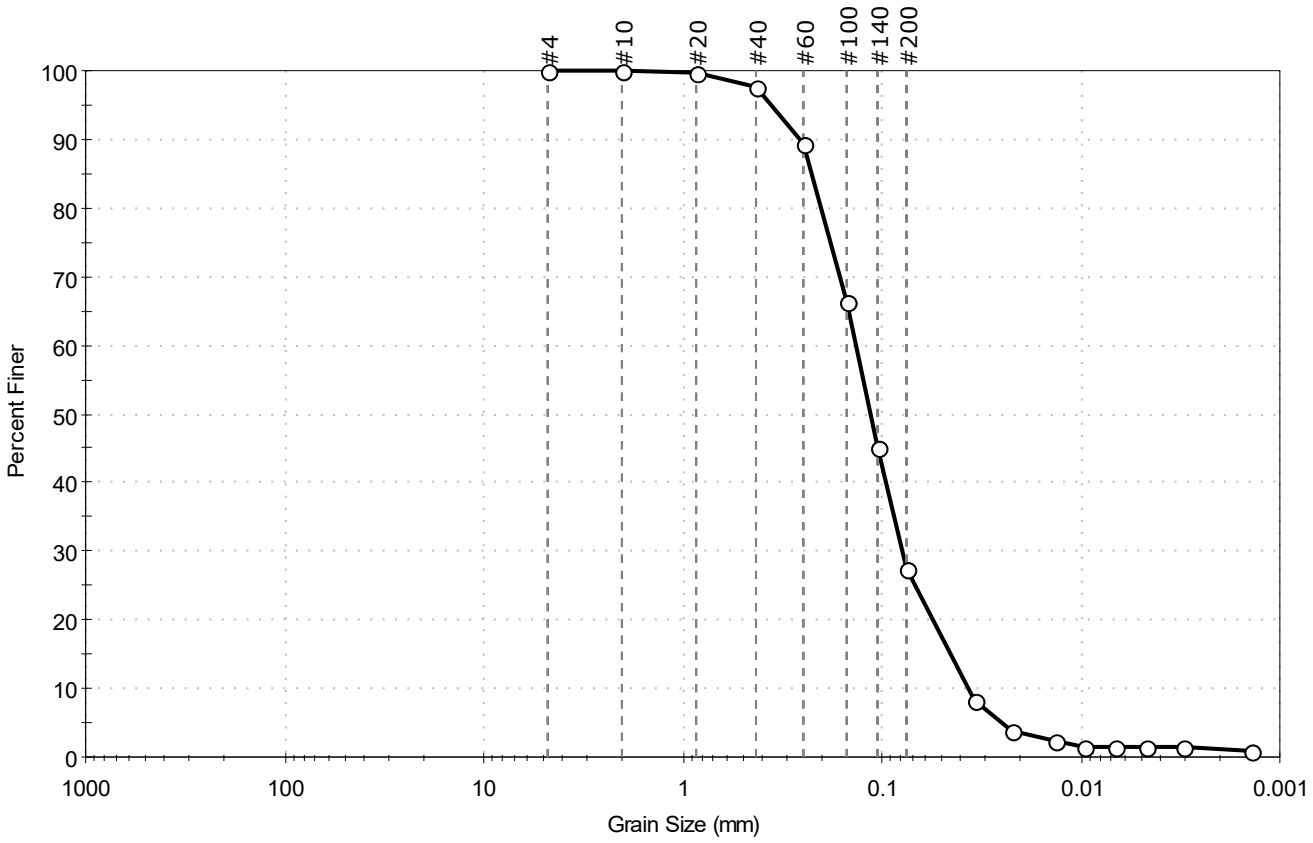
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-15, S-16	Test Date:	08/01/22	Checked By:	bfs
Depth :	28-32'	Test Id:	679670		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	72.7	27.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	89		
#100	0.15	66		
#140	0.11	45		
#200	0.075	27		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0341	8		
---	0.0221	4		
---	0.0135	2		
---	0.0096	2		
---	0.0067	2		
---	0.0048	2		
---	0.0031	2		
---	0.0014	1		

Coefficients

D_{85} =0.2267 mm	D_{30} =0.0791 mm
D_{60} =0.1353 mm	D_{15} =0.0449 mm
D_{50} =0.1150 mm	D_{10} =0.0365 mm
C_u =3.707	C_c =1.267

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

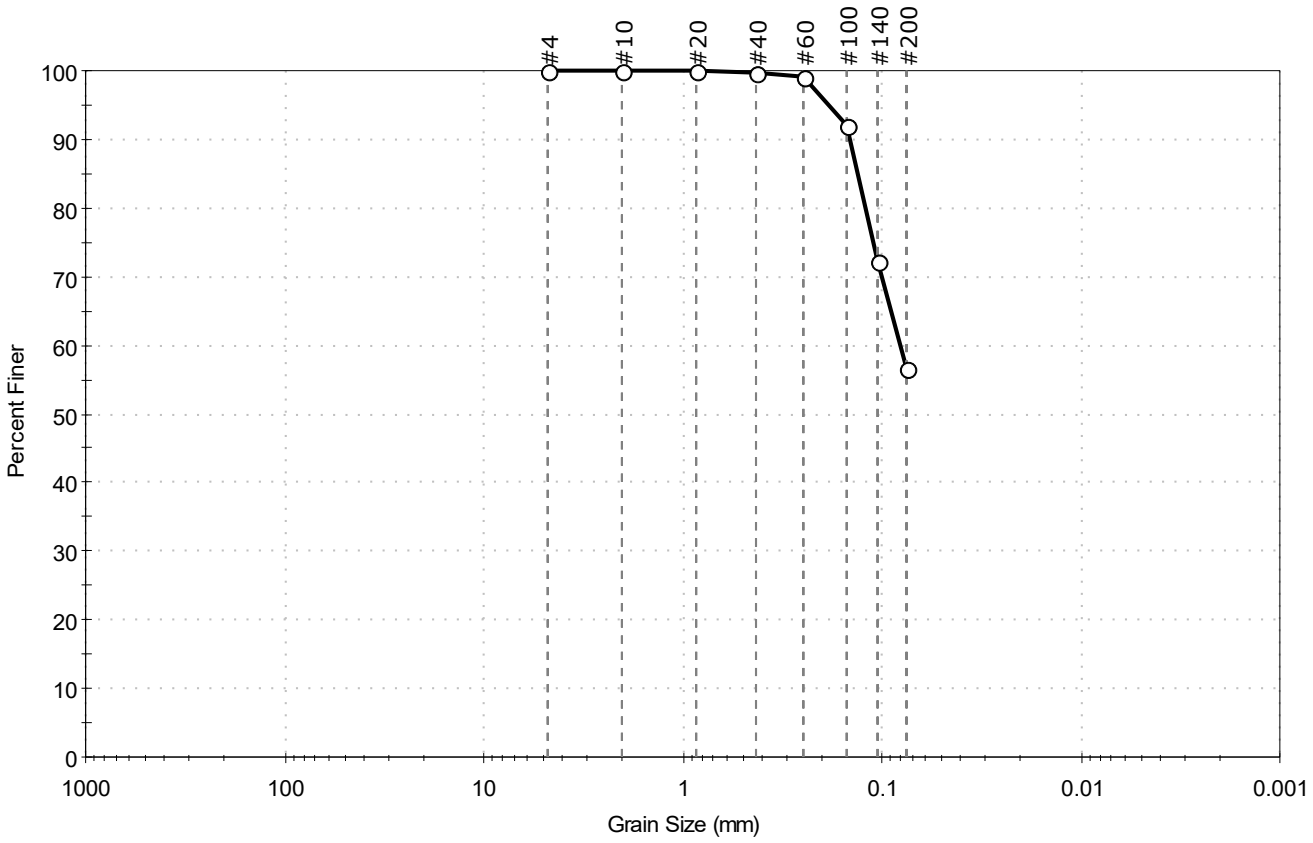
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-21	Test Date:	07/26/22	Checked By:	bfs
Depth :	55-57'	Test Id:	679643		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	43.4	56.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	92		
#140	0.11	72		
#200	0.075	57		

Coefficients

D_{85} = 0.1325 mm	D_{30} = N/A
D_{60} = 0.0809 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

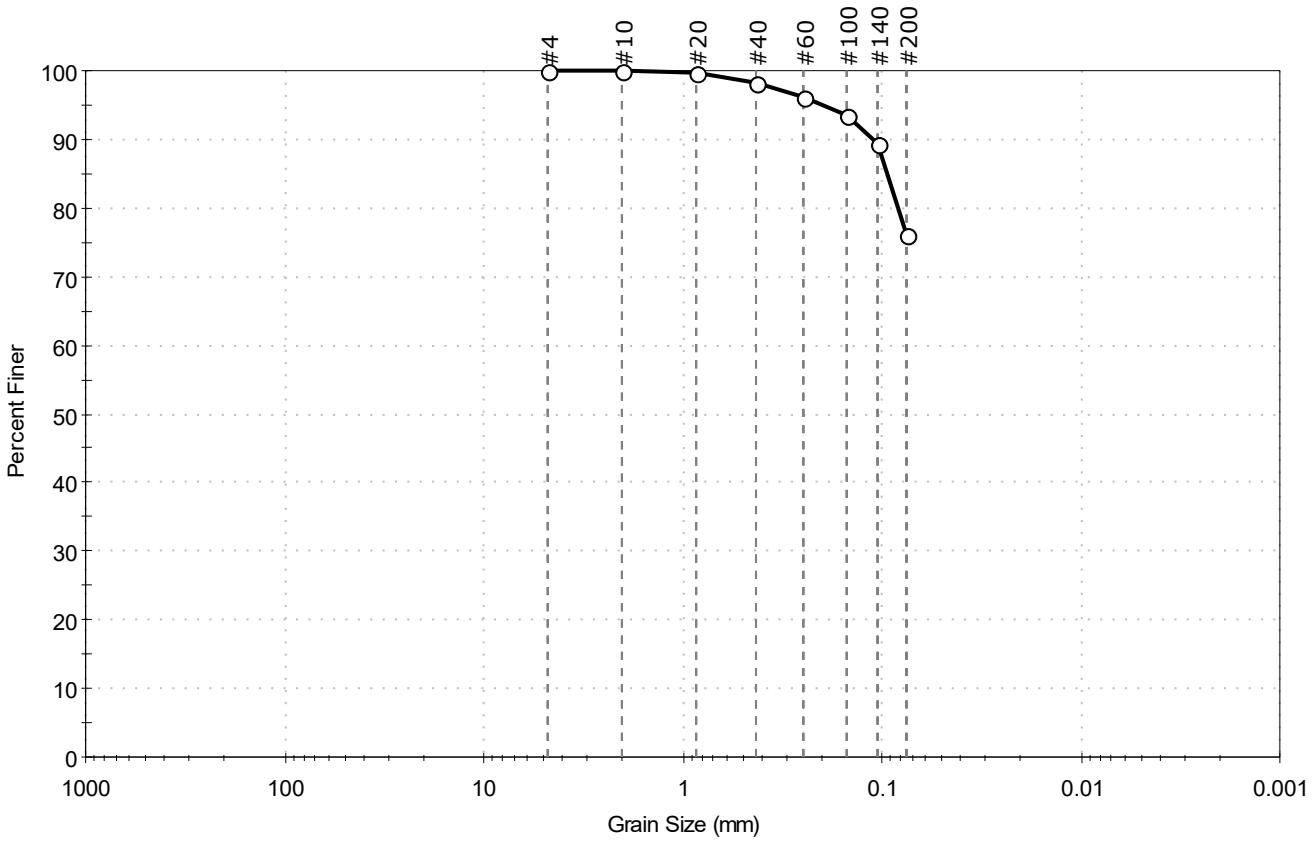
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-25	Test Date:	07/26/22	Checked By:	bfs
Depth :	66-68'	Test Id:	679644		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	24.0	76.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	96		
#100	0.15	93		
#140	0.11	90		
#200	0.075	76		

Coefficients

D_{85} = 0.0944 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

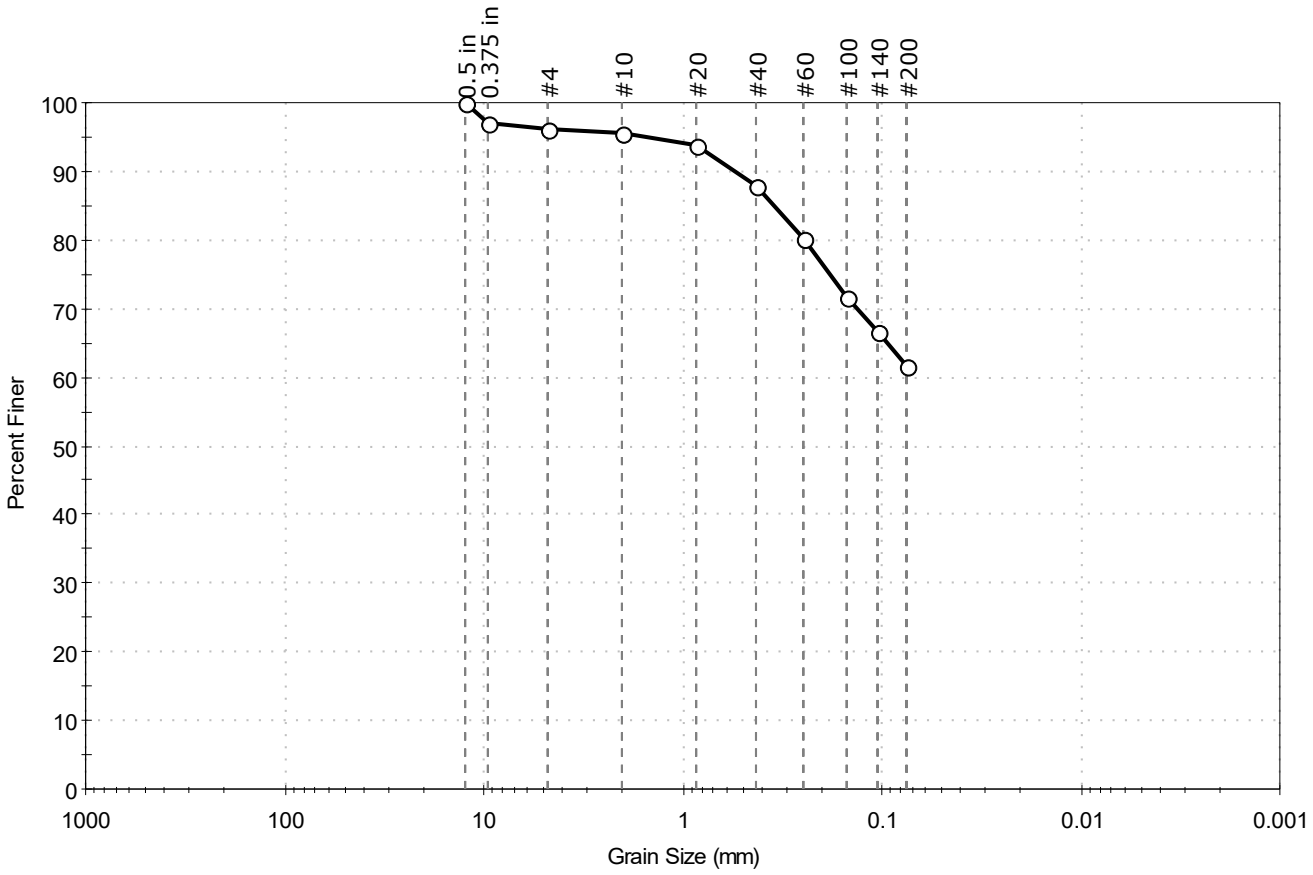
Sand/Gravel Hardness : ---

printed 8/10/2022 10:15:52 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	07/26/22	Checked By:	bfs
Depth :	68-70'	Test Id:	679645		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.9	34.4	61.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	97		
#4	4.75	96		
#10	2.00	95		
#20	0.85	94		
#40	0.42	88		
#60	0.25	80		
#100	0.15	72		
#140	0.11	67		
#200	0.075	62		

Coefficients

D_{85} = 0.3482 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

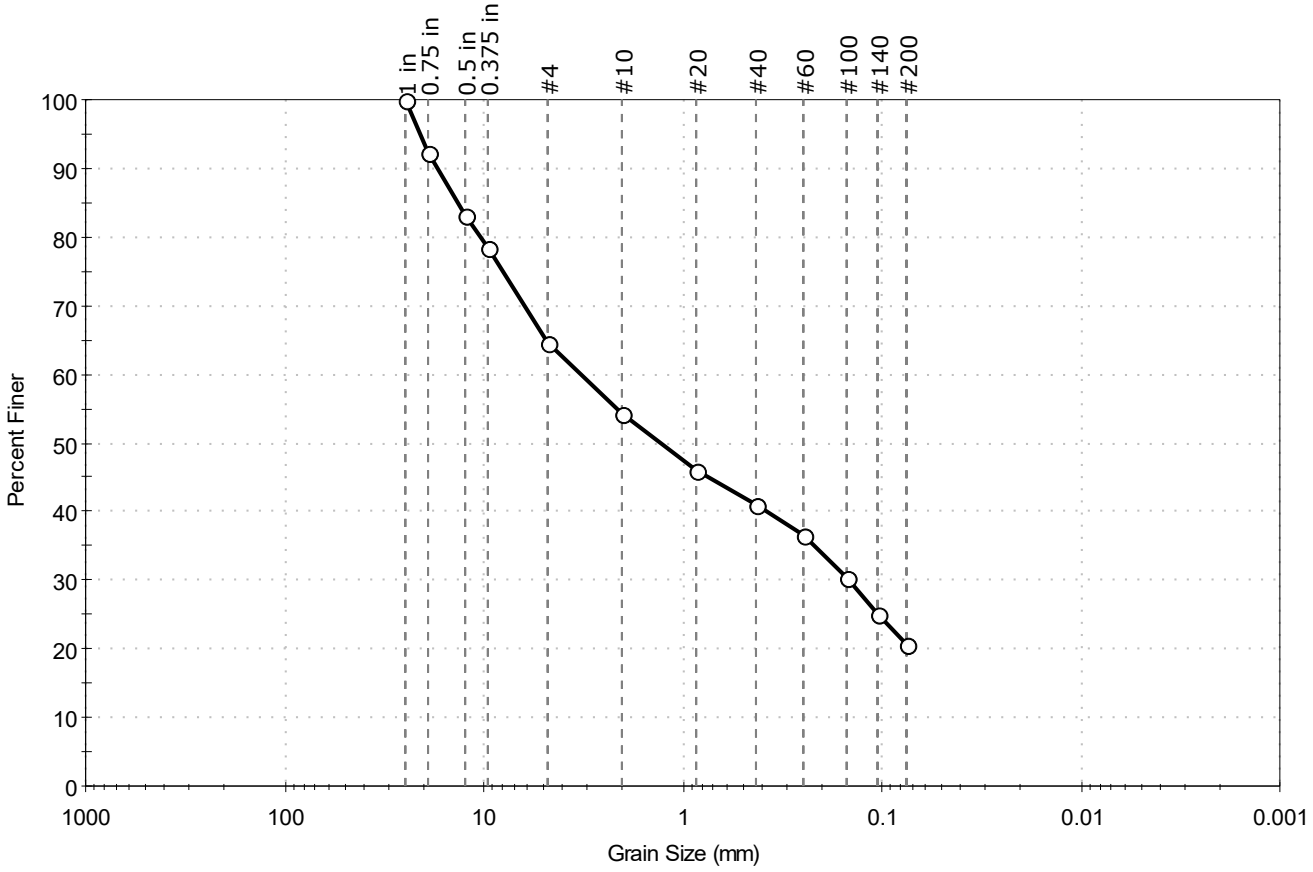
Sand/Gravel Hardness : ---

printed 8/10/2022 10:15:53 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-29	Test Date:	07/29/22	Checked By:	bfs
Depth :	80-82'	Test Id:	679646		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	35.5	43.7	20.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	92		
0.5 in	12.50	83		
0.375 in	9.50	78		
#4	4.75	64		
#10	2.00	54		
#20	0.85	46		
#40	0.42	41		
#60	0.25	37		
#100	0.15	30		
#140	0.11	25		
#200	0.075	21		

Coefficients

D_{85} = 13.5715 mm	D_{30} = 0.1456 mm
D_{60} = 3.2553 mm	D_{15} = N/A
D_{50} = 1.2763 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

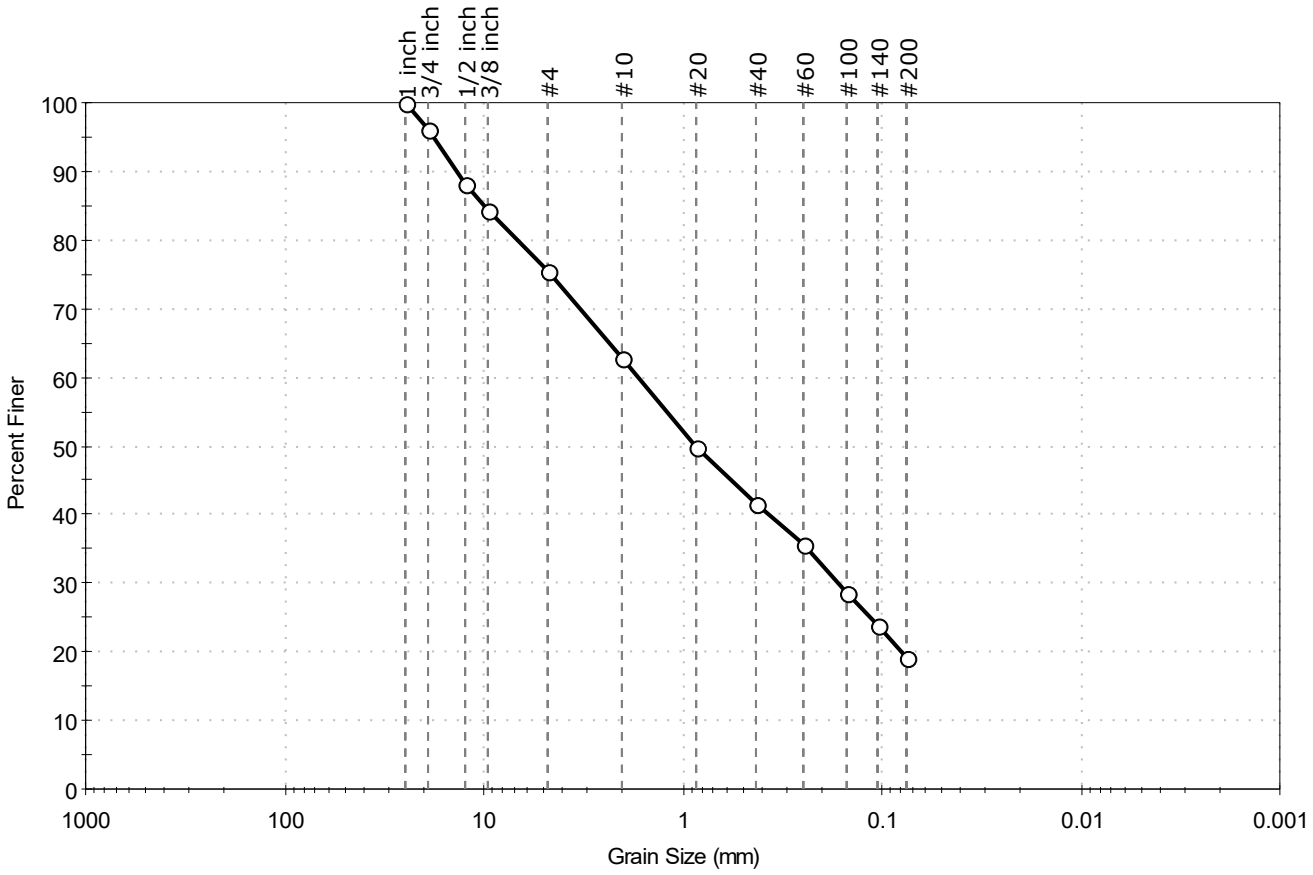
Sand/Gravel Hardness : HARD

printed 8/10/2022 10:15:54 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2, S-3	Test Date:	08/01/22	Checked By:	bfs
Depth :	2-6'	Test Id:	679662		
Test Comment:	---				
Visual Description:	Moist, dark brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	24.6	56.2	19.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 inch	25.00	100		
3/4 inch	19.00	96		
1/2 inch	12.50	88		
3/8 inch	9.50	84		
#4	4.75	75		
#10	2.00	63		
#20	0.85	50		
#40	0.42	42		
#60	0.25	36		
#100	0.15	29		
#140	0.11	24		
#200	0.075	19		

Coefficients

D_{85} = 9.9074 mm	D_{30} = 0.1645 mm
D_{60} = 1.6716 mm	D_{15} = N/A
D_{50} = 0.8579 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM — Silty SAND with Gravel (SM)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

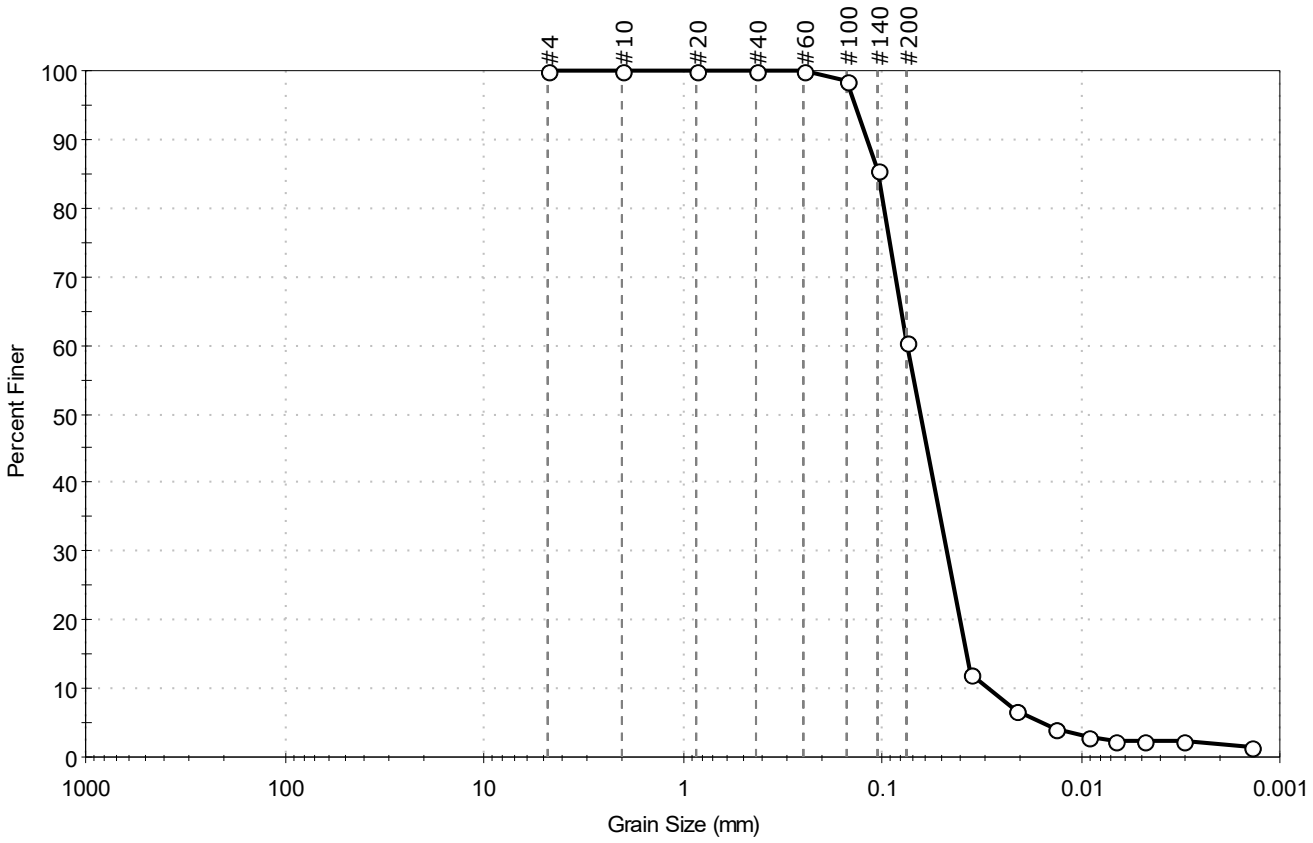
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5	Test Date:	08/01/22	Checked By:	bfs
Depth :	8-10'	Test Id:	679674		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	39.6	60.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	86		
#200	0.075	60		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0362	12		
---	0.0211	7		
---	0.0134	4		
---	0.0093	3		
---	0.0067	2		
---	0.0048	2		
---	0.0031	2		
---	0.0014	2		

Coefficients

D_{85} =0.1053 mm	D_{30} =0.0474 mm
D_{60} =0.0745 mm	D_{15} =0.0378 mm
D_{50} =0.0641 mm	D_{10} =0.0293 mm
C_u =2.543	C_c =1.029

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

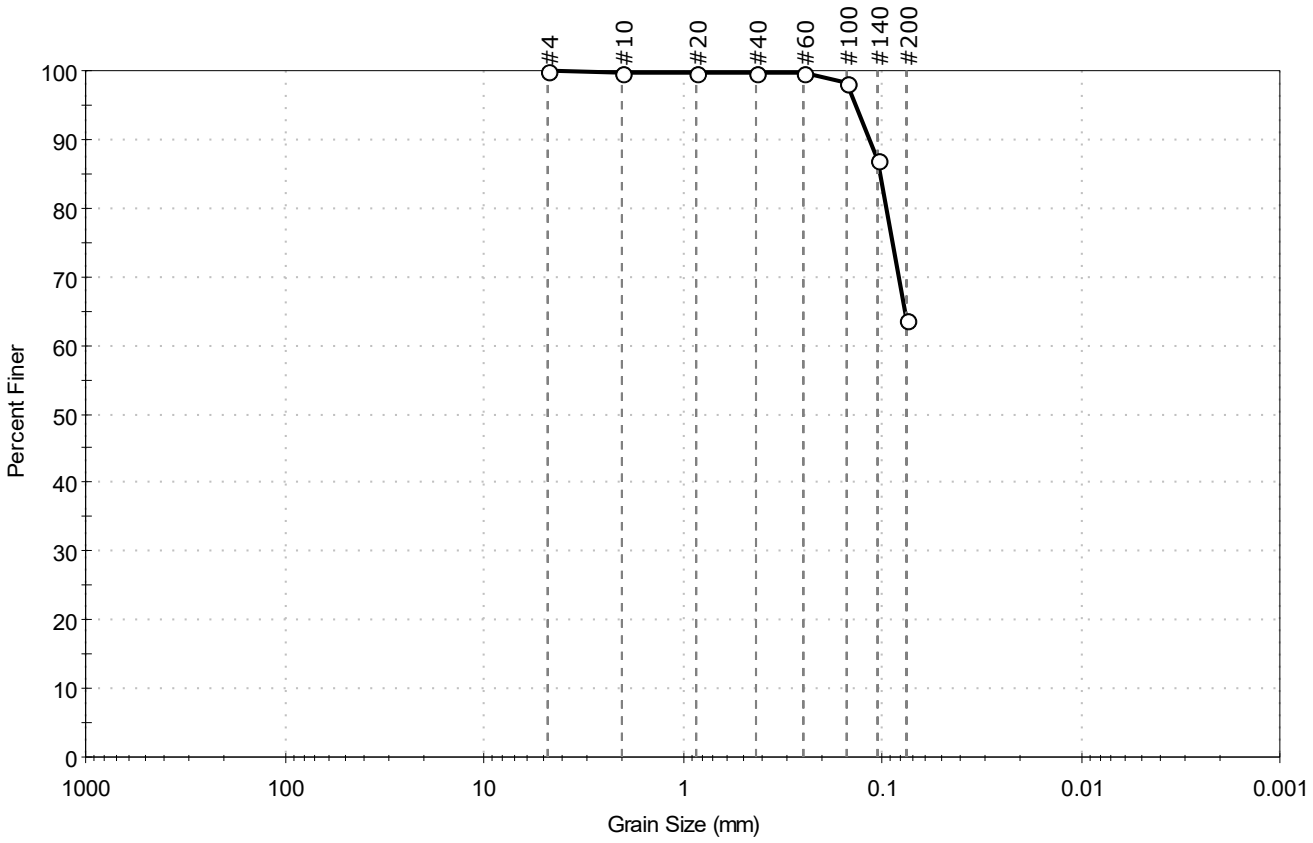
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-8, S-9	Test Date:	08/01/22	Checked By:	bfs
Depth :	15-19'	Test Id:	679663		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	36.2	63.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	87		
#200	0.075	64		

Coefficients

D_{85} = 0.1028 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

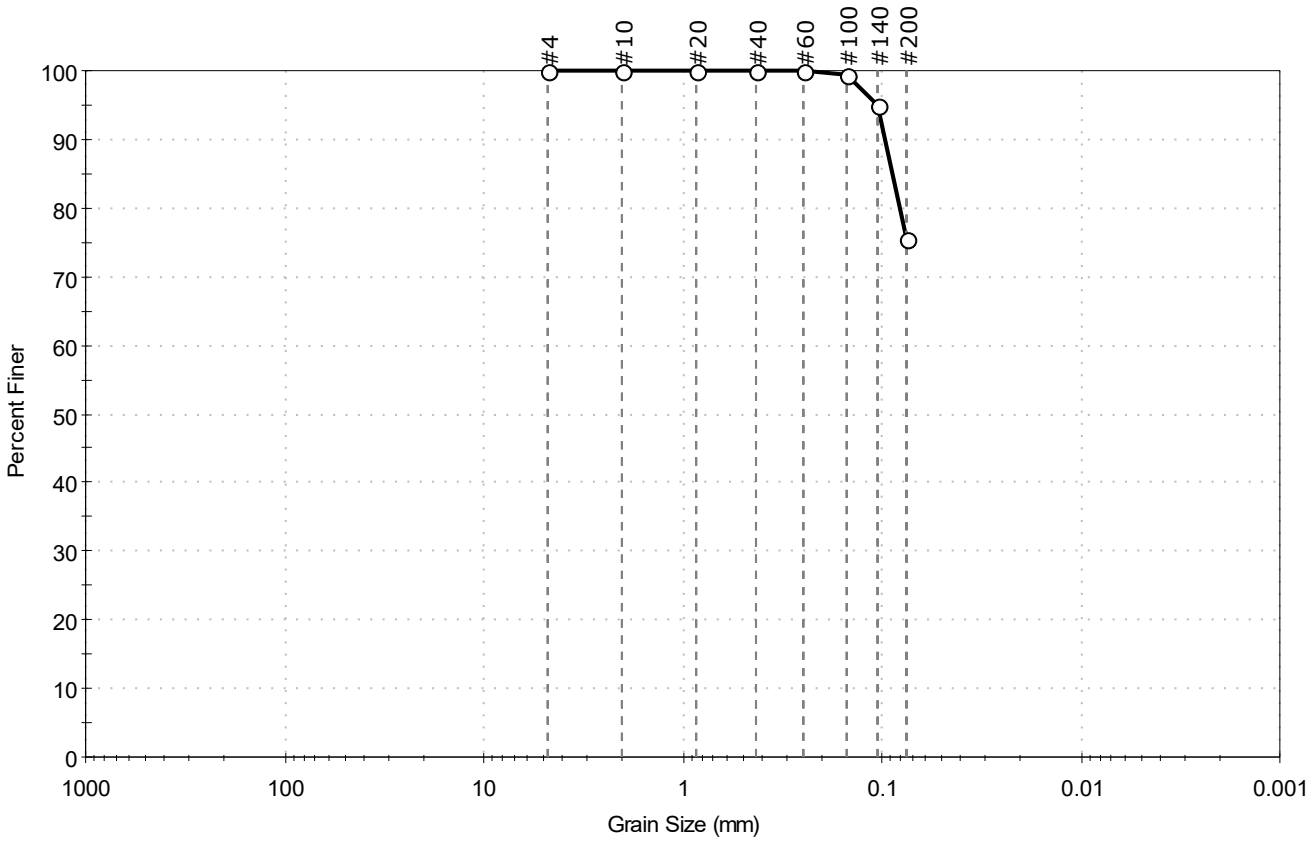
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-11, S-1	Test Date:	08/01/22	Checked By:	bfs
Depth :	20-24'	Test Id:	679664		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	24.6	75.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	95		
#200	0.075	75		

Coefficients

D_{85} = 0.0889 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

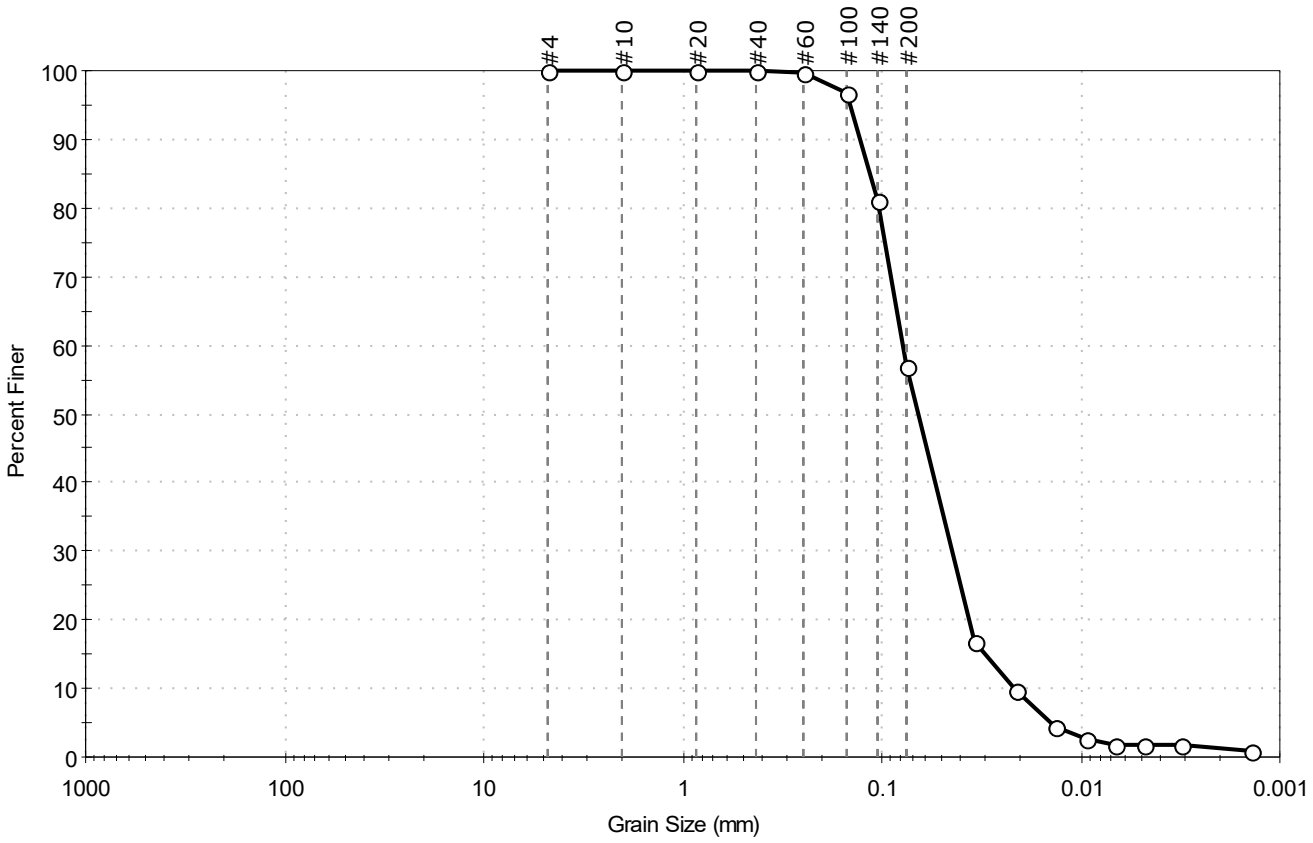
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-15	Test Date:	08/01/22	Checked By:	bfs
Depth :	28-30'	Test Id:	679675		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	43.0	57.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	97		
#140	0.11	81		
#200	0.075	57		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0339	17		
---	0.0211	10		
---	0.0134	4		
---	0.0095	3		
---	0.0068	2		
---	0.0048	2		
---	0.0031	2		
---	0.0014	1		

Coefficients

D_{85} = 0.1154 mm	D_{30} = 0.0440 mm
D_{60} = 0.0783 mm	D_{15} = 0.0299 mm
D_{50} = 0.0653 mm	D_{10} = 0.0215 mm
C_u = 3.642	C_c = 1.150

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

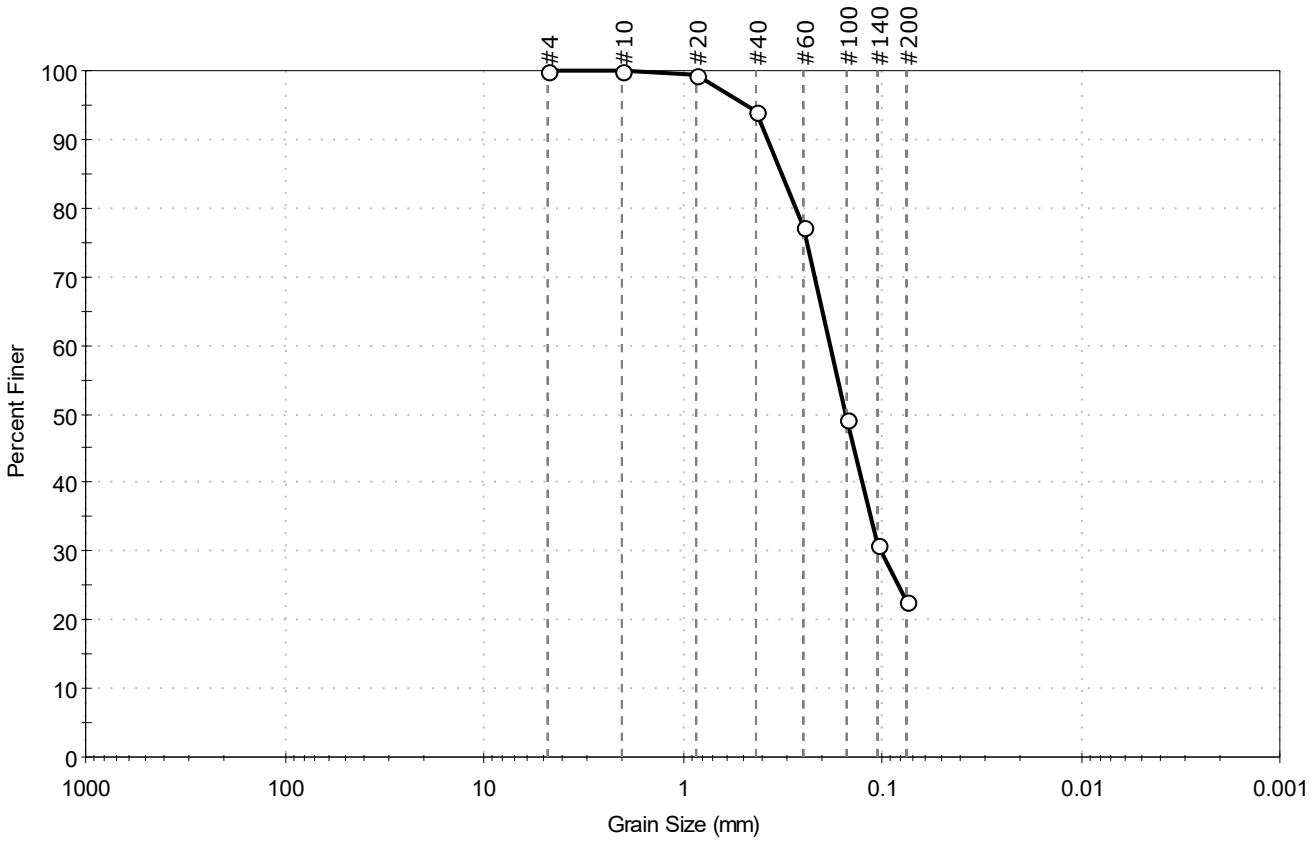
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	07/25/22	Checked By:	bfs
Depth :	50-52'	Test Id:	679665		
Test Comment:	---				
Visual Description:	Moist, olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	77.4	22.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	94		
#60	0.25	77		
#100	0.15	49		
#140	0.11	31		
#200	0.075	23		

Coefficients

D_{85} = 0.3192 mm	D_{30} = 0.1015 mm
D_{60} = 0.1829 mm	D_{15} = N/A
D_{50} = 0.1524 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

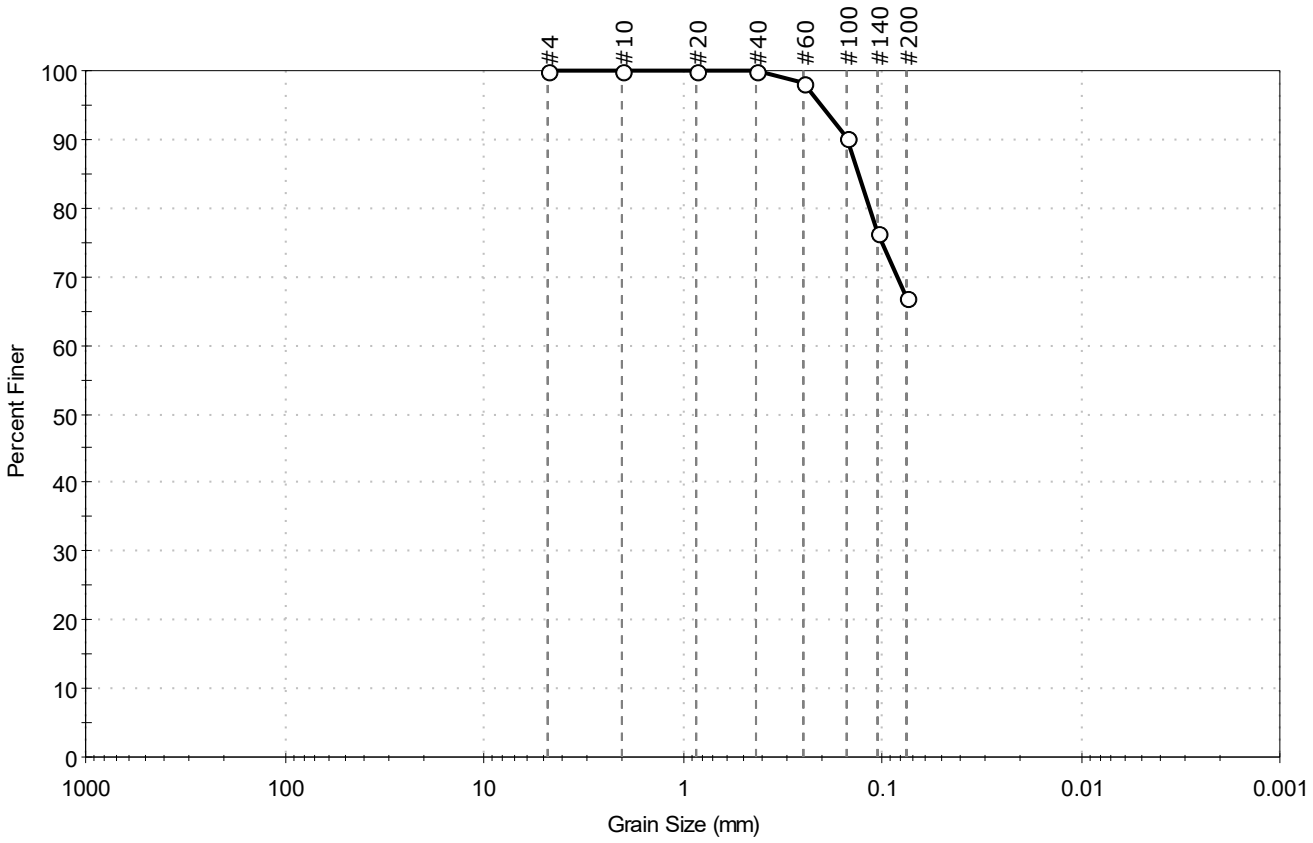
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 8/10/2022 10:16:24 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24	Test Date:	07/26/22	Checked By:	bfs
Depth :	58-60'	Test Id:	679666		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	33.1	66.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	90		
#140	0.11	76		
#200	0.075	67		

Coefficients

D_{85} = 0.1315 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

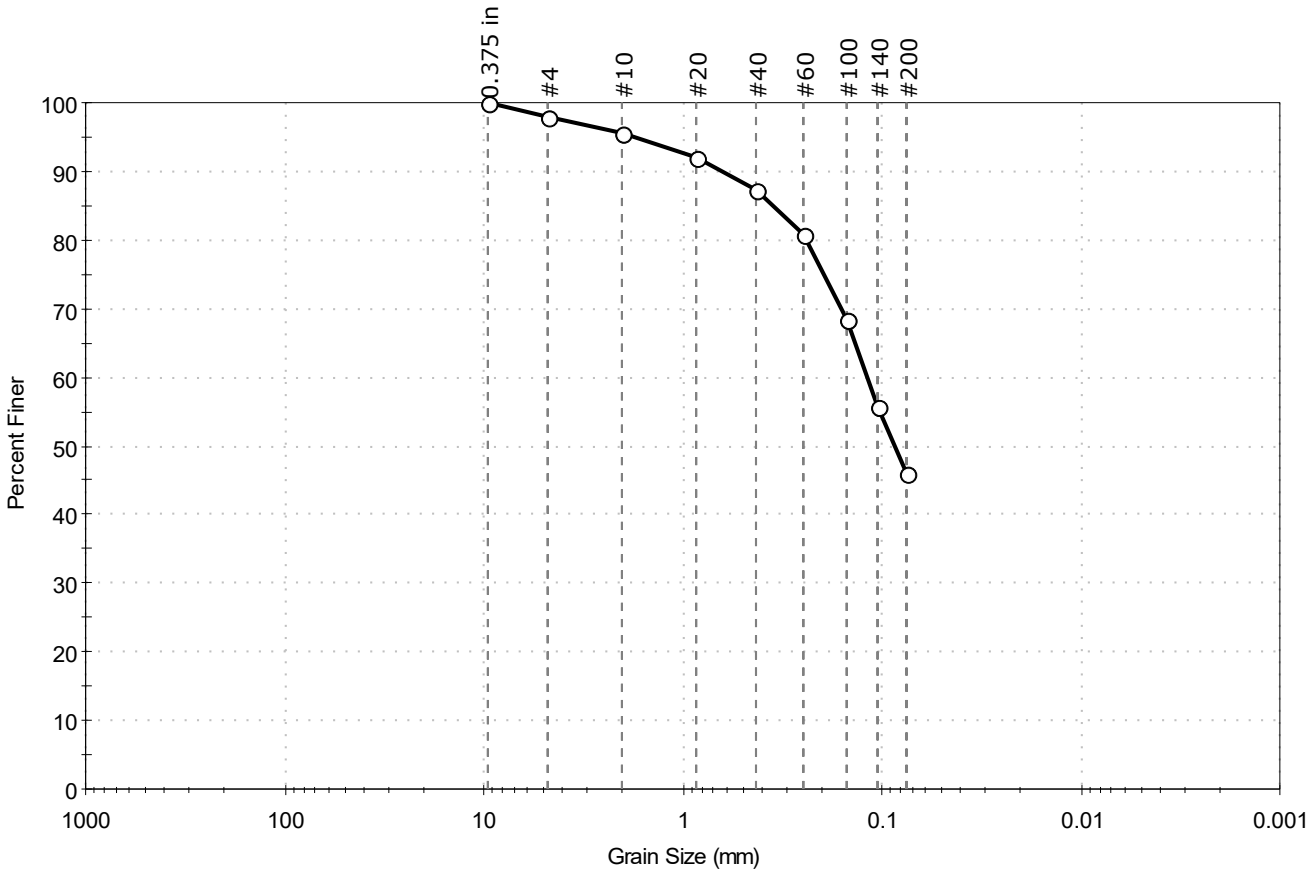
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2	Test Date:	10/26/22	Checked By:	bfs
Depth :	2-4	Test Id:	690124		
Test Comment:	---				
Visual Description:	Moist, dark yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	2.2	51.7	46.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	98		
#10	2.00	96		
#20	0.85	92		
#40	0.42	87		
#60	0.25	81		
#100	0.15	69		
#140	0.11	56		
#200	0.075	46		

Coefficients

D_{85} = 0.3482 mm D_{30} = N/A

D_{60} = 0.1187 mm D_{15} = N/A

D_{50} = 0.0861 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

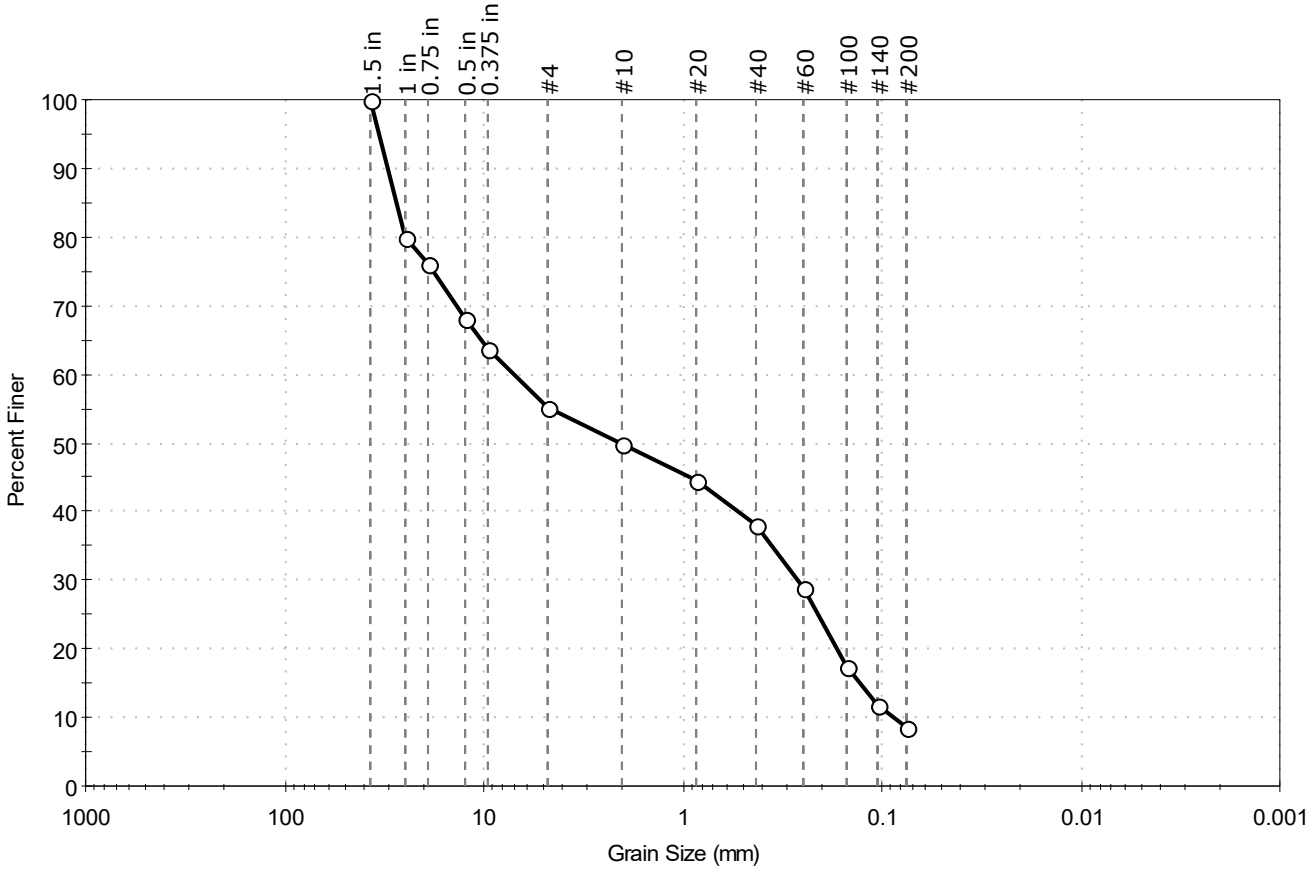
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-6	Test Date:	10/25/22	Checked By:	bfs
Depth :	10-12	Test Id:	690135		
Test Comment:	---				
Visual Description:	Moist, brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	44.7	46.6	8.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	80		
0.75 in	19.00	76		
0.5 in	12.50	68		
0.375 in	9.50	64		
#4	4.75	55		
#10	2.00	50		
#20	0.85	45		
#40	0.42	38		
#60	0.25	29		
#100	0.15	17		
#140	0.11	12		
#200	0.075	8.7		

Coefficients

D_{85} = 27.6661 mm	D_{30} = 0.2664 mm
D_{60} = 6.9835 mm	D_{15} = 0.1298 mm
D_{50} = 2.0645 mm	D_{10} = 0.0869 mm
C_u = 80.362	C_c = 0.117

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

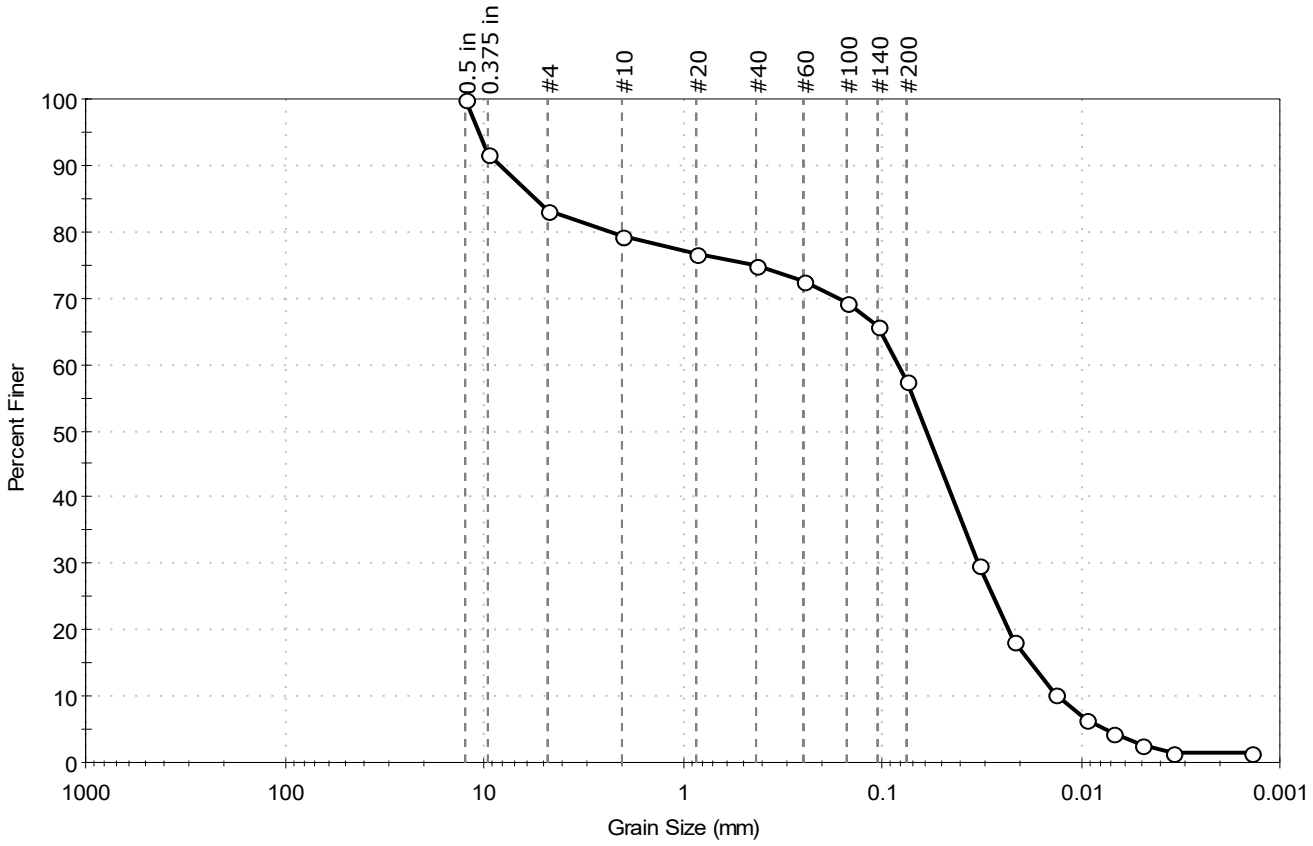
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13	Test Date:	10/27/22	Checked By:	ank
Depth :	24-26	Test Id:	690146		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	16.9	25.7	57.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	92		
#4	4.75	83		
#10	2.00	79		
#20	0.85	77		
#40	0.42	75		
#60	0.25	73		
#100	0.15	69		
#140	0.11	66		
#200	0.075	57		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0329	30		
---	0.0219	18		
---	0.0136	10		
---	0.0094	6		
---	0.0069	4		
---	0.0049	3		
---	0.0035	2		
---	0.0014	2		

Coefficients

D_{85} = 5.5261 mm D_{30} = 0.0330 mm
D_{60} = 0.0834 mm D_{15} = 0.0180 mm
D_{50} = 0.0600 mm D_{10} = 0.0131 mm
C_u = 6.366 C_c = 0.997

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

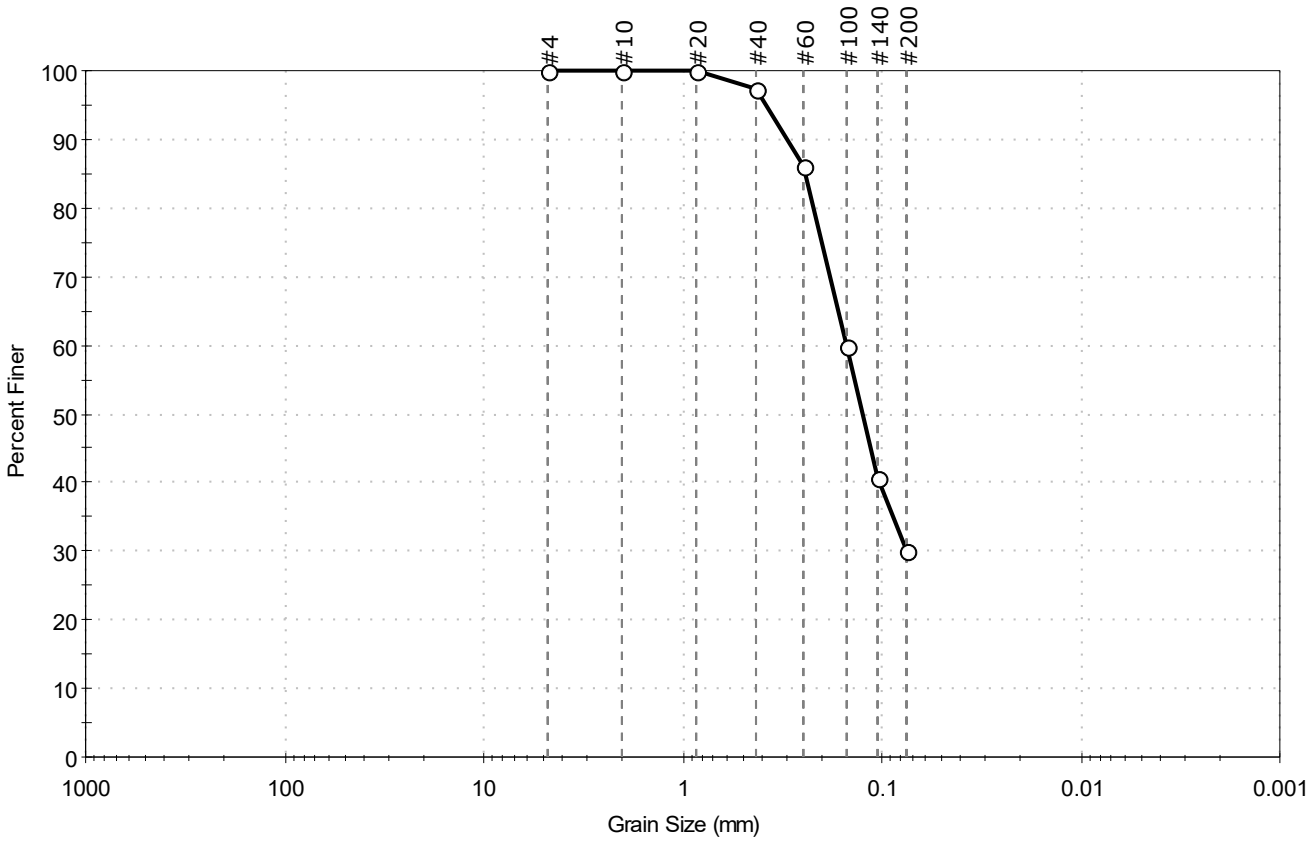
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16	Test Date:	10/26/22	Checked By:	bfs
Depth :	30-32	Test Id:	690125		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	69.9	30.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	86		
#100	0.15	60		
#140	0.11	41		
#200	0.075	30		

Coefficients

D_{85} =0.2450 mm	D_{30} =N/A
D_{60} =0.1503 mm	D_{15} =N/A
D_{50} =0.1253 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

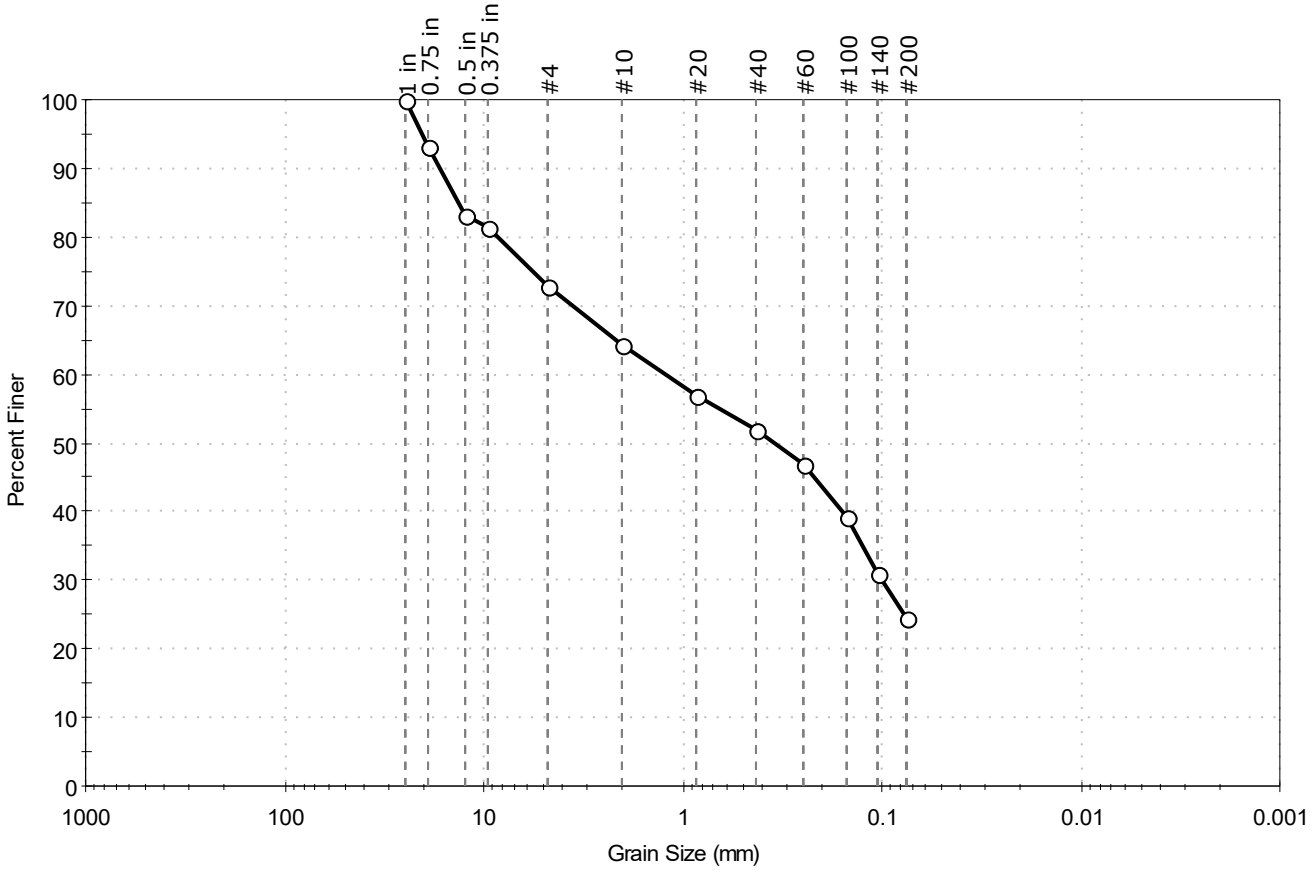
Sand/Gravel Hardness : ---

printed 10/27/2022 12:57:17 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5	Test Date:	07/25/22	Checked By:	bfs
Depth :	8-10'	Test Id:	679676		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	27.0	48.5	24.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	93		
0.5 in	12.50	83		
0.375 in	9.50	81		
#4	4.75	73		
#10	2.00	64		
#20	0.85	57		
#40	0.42	52		
#60	0.25	47		
#100	0.15	39		
#140	0.11	31		
#200	0.075	25		

Coefficients

D_{85} = 13.5314 mm	D_{30} = 0.1004 mm
D_{60} = 1.2109 mm	D_{15} = N/A
D_{50} = 0.3506 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND with Gravel (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

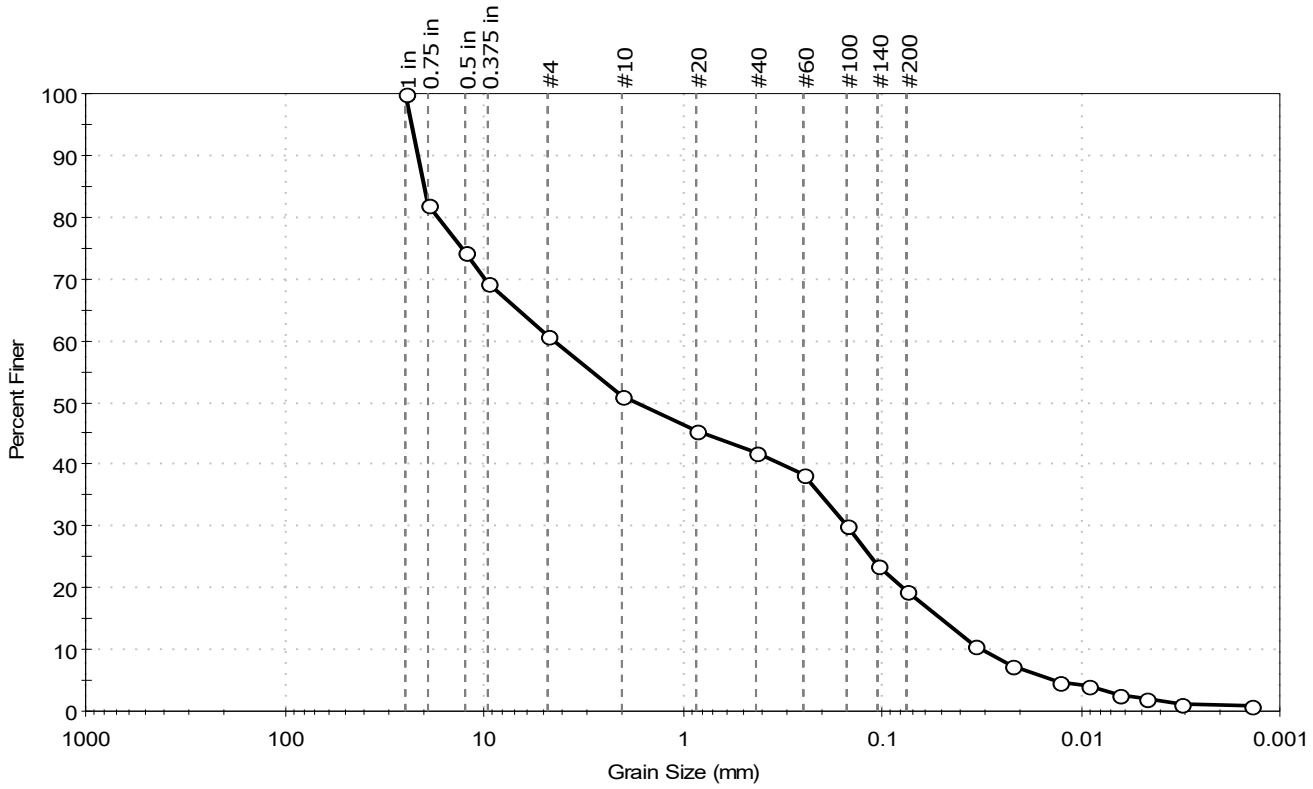
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-11	Test Date:	08/01/22	Checked By:	bfs
Depth :	20-22'	Test Id:	679668		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	39.3	41.3	19.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	82		
0.5 in	12.50	74		
0.375 in	9.50	69		
#4	4.75	61		
#10	2.00	51		
#20	0.85	45		
#40	0.42	42		
#60	0.25	38		
#100	0.15	30		
#140	0.11	24		
#200	0.075	19		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0339	11		
---	0.0222	7		
---	0.0128	5		
---	0.0093	4		
---	0.0065	3		
---	0.0047	2		
---	0.0031	1		
---	0.0014	1		

Coefficients

D_{85} = 19.9003 mm
D_{30} = 0.1482 mm
D_{60} = 4.4472 mm
D_{15} = 0.0502 mm
D_{50} = 1.6944 mm
D_{10} = 0.0310 mm
C_u = 143.458
C_c = 0.159

Classification

ASTM N/A

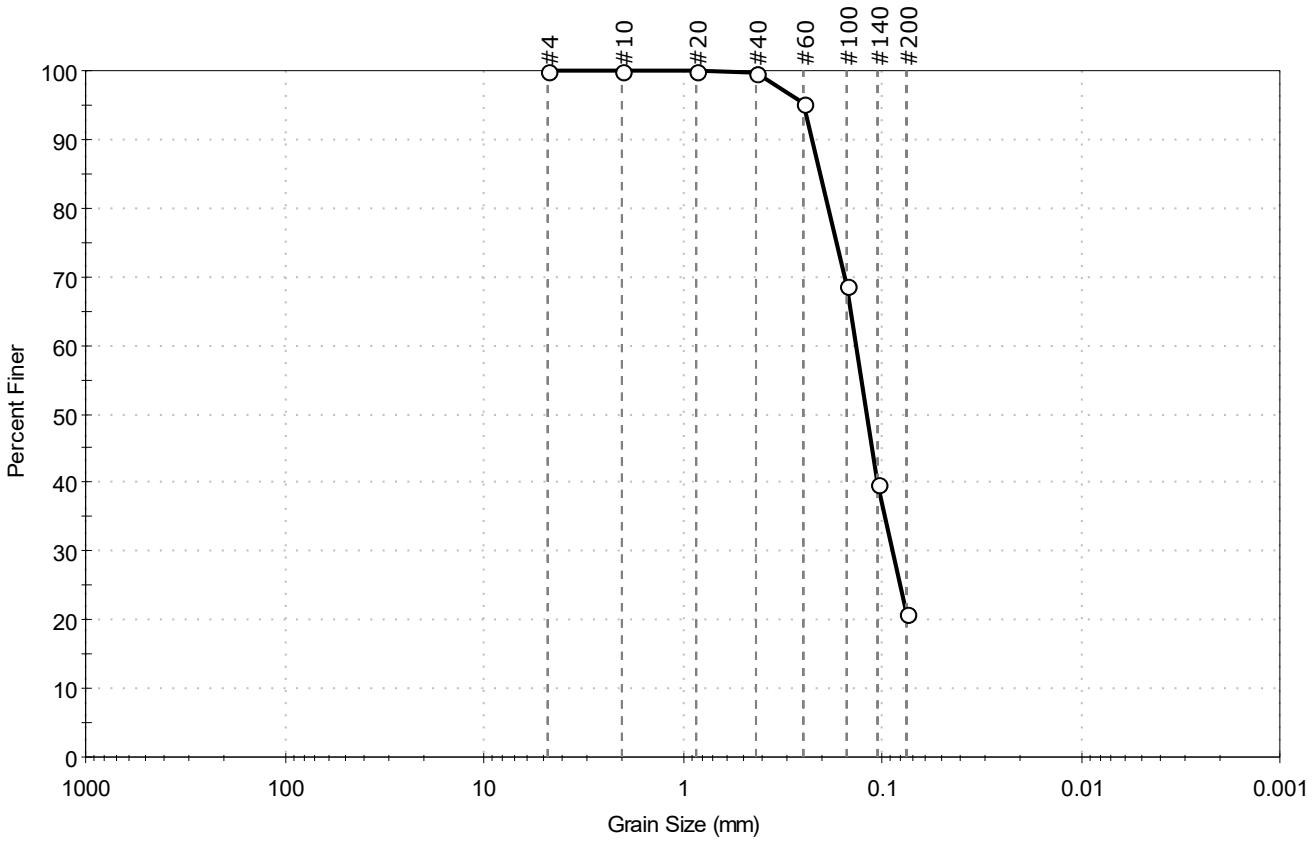
AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	12/15/22	Checked By:	ank
Depth :	4-8	Test Id:	698386		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	79.0	21.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	95		
#100	0.15	69		
#140	0.11	40		
#200	0.075	21		

Coefficients

D_{85} = 0.2049 mm	D_{30} = 0.0884 mm
D_{60} = 0.1351 mm	D_{15} = N/A
D_{50} = 0.1197 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

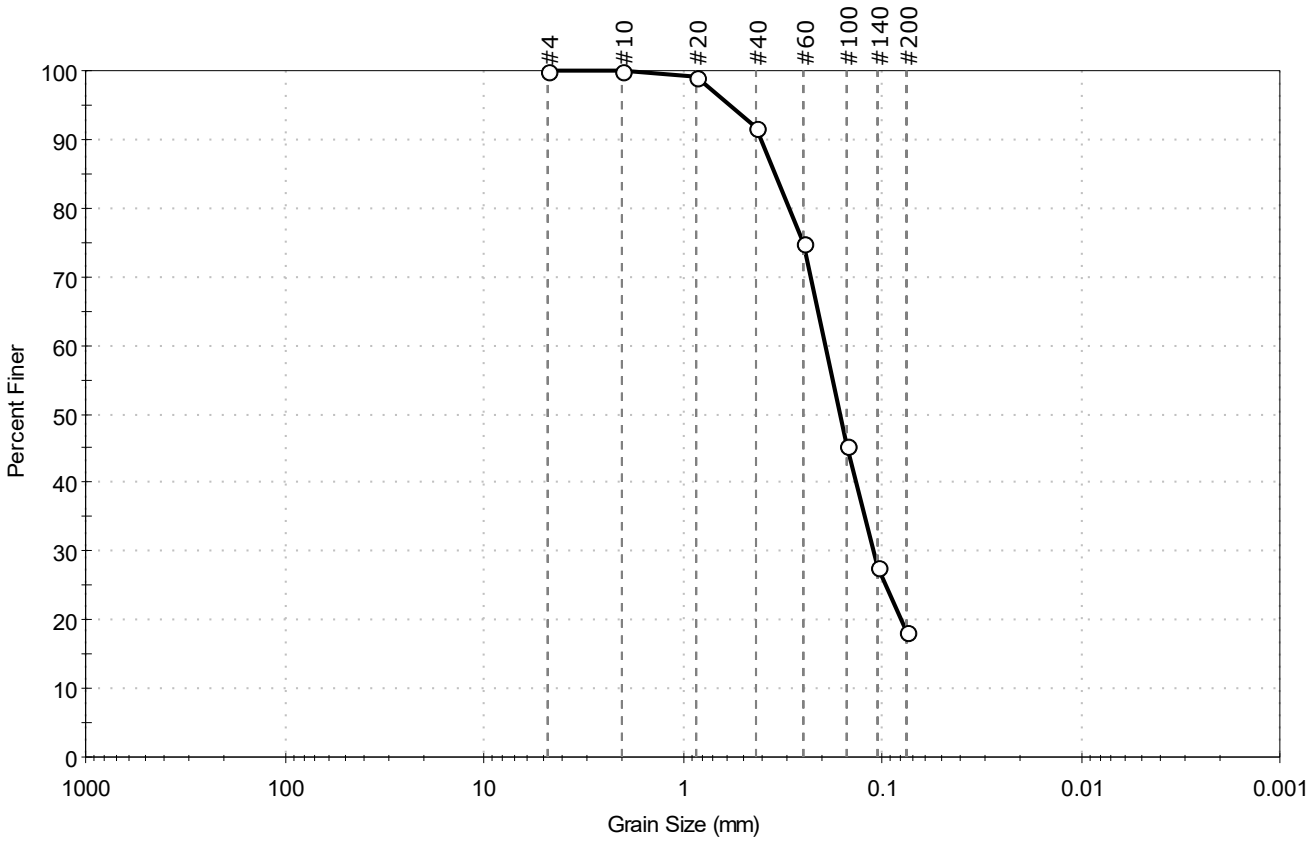
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-17	Test Date:	12/15/22	Checked By:	ank
Depth :	40-42	Test Id:	698387		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	81.8	18.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	92		
#60	0.25	75		
#100	0.15	45		
#140	0.11	28		
#200	0.075	18		

Coefficients

D_{85} = 0.3441 mm	D_{30} = 0.1108 mm
D_{60} = 0.1934 mm	D_{15} = N/A
D_{50} = 0.1627 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

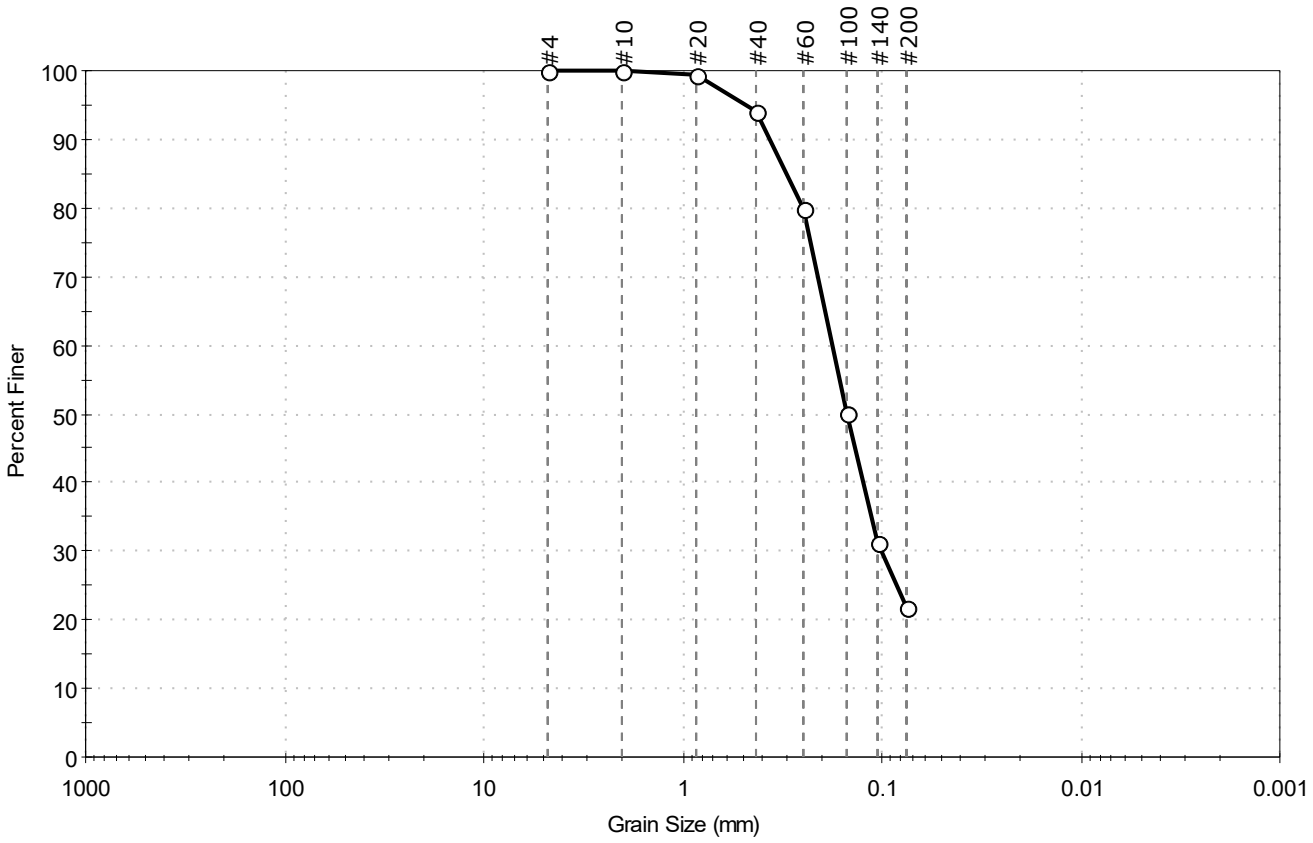
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 12/19/2022 1:30:52 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-19, S-20	Test Date:	12/15/22	Checked By:	ank
Depth :	50-57	Test Id:	698388		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	78.1	21.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	94		
#60	0.25	80		
#100	0.15	50		
#140	0.11	31		
#200	0.075	22		

Coefficients

D_{85} = 0.3029 mm	D_{30} = 0.1013 mm
D_{60} = 0.1777 mm	D_{15} = N/A
D_{50} = 0.1497 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

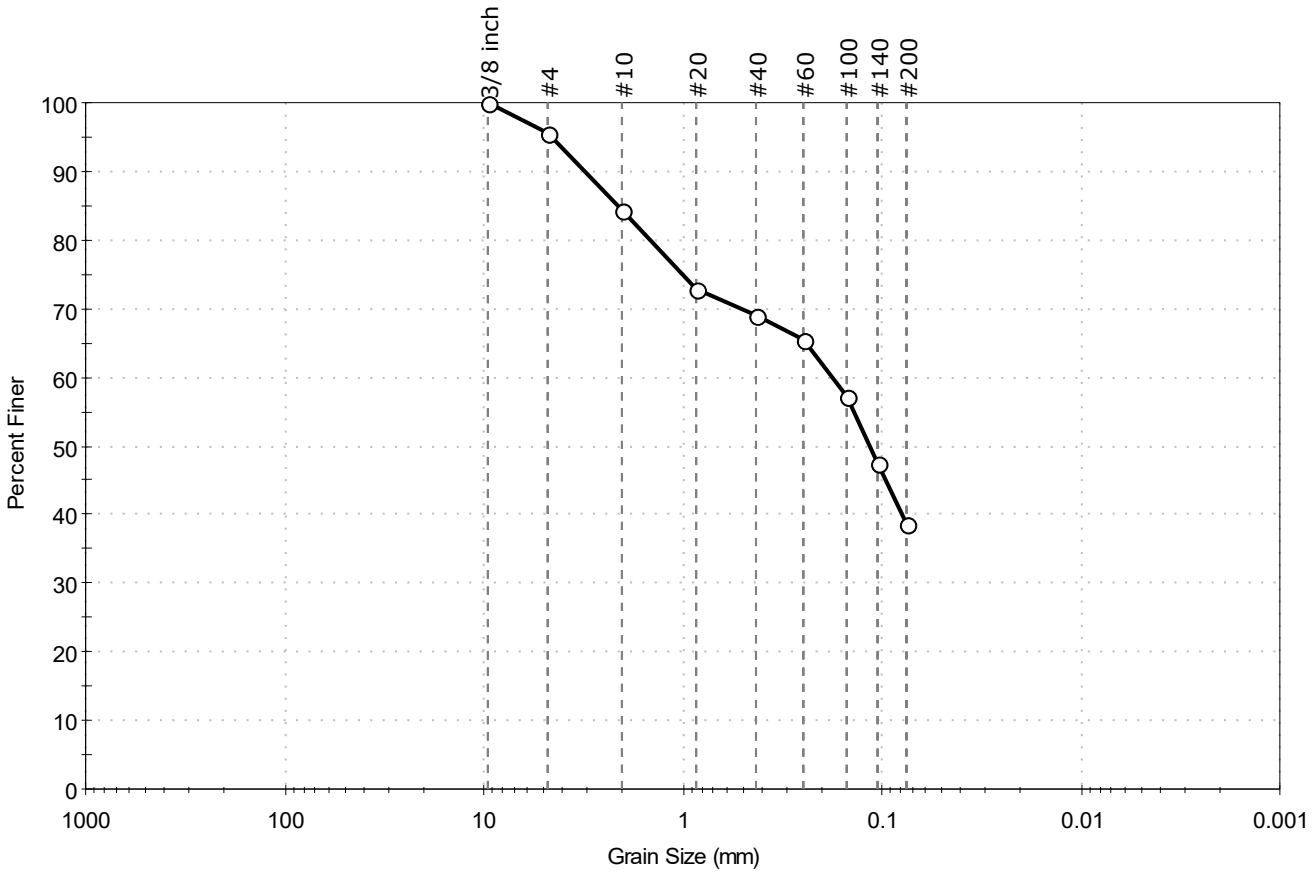
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23, S-24	Test Date:	12/15/22	Checked By:	ank
Depth :	64-68	Test Id:	698389		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.4	56.8	38.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	96		
#10	2.00	84		
#20	0.85	73		
#40	0.42	69		
#60	0.25	66		
#100	0.15	57		
#140	0.11	48		
#200	0.075	39		

Coefficients

D_{85} = 2.1080 mm D_{30} = N/A

D_{60} = 0.1790 mm D_{15} = N/A

D_{50} = 0.1159 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

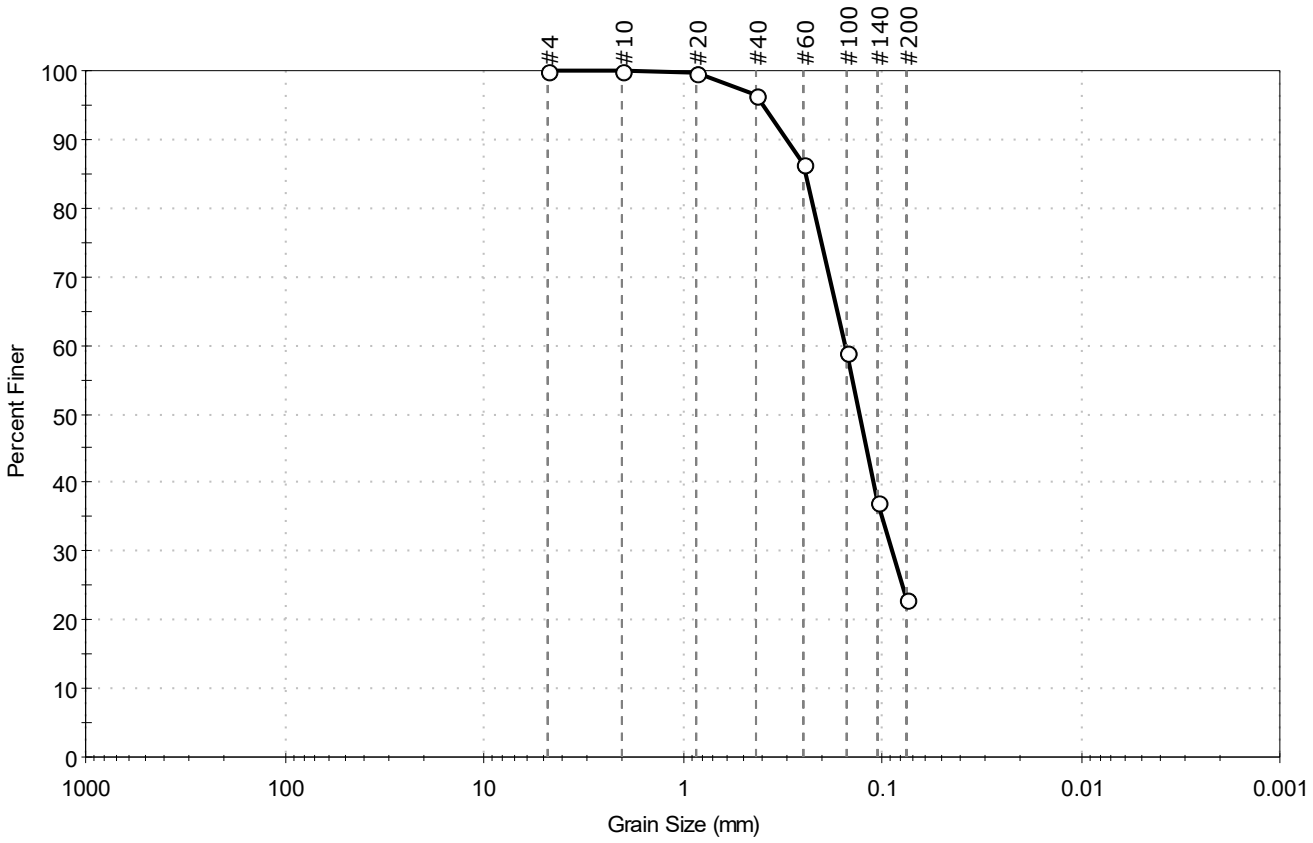
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-30	Test Date:	12/15/22	Checked By:	ank
Depth :	80-82	Test Id:	698390		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	77.0	23.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	86		
#100	0.15	59		
#140	0.11	37		
#200	0.075	23		

Coefficients

D_{85} = 0.2437 mm D_{30} = 0.0890 mm

D_{60} = 0.1526 mm D_{15} = N/A

D_{50} = 0.1299 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

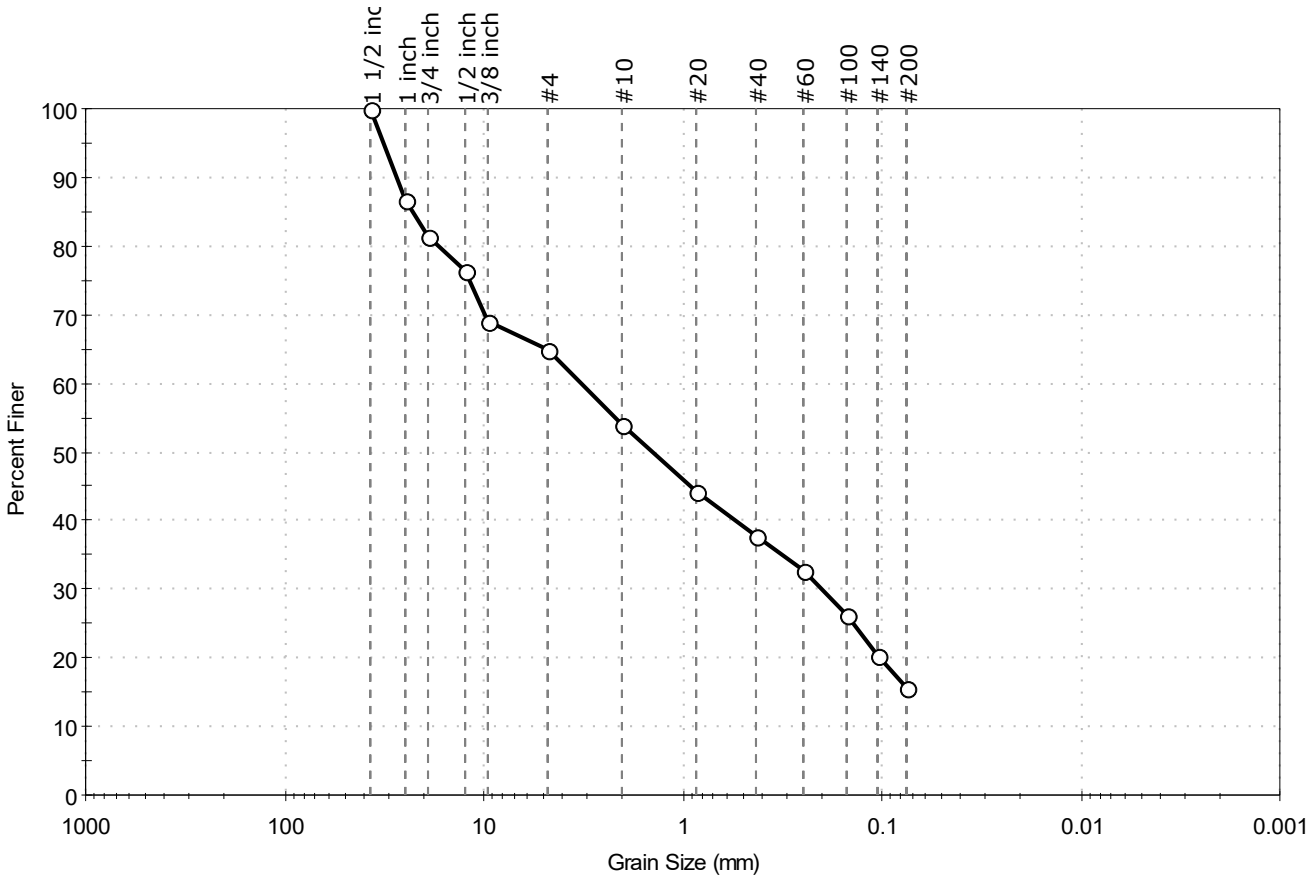
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-31	Test Date:	12/15/22	Checked By:	ank
Depth :	85-87	Test Id:	698391		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	35.1	49.2	15.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 1/2 inch	37.50	100		
1 inch	25.00	87		
3/4 inch	19.00	81		
1/2 inch	12.50	76		
3/8 inch	9.50	69		
#4	4.75	65		
#10	2.00	54		
#20	0.85	44		
#40	0.42	38		
#60	0.25	33		
#100	0.15	26		
#140	0.11	20		
#200	0.075	16		

Coefficients

D_{85} = 22.8380 mm D_{30} = 0.2012 mm

D_{60} = 3.2095 mm D_{15} = N/A

D_{50} = 1.3968 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

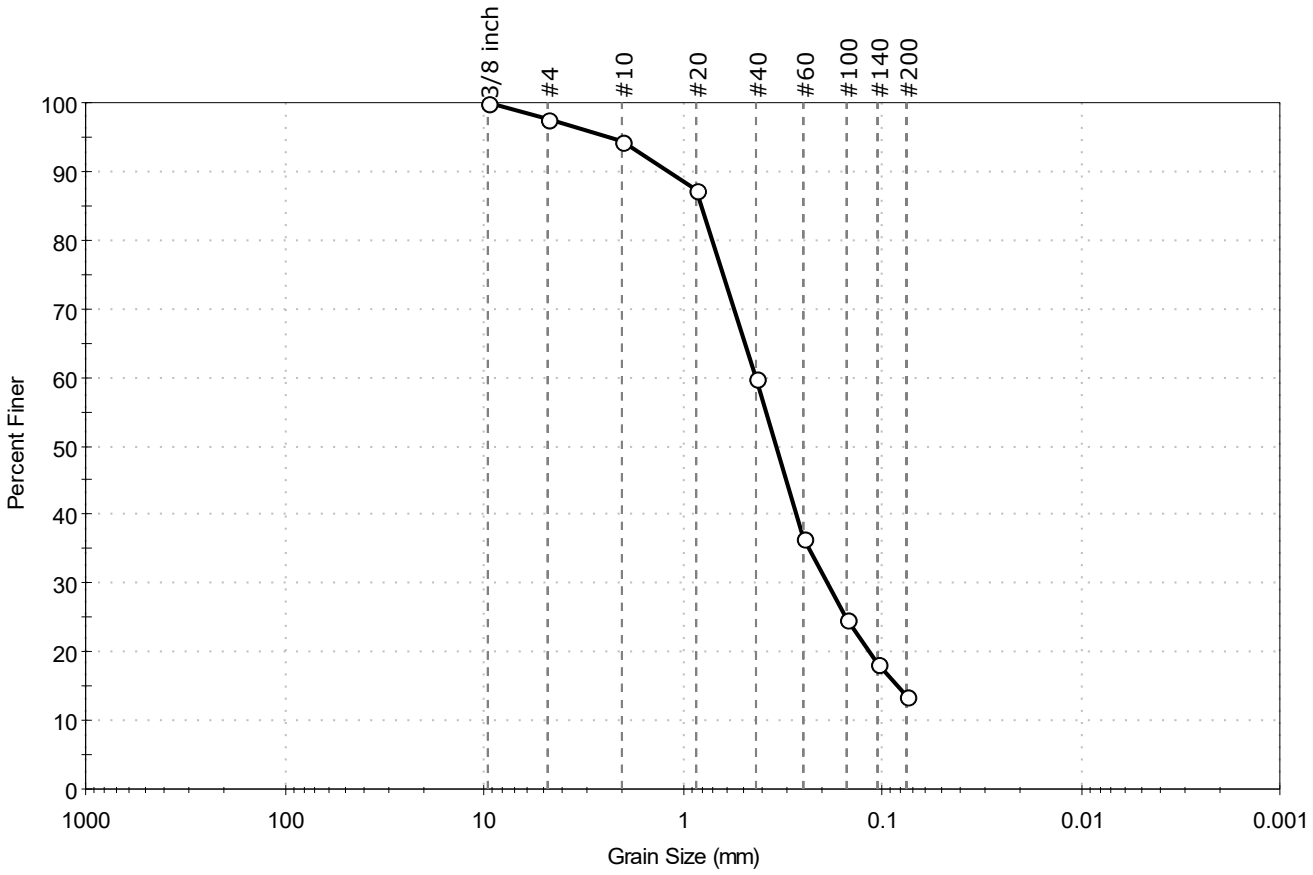
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-34, S-35	Test Date:	12/15/22	Checked By:	ank
Depth :	100-107	Test Id:	698392		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	2.4	83.9	13.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	98		
#10	2.00	95		
#20	0.85	87		
#40	0.42	60		
#60	0.25	37		
#100	0.15	25		
#140	0.11	18		
#200	0.075	14		

Coefficients

D_{85} =0.8029 mm	D_{30} =0.1880 mm
D_{60} =0.4269 mm	D_{15} =0.0827 mm
D_{50} =0.3392 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

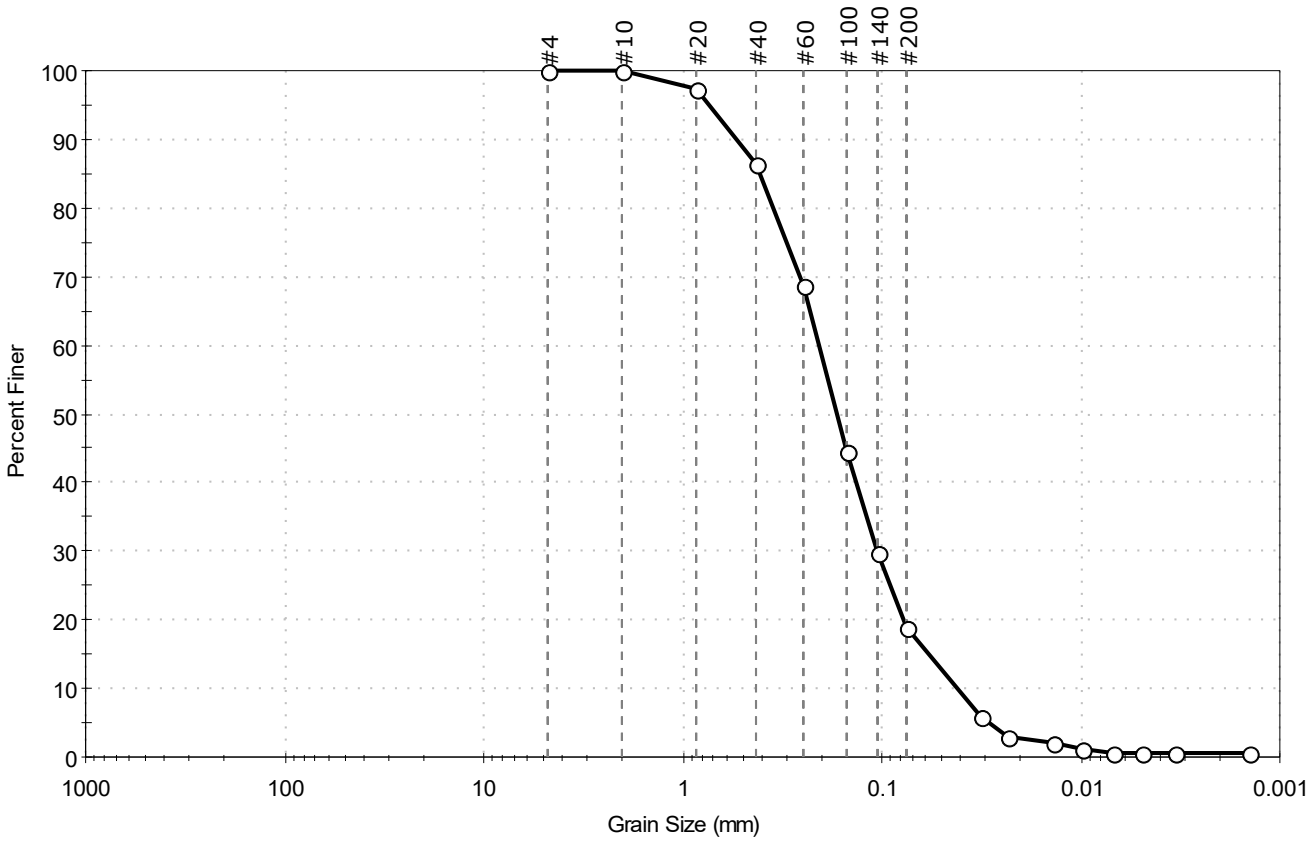
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-12	Test Date:	12/14/22	Checked By:	ank
Depth :	22-24	Test Id:	698393		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	81.1	18.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	86		
#60	0.25	69		
#100	0.15	45		
#140	0.11	30		
#200	0.075	19		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0321	6		
---	0.0234	3		
---	0.0139	2		
---	0.0098	1		
---	0.0070	1		
---	0.0049	1		
---	0.0034	1		
---	0.0014	1		

Coefficients

D_{85} = 0.4088 mm	D_{30} = 0.1062 mm
D_{60} = 0.2077 mm	D_{15} = 0.0583 mm
D_{50} = 0.1681 mm	D_{10} = 0.0422 mm
C_u = 4.922	C_c = 1.287

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

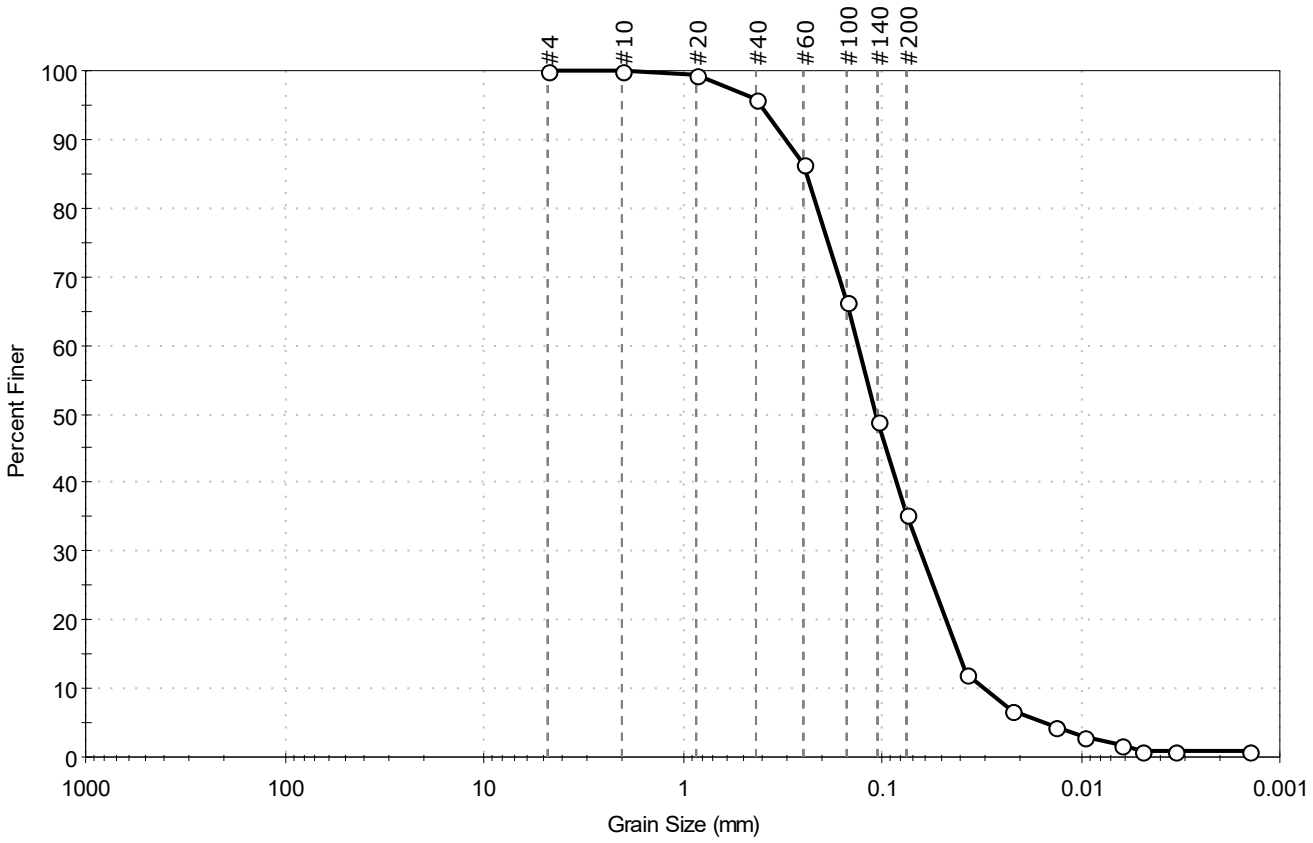
Separation of Sample: #200 Sieve

printed 12/19/2022 1:30:58 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	12/14/22	Checked By:	ank
Depth :	72-74	Test Id:	698394		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	64.5	35.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	96		
#60	0.25	86		
#100	0.15	66		
#140	0.11	49		
#200	0.075	36		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0376	12		
---	0.0222	7		
---	0.0136	4		
---	0.0097	3		
---	0.0063	2		
---	0.0049	1		
---	0.0034	1		
---	0.0014	1		

Coefficients

D_{85} = 0.2414 mm	D_{30} = 0.0637 mm
D_{60} = 0.1322 mm	D_{15} = 0.0409 mm
D_{50} = 0.1081 mm	D_{10} = 0.0304 mm
C_u = 4.349	C_c = 1.010

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

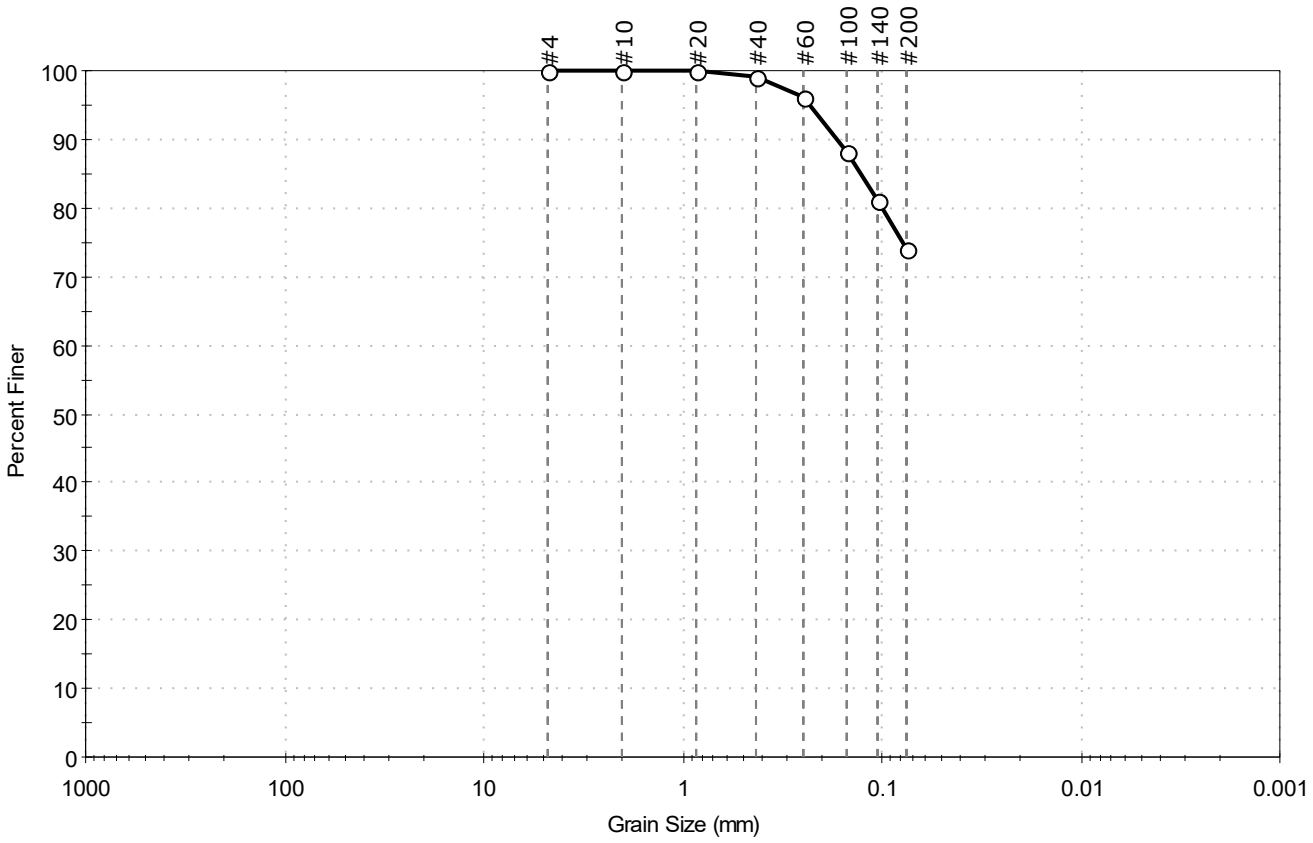
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 12/19/2022 1:30:59 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	tube	Tested By:	ckg
Sample ID:	S-28, S-29	Test Date:	12/30/22	Checked By:	ank
Depth :	74-78'	Test Id:	700440		
Test Comment:	---				
Visual Description:	Moist, pale brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	25.9	74.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	96		
#100	0.15	88		
#140	0.11	81		
#200	0.075	74		

Coefficients

D_{85} = 0.1285 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

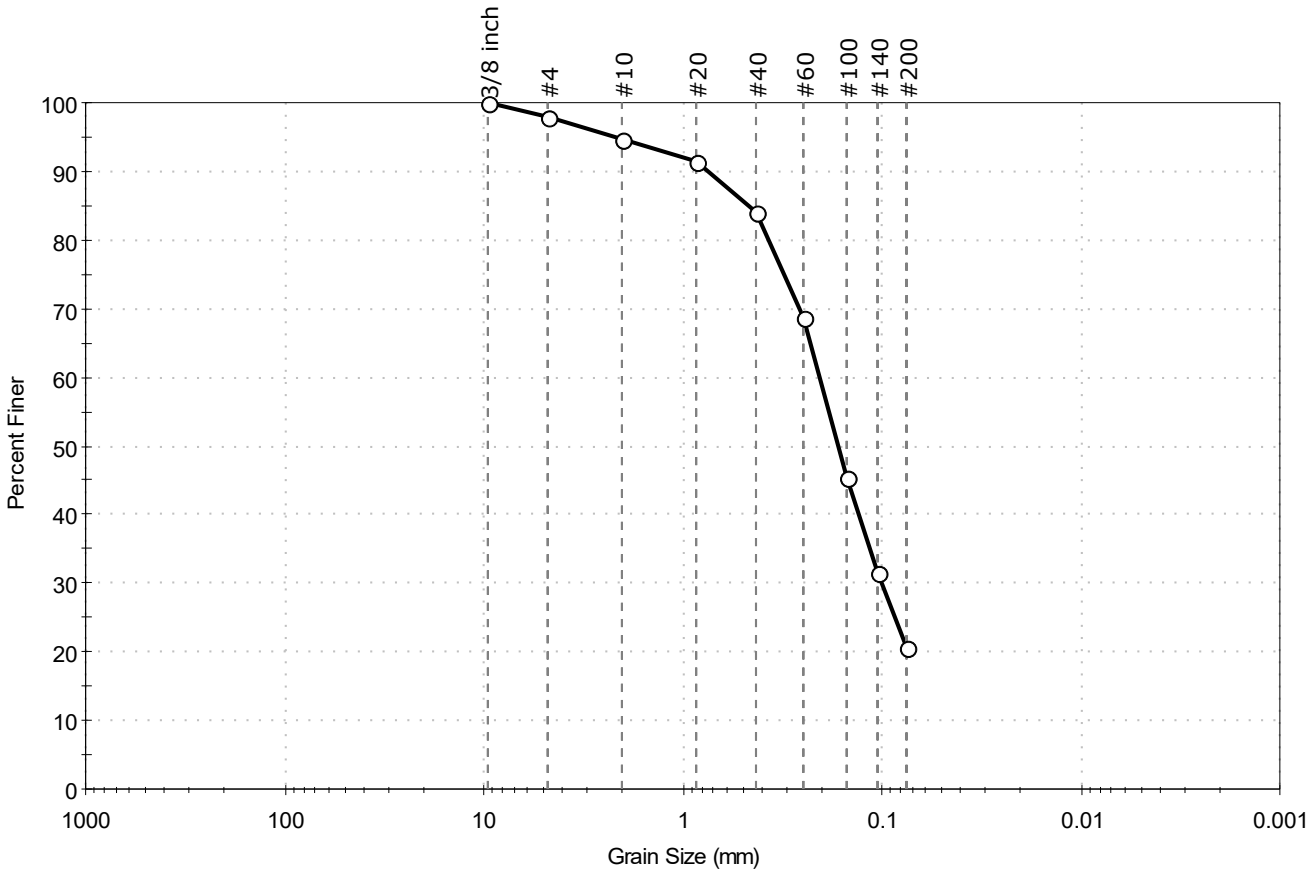
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 1/4/2023 11:51:52 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	06/14/22	Checked By:	bfs
Depth :	4-6', 6-8'	Test Id:	672403		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	2.2	77.3	20.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	98		
#10	2.00	95		
#20	0.85	91		
#40	0.42	84		
#60	0.25	69		
#100	0.15	45		
#140	0.11	32		
#200	0.075	21		

Coefficients

D_{85} = 0.4689 mm	D_{30} = 0.1006 mm
D_{60} = 0.2067 mm	D_{15} = N/A
D_{50} = 0.1657 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

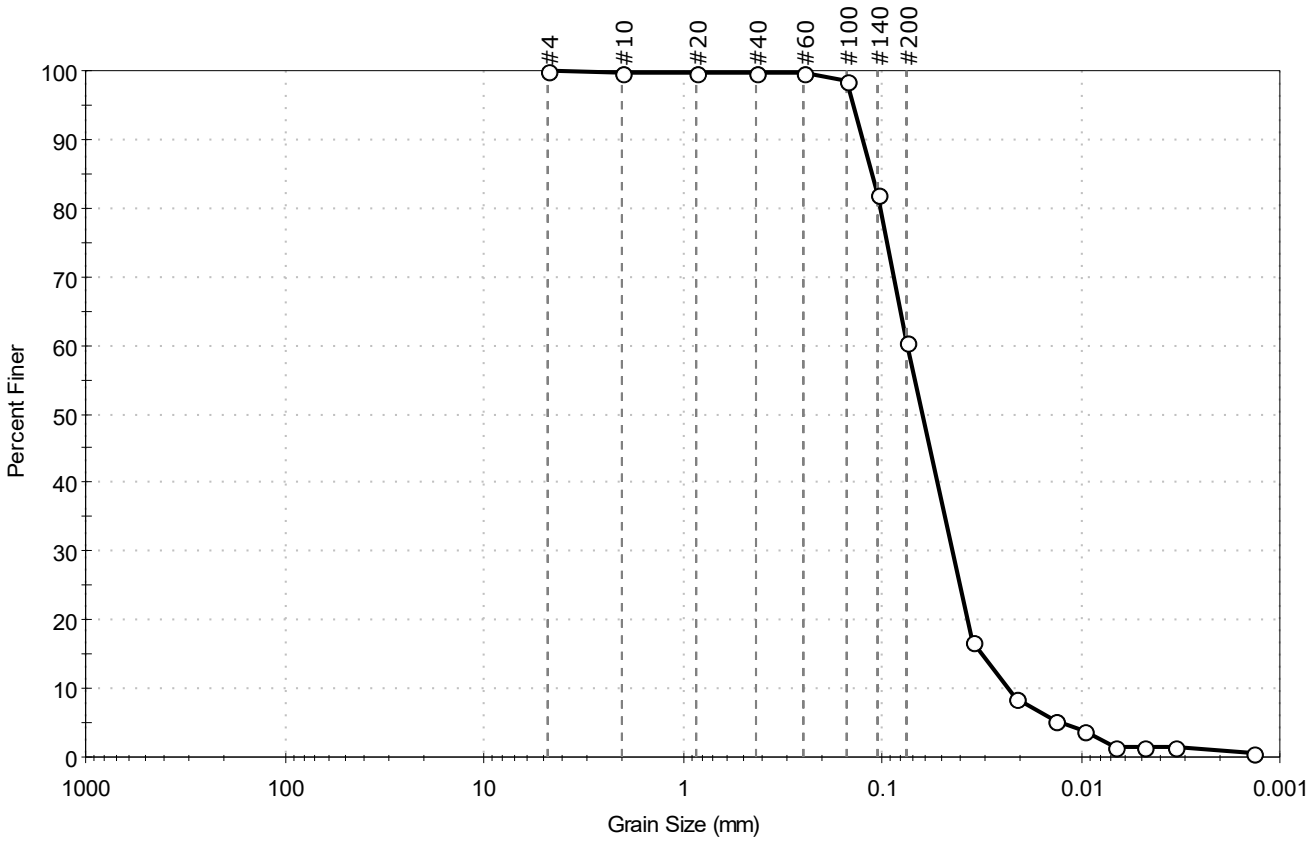
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-10	Test Date:	06/16/22	Checked By:	jsc
Depth :	18-20'	Test Id:	672414		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	39.4	60.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	82		
#200	0.075	61		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0347	17		
---	0.0213	9		
---	0.0134	5		
---	0.0096	4		
---	0.0068	1		
---	0.0048	2		
---	0.0034	2		
---	0.0014	0		

Coefficients

D_{85} =0.1128 mm	D_{30} =0.0439 mm
D_{60} =0.0742 mm	D_{15} =0.0314 mm
D_{50} =0.0623 mm	D_{10} =0.0231 mm
C_u =3.212	C_c =1.124

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

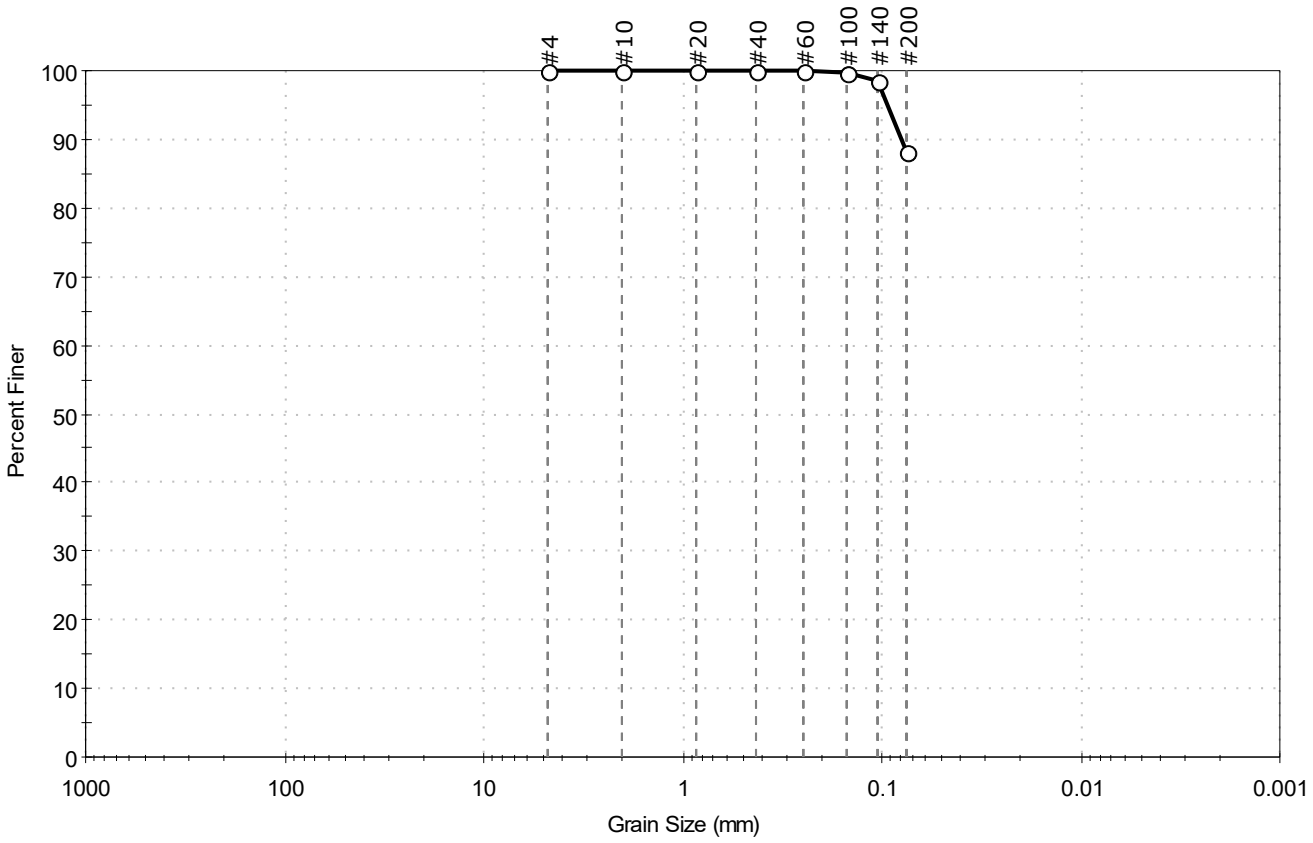
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-11	Test Date:	06/14/22	Checked By:	bfs
Depth :	20-22'	Test Id:	672404		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	11.9	88.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	100		
#140	0.11	99		
#200	0.075	88		

Coefficients

D_{85} = N/A D_{30} = N/A

D_{60} = N/A D_{15} = N/A

D_{50} = N/A D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

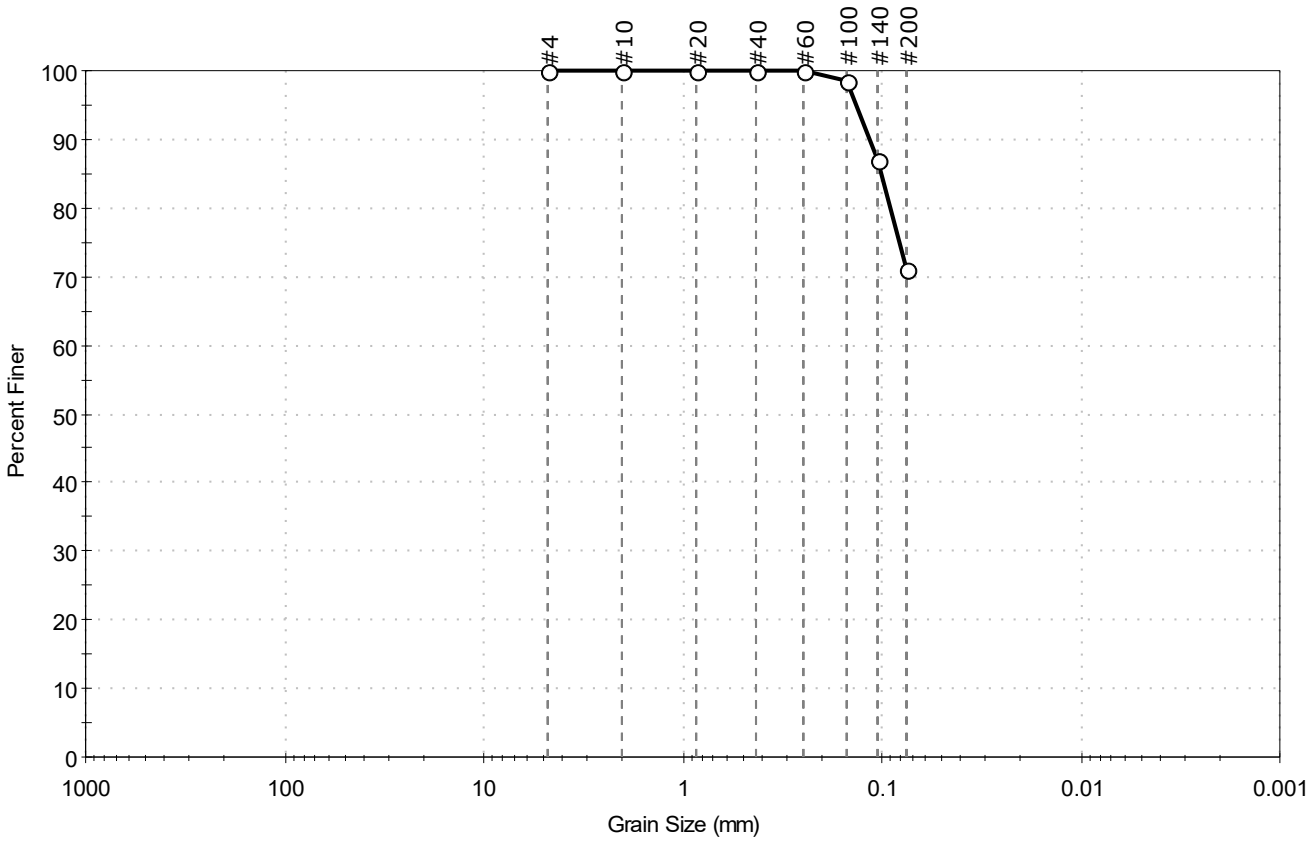
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16	Test Date:	06/14/22	Checked By:	bfs
Depth :	35-37'	Test Id:	672405		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	28.9	71.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	87		
#200	0.075	71		

Coefficients

D_{85} = 0.1012 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

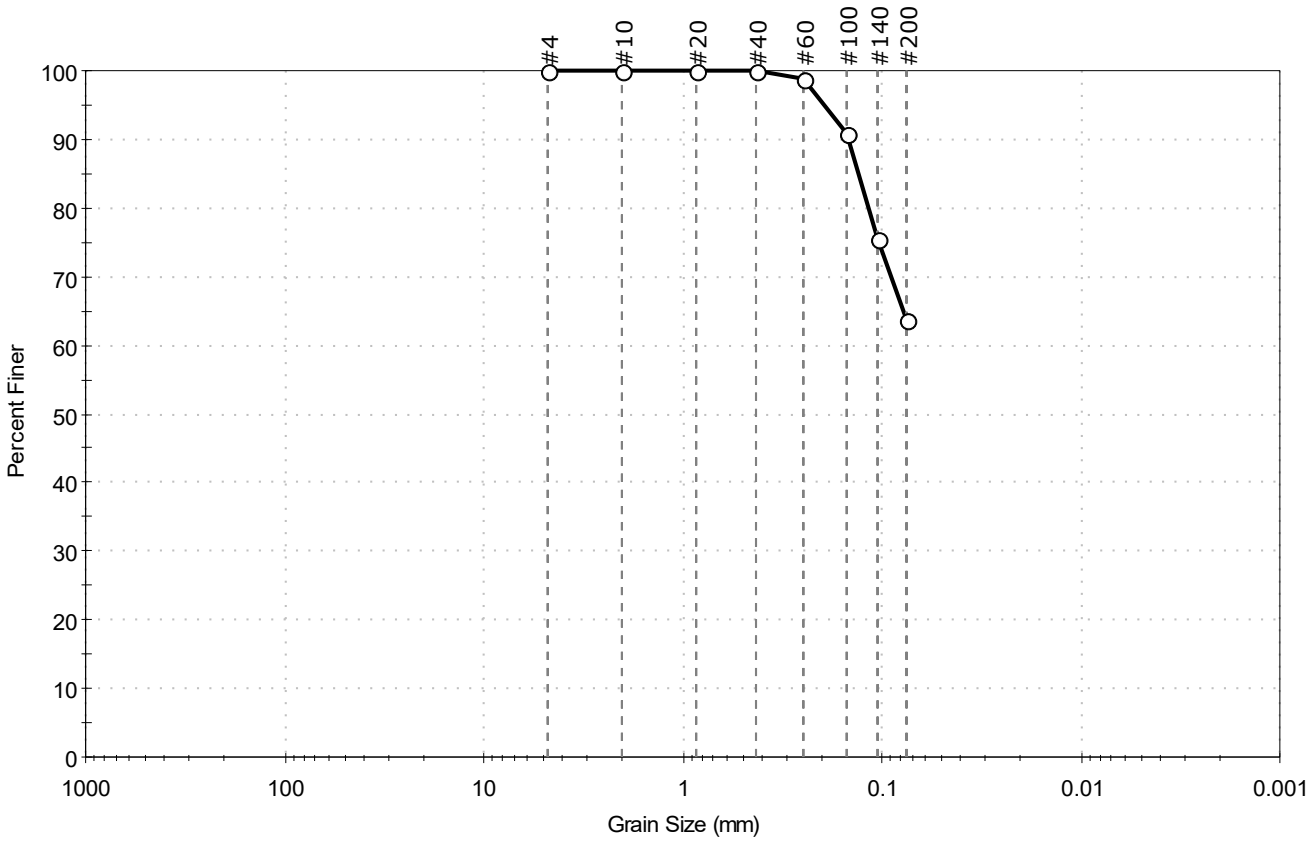
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 6/20/2022 10:26:29 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	06/14/22	Checked By:	bfs
Depth :	60-62'	Test Id:	672406		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	36.3	63.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	91		
#140	0.11	76		
#200	0.075	64		

Coefficients

D_{85} = 0.1316 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

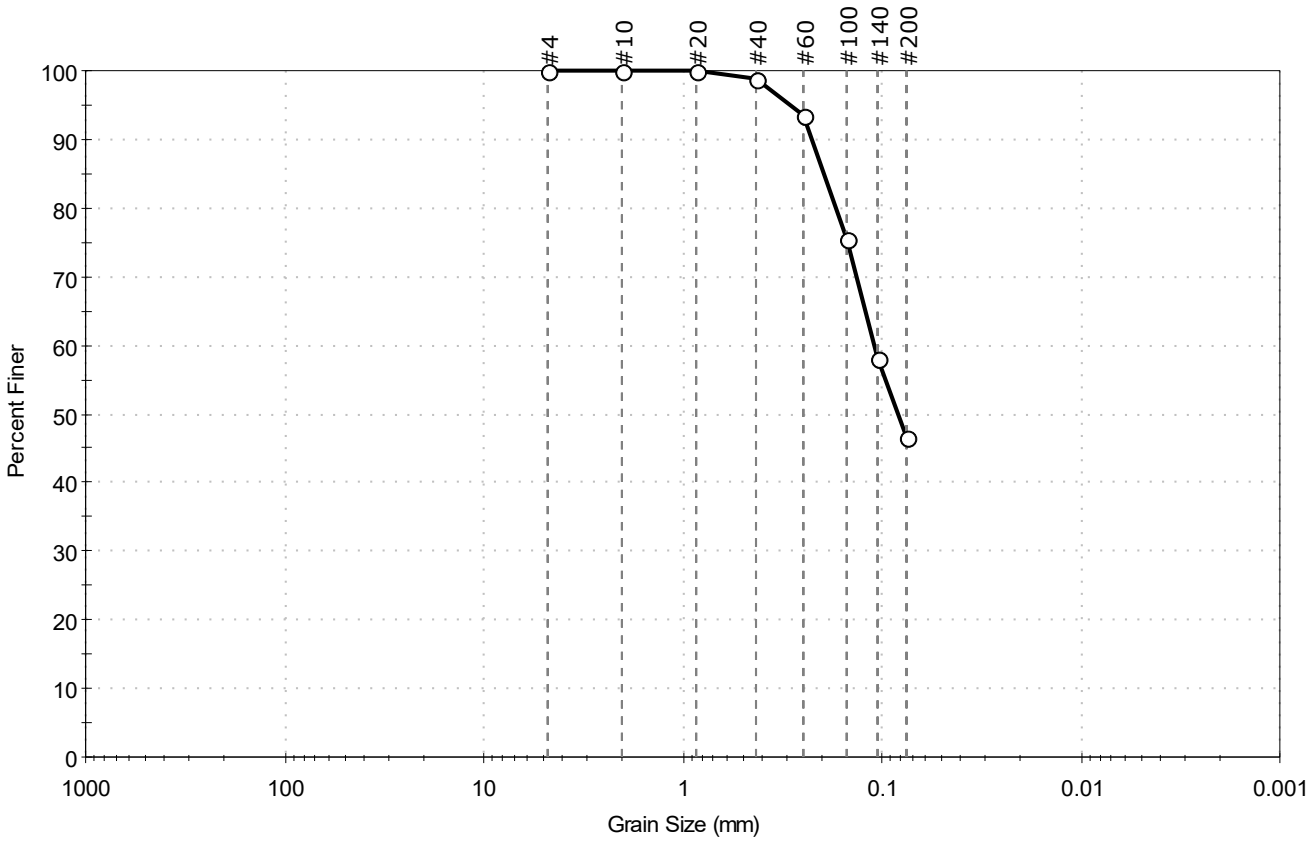
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 6/20/2022 10:26:30 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24	Test Date:	10/26/22	Checked By:	bfs
Depth :	62-64	Test Id:	690133		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	53.4	46.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	94		
#100	0.15	76		
#140	0.11	58		
#200	0.075	47		

Coefficients

D_{85} = 0.1957 mm D_{30} = N/A

D_{60} = 0.1098 mm D_{15} = N/A

D_{50} = 0.0829 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

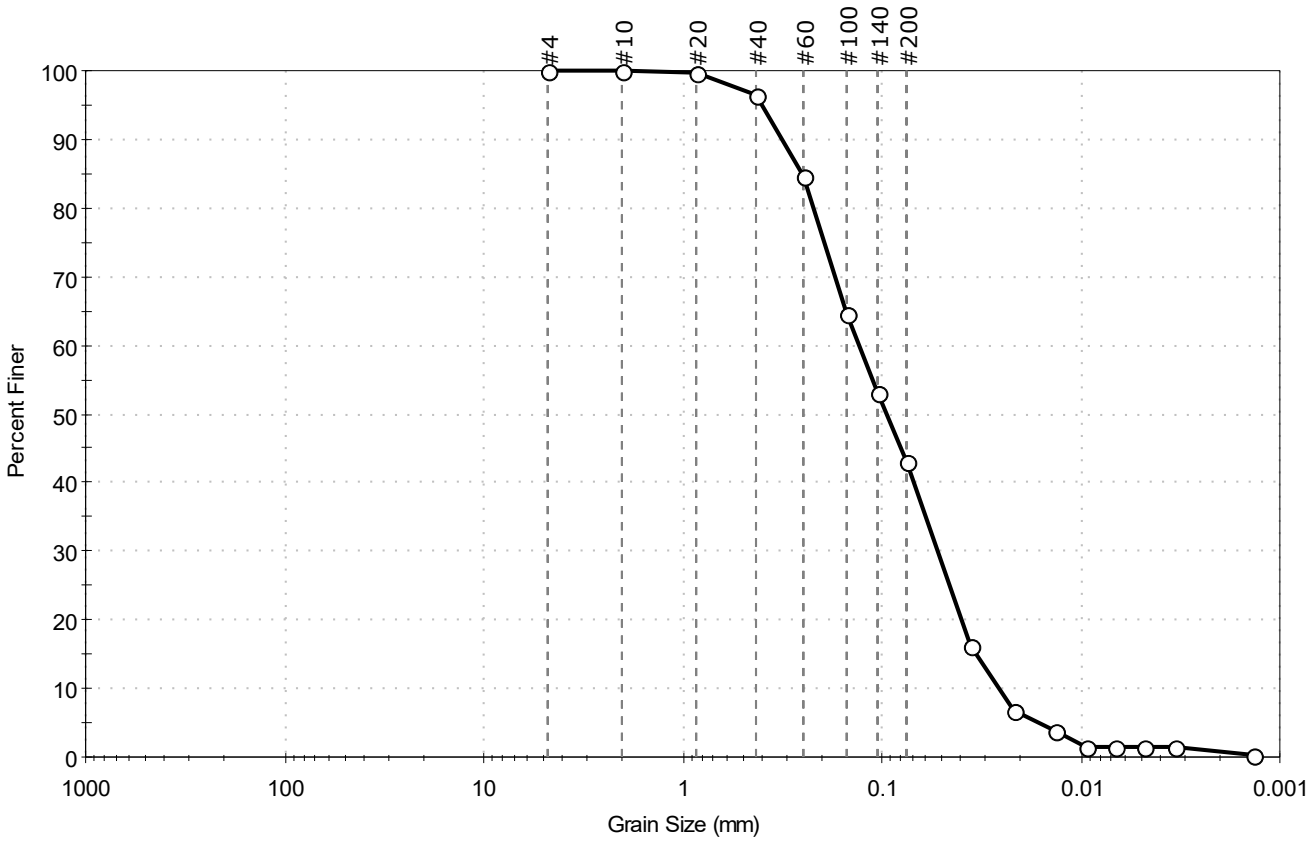
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-28	Test Date:	06/16/22	Checked By:	jsc
Depth :	77-79'	Test Id:	672415		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	57.0	43.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	85		
#100	0.15	65		
#140	0.11	53		
#200	0.075	43		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0356	16		
---	0.0219	7		
---	0.0135	4		
---	0.0095	1		
---	0.0068	1		
---	0.0048	1		
---	0.0034	2		
---	0.0014	0		

Coefficients

D_{85} = 0.2522 mm	D_{30} = 0.0522 mm
D_{60} = 0.1302 mm	D_{15} = 0.0334 mm
D_{50} = 0.0951 mm	D_{10} = 0.0258 mm
C_u = 5.047	C_c = 0.811

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

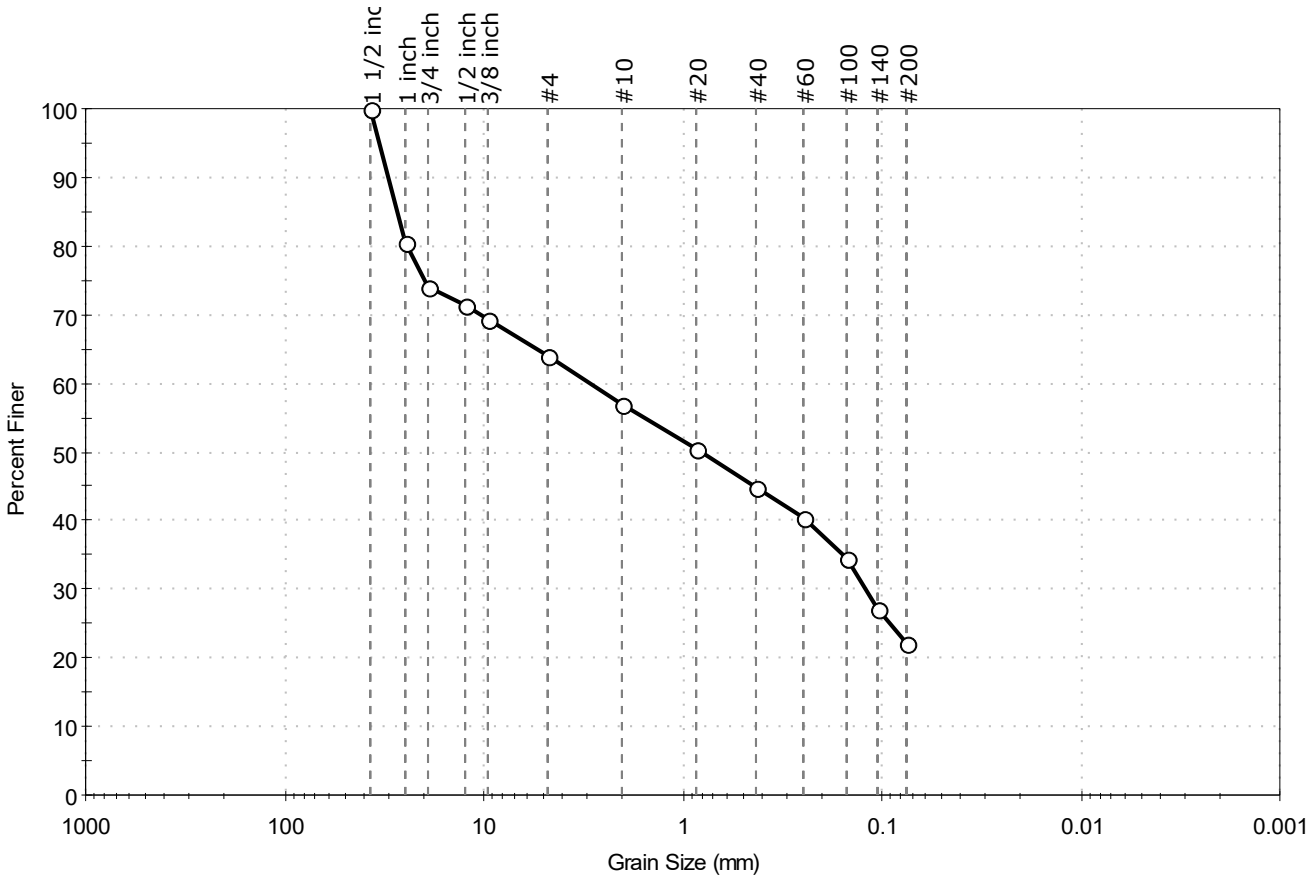
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-4	Test Date:	06/14/22	Checked By:	bfs
Depth :	6-8'	Test Id:	672407		
Test Comment:	---				
Visual Description:	Moist, dark olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	35.9	42.0	22.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 1/2 inch	37.50	100		
1 inch	25.00	81		
3/4 inch	19.00	74		
1/2 inch	12.50	72		
3/8 inch	9.50	69		
#4	4.75	64		
#10	2.00	57		
#20	0.85	50		
#40	0.42	45		
#60	0.25	40		
#100	0.15	34		
#140	0.11	27		
#200	0.075	22		

Coefficients

D_{85} = 27.4513 mm D_{30} = 0.1217 mm

D_{60} = 2.8791 mm D_{15} = N/A

D_{50} = 0.8034 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

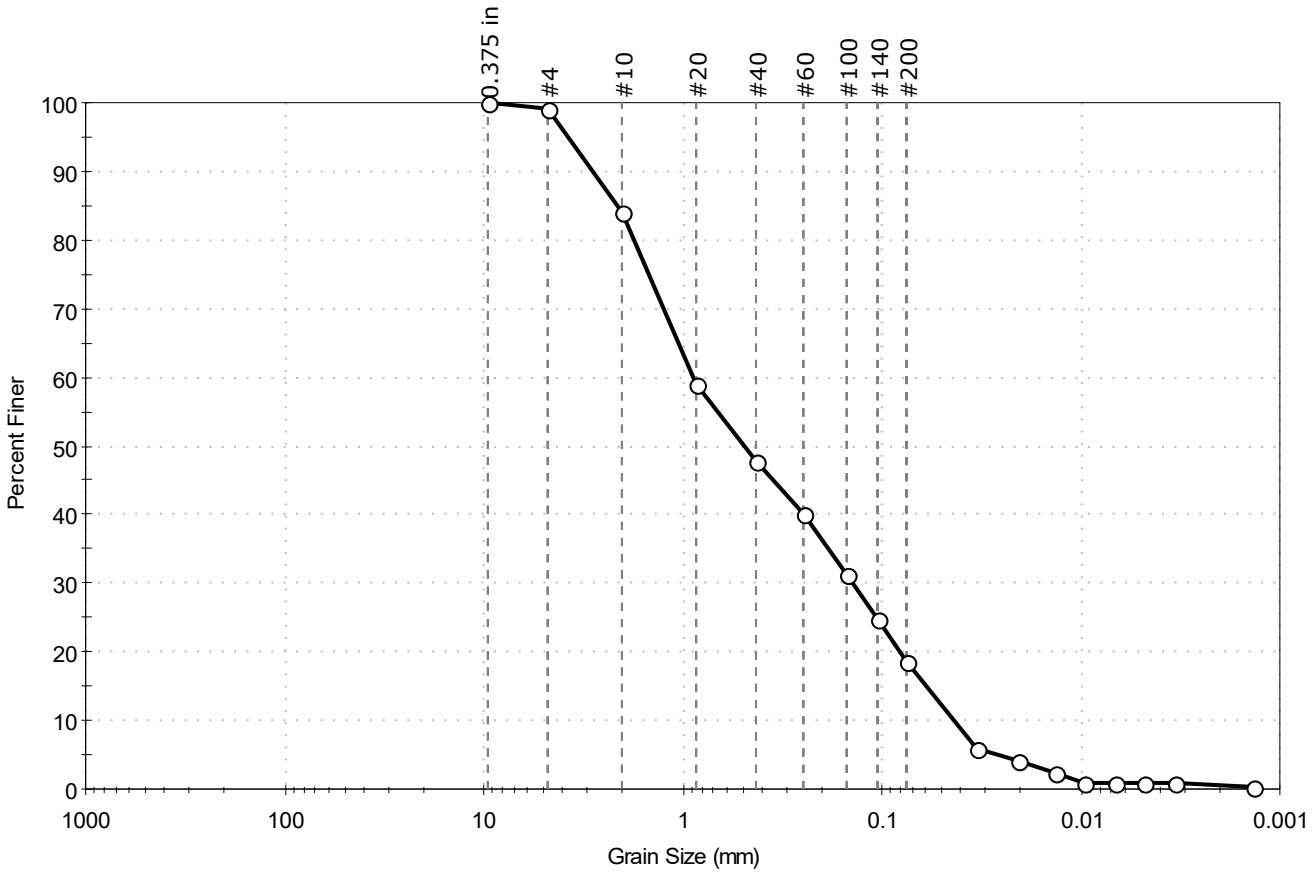
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13	Test Date:	06/16/22	Checked By:	jsc
Depth :	24-26'	Test Id:	672416		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.0	80.3	18.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	84		
#20	0.85	59		
#40	0.42	48		
#60	0.25	40		
#100	0.15	31		
#140	0.11	25		
#200	0.075	19		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0332	6		
---	0.0208	4		
---	0.0134	2		
---	0.0096	1		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} = 2.1246 mm	D_{30} = 0.1396 mm
D_{60} = 0.8787 mm	D_{15} = 0.0593 mm
D_{50} = 0.4884 mm	D_{10} = 0.0430 mm
C_u = 20.435	C_c = 0.516

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

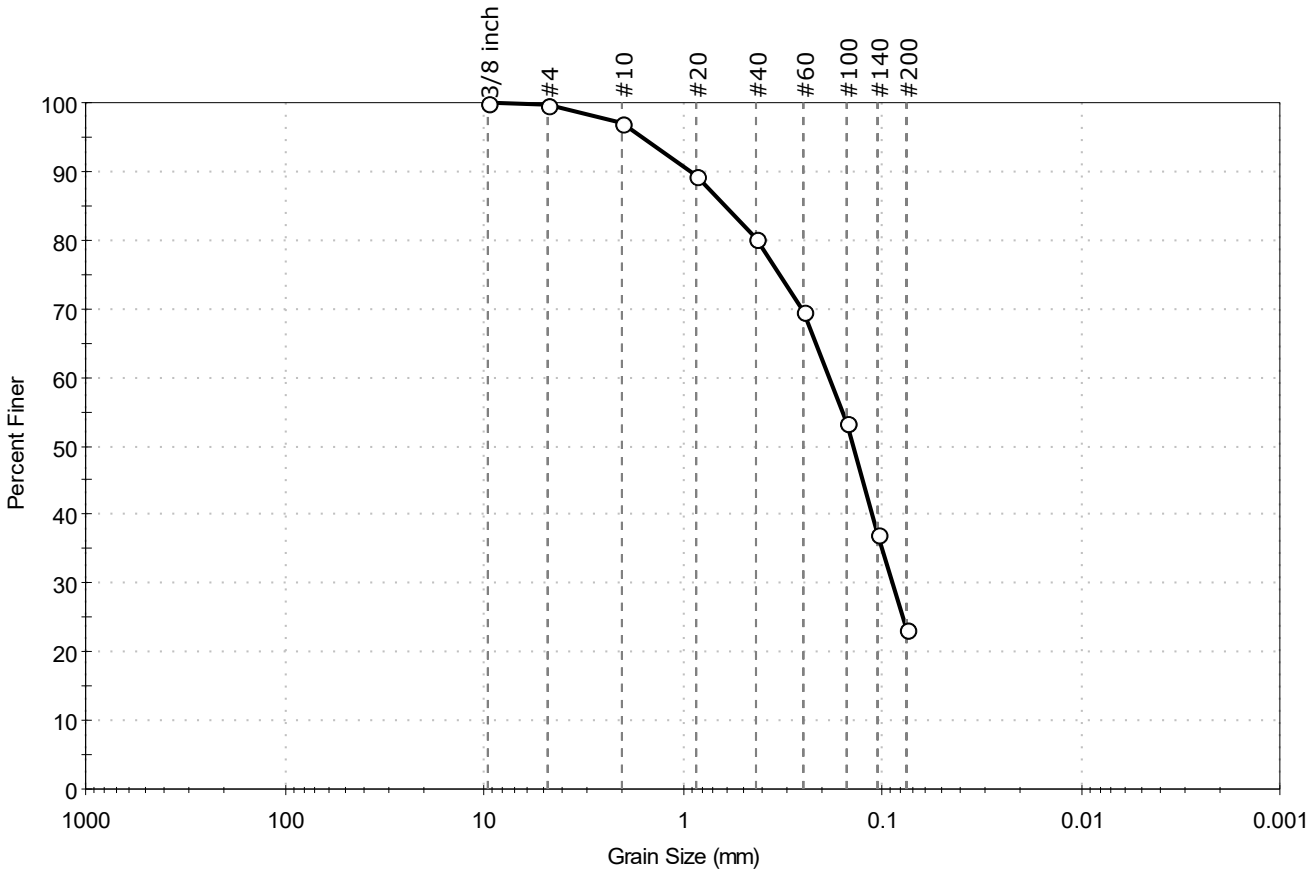
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-18	Test Date:	06/14/22	Checked By:	bfs
Depth :	34-36'	Test Id:	672408		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.4	76.3	23.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	100		
#10	2.00	97		
#20	0.85	89		
#40	0.42	80		
#60	0.25	70		
#100	0.15	53		
#140	0.11	37		
#200	0.075	23		

Coefficients

D_{85} = 0.6121 mm D_{30} = 0.0886 mm

D_{60} = 0.1848 mm D_{15} = N/A

D_{50} = 0.1395 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

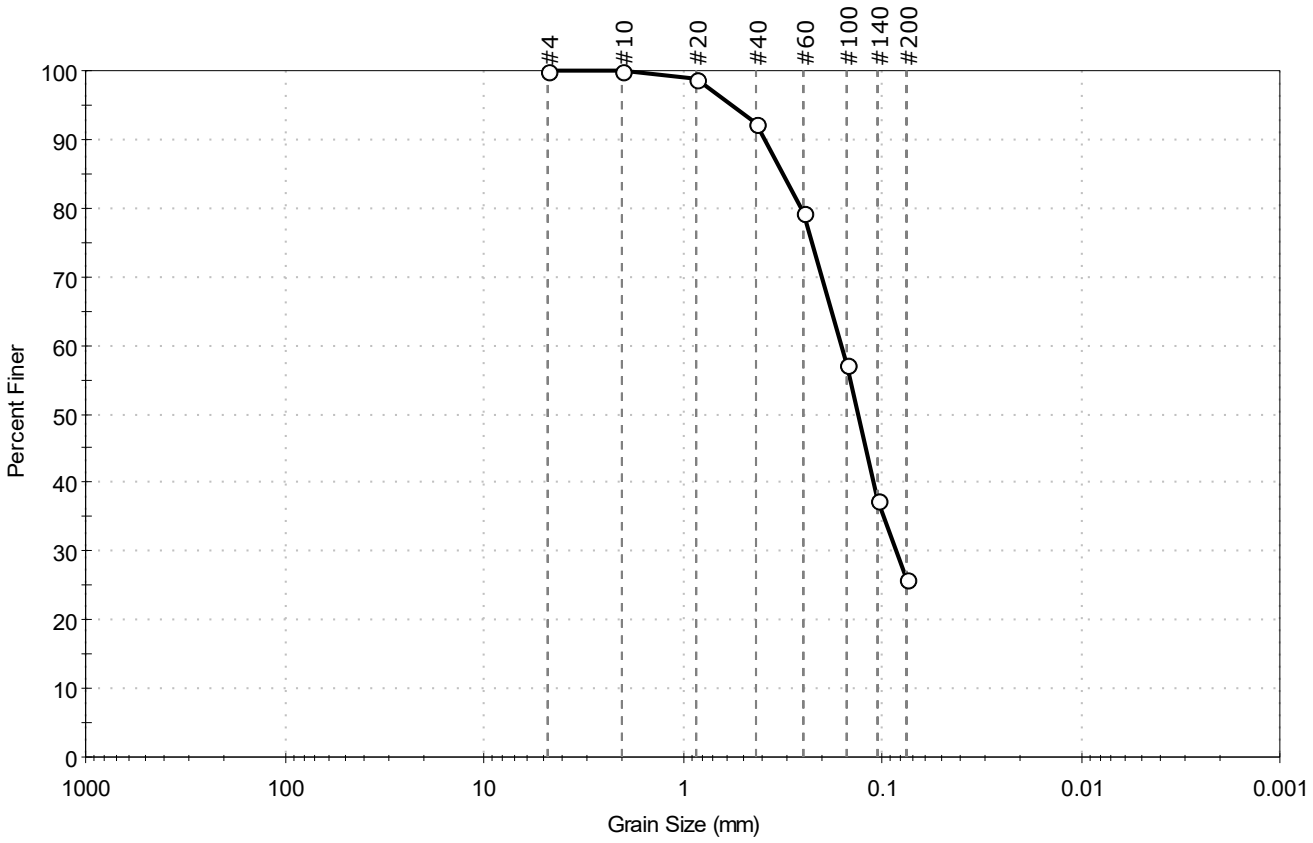
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 6/20/2022 10:26:36 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-22	Test Date:	10/26/22	Checked By:	bfs
Depth :	42-44	Test Id:	690134		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	74.0	26.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	92		
#60	0.25	79		
#100	0.15	57		
#140	0.11	37		
#200	0.075	26		

Coefficients

D_{85} = 0.3138 mm	D_{30} = 0.0846 mm
D_{60} = 0.1601 mm	D_{15} = N/A
D_{50} = 0.1323 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

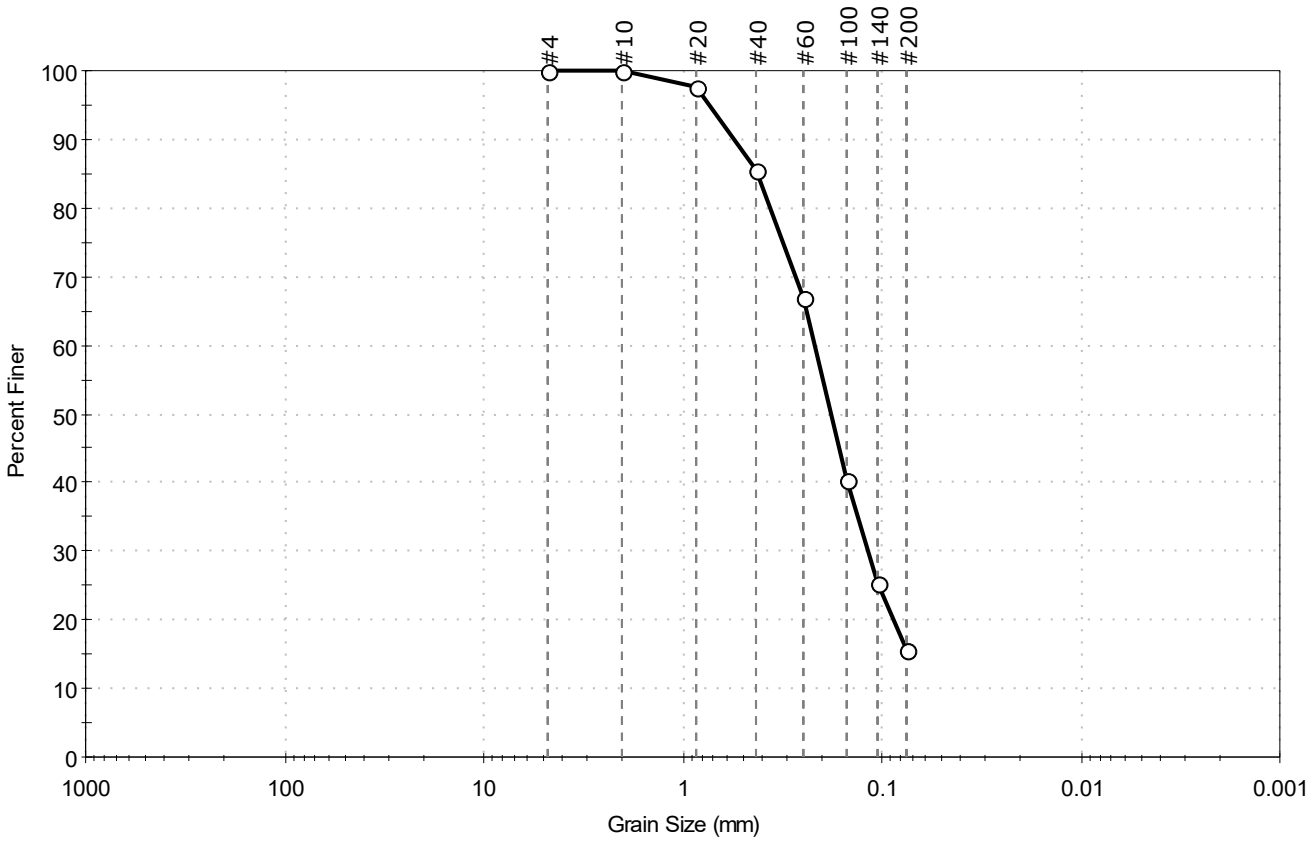
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24	Test Date:	06/14/22	Checked By:	bfs
Depth :	50-52'	Test Id:	672409		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	84.2	15.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	98		
#40	0.42	86		
#60	0.25	67		
#100	0.15	41		
#140	0.11	25		
#200	0.075	16		

Coefficients

D_{85} = 0.4177 mm	D_{30} = 0.1176 mm
D_{60} = 0.2188 mm	D_{15} = N/A
D_{50} = 0.1803 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

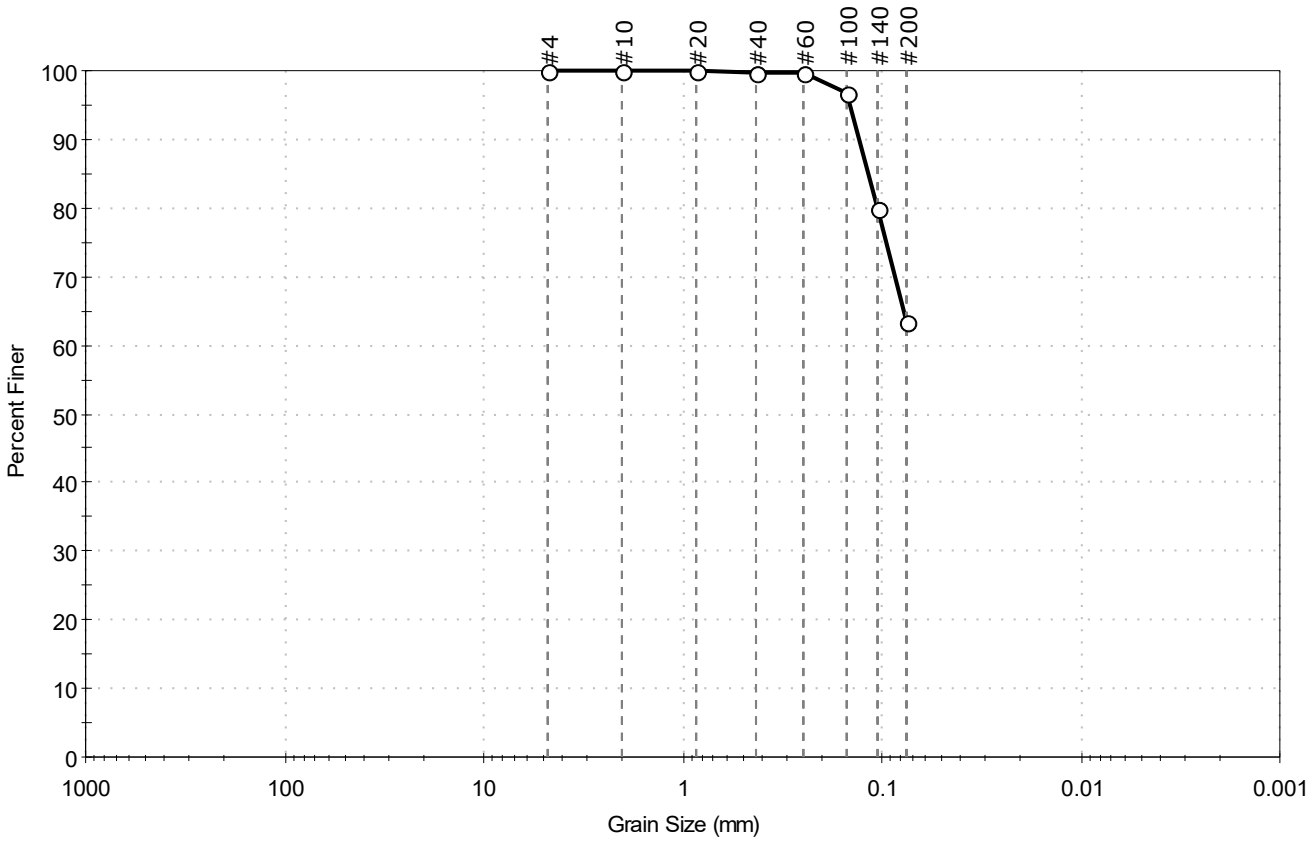
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-4, S-5	Test Date:	10/25/22	Checked By:	ank
Depth :	6-8, 8-10	Test Id:	690094		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	36.4	63.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	97		
#140	0.11	80		
#200	0.075	64		

Coefficients

D_{85} = 0.1177 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

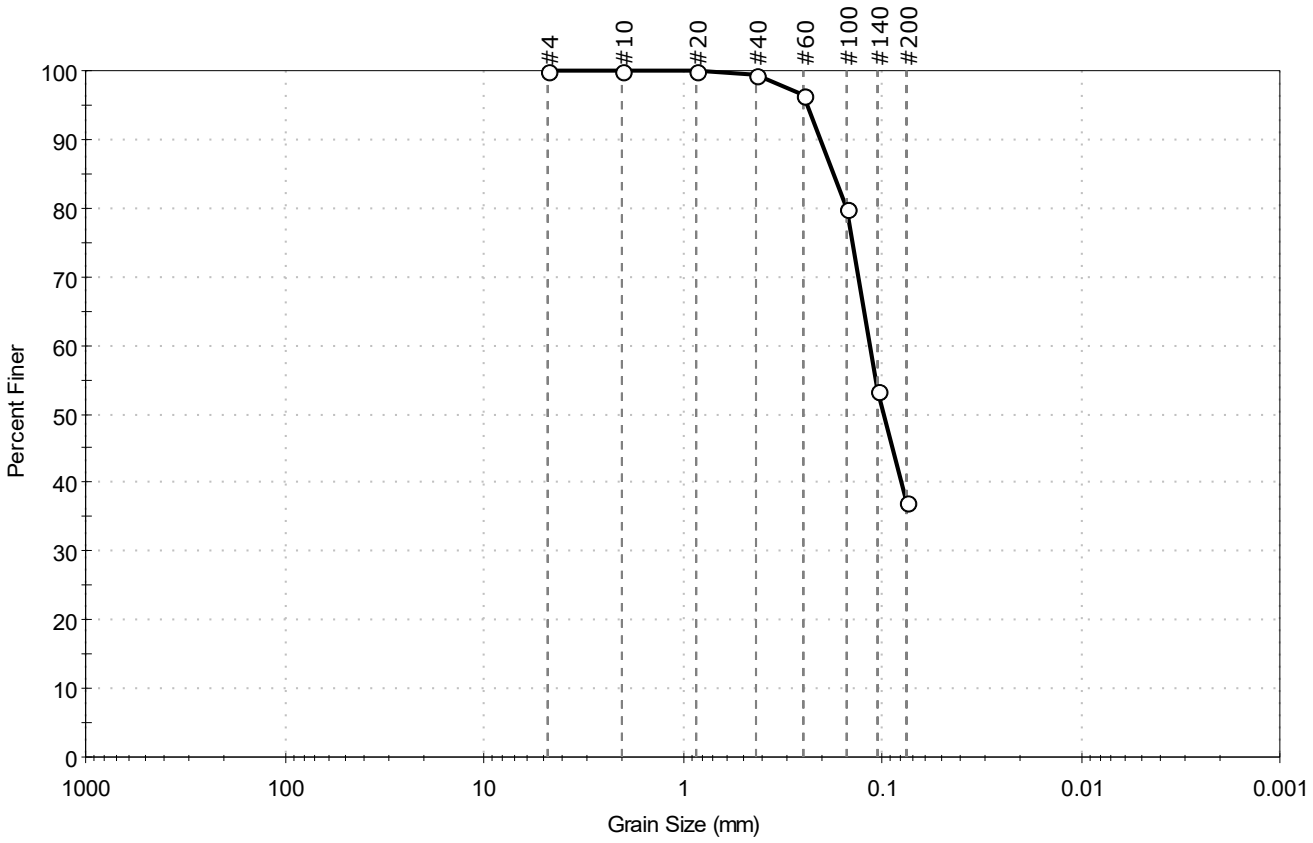
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-11, S-12	Test Date:	10/25/22	Checked By:	bfs
Depth :	20-22, 22-24	Test Id:	690095		
Test Comment:	---				
Visual Description:	Moist, light brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	63.0	37.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	96		
#100	0.15	80		
#140	0.11	53		
#200	0.075	37		

Coefficients

D_{85} = 0.1757 mm	D_{30} = N/A
D_{60} = 0.1156 mm	D_{15} = N/A
D_{50} = 0.0987 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

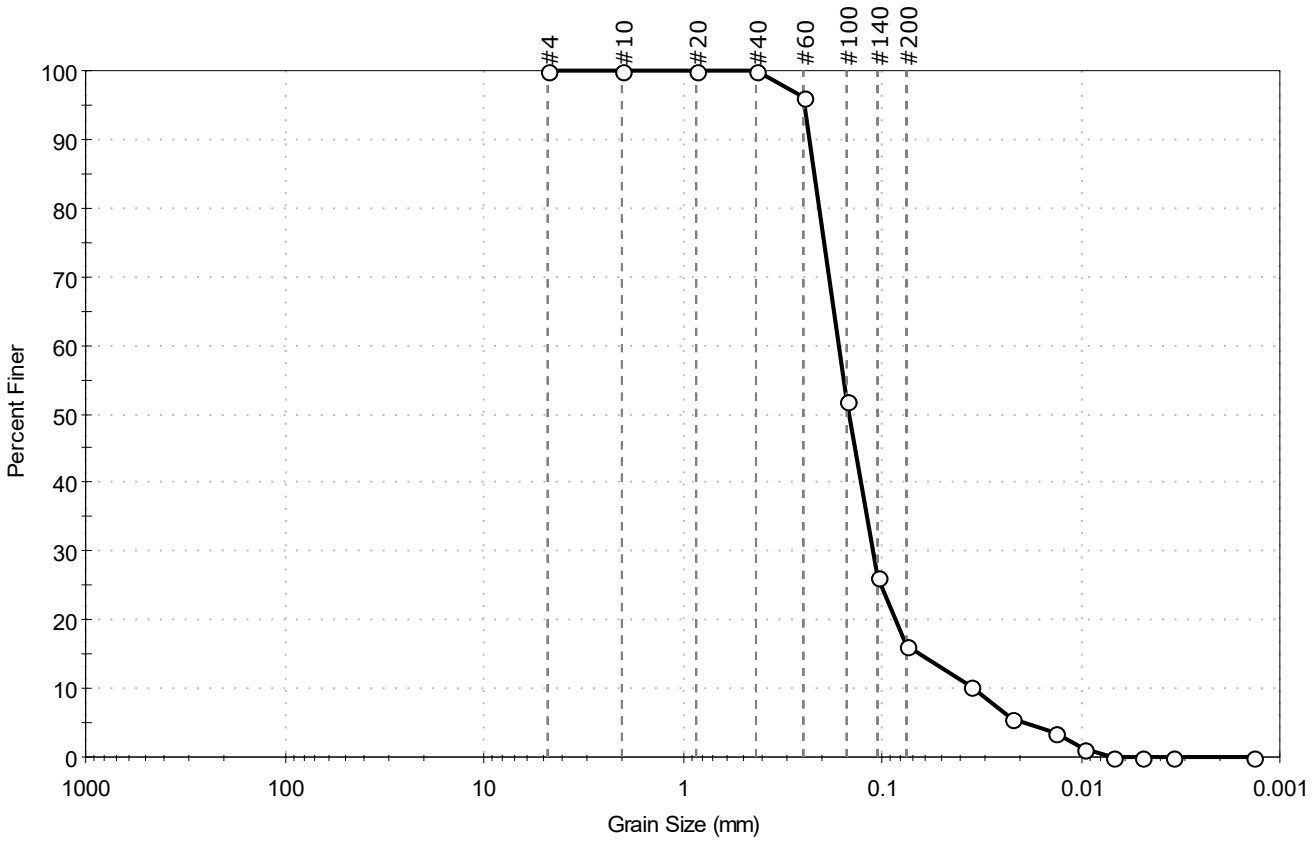
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-17	Test Date:	10/27/22	Checked By:	ank
Depth :	35-37	Test Id:	690136		
Test Comment:	---				
Visual Description:	Moist, yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	83.9	16.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	96		
#100	0.15	52		
#140	0.11	26		
#200	0.075	16		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0362	10		
---	0.0221	6		
---	0.0135	3		
---	0.0096	1		
---	0.0070	0		
---	0.0049	0		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 0.2197 mm	D_{30} = 0.1114 mm
D_{60} = 0.1644 mm	D_{15} = 0.0651 mm
D_{50} = 0.1459 mm	D_{10} = 0.0351 mm
C_u = 4.684	C_c = 2.151

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

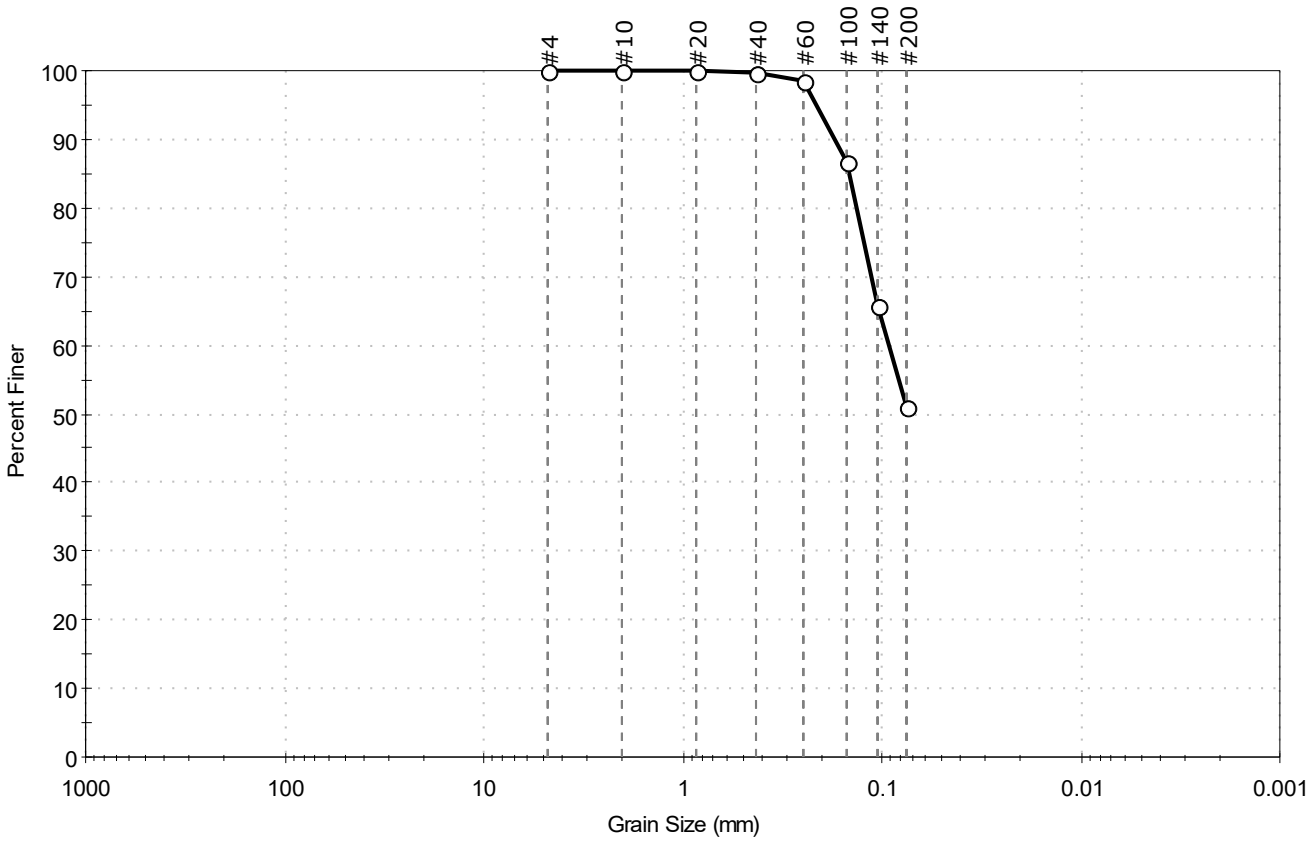
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	10/25/22	Checked By:	bfs
Depth :	50-52	Test Id:	690096		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	48.8	51.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	87		
#140	0.11	66		
#200	0.075	51		

Coefficients

D_{85} = 0.1458 mm	D_{30} = N/A
D_{60} = 0.0926 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

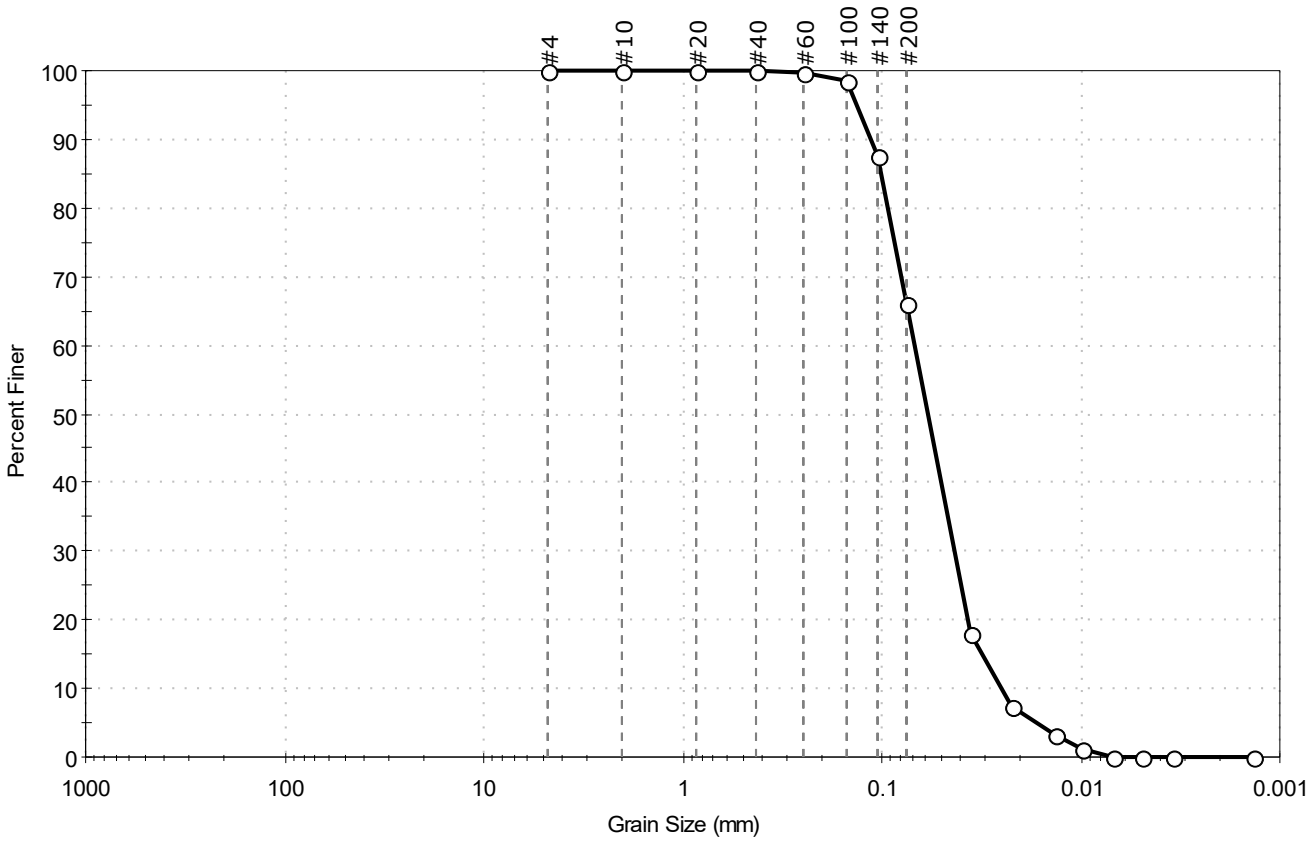
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24	Test Date:	10/27/22	Checked By:	ank
Depth :	70-72	Test Id:	690137		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	33.9	66.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	88		
#200	0.075	66		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0363	18		
---	0.0224	7		
---	0.0135	3		
---	0.0098	1		
---	0.0069	0		
---	0.0049	0		
---	0.0035	0		
---	0.0014	0		

Coefficients

D_{85} = 0.1015 mm	D_{30} = 0.0435 mm
D_{60} = 0.0684 mm	D_{15} = 0.0316 mm
D_{50} = 0.0588 mm	D_{10} = 0.0251 mm
C_u = 2.725	C_c = 1.102

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

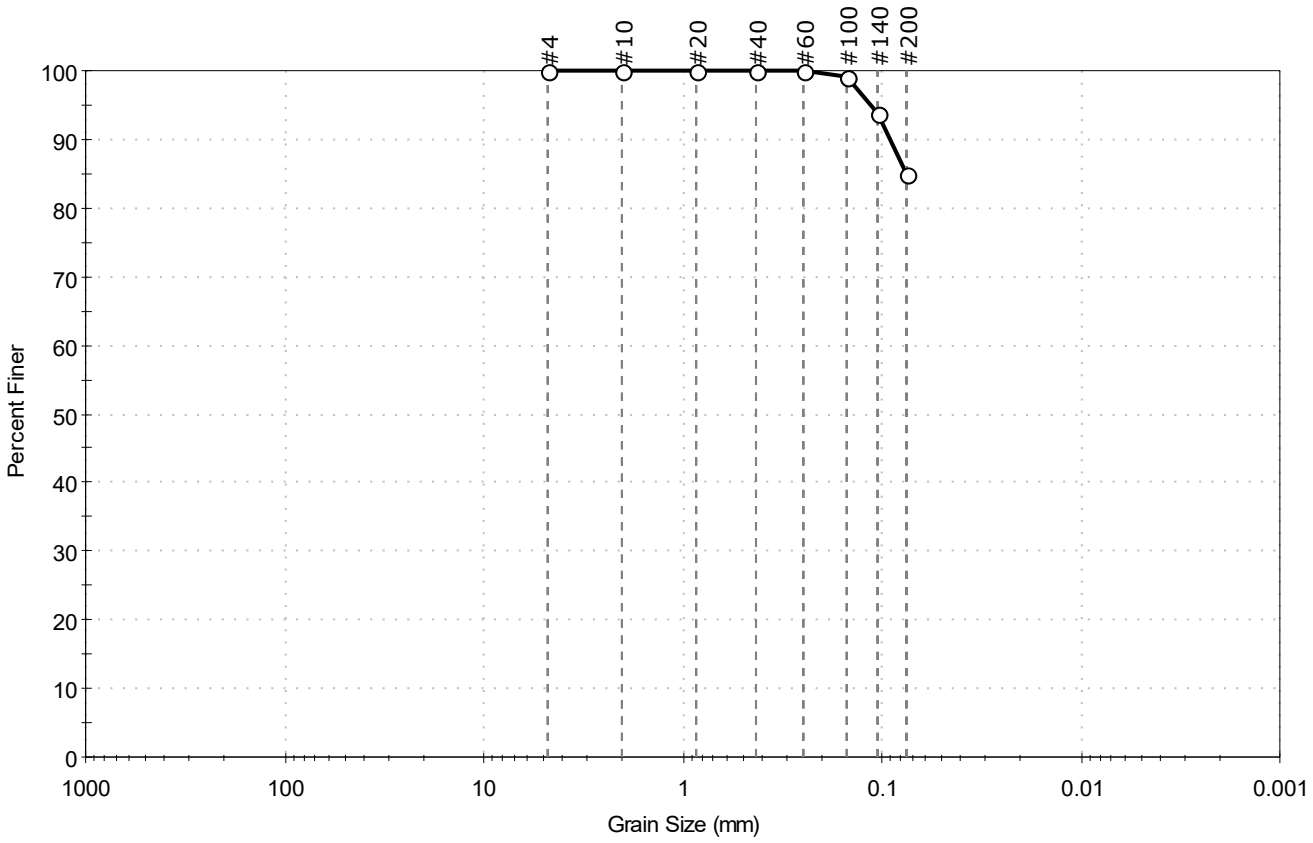
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27, S-28	Test Date:	10/25/22	Checked By:	ank
Depth :	76-78, 78-80	Test Id:	690097		
Test Comment:	---				
Visual Description:	Moist, light brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	15.0	85.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	94		
#200	0.075	85		

Coefficients

D_{85} = 0.0751 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

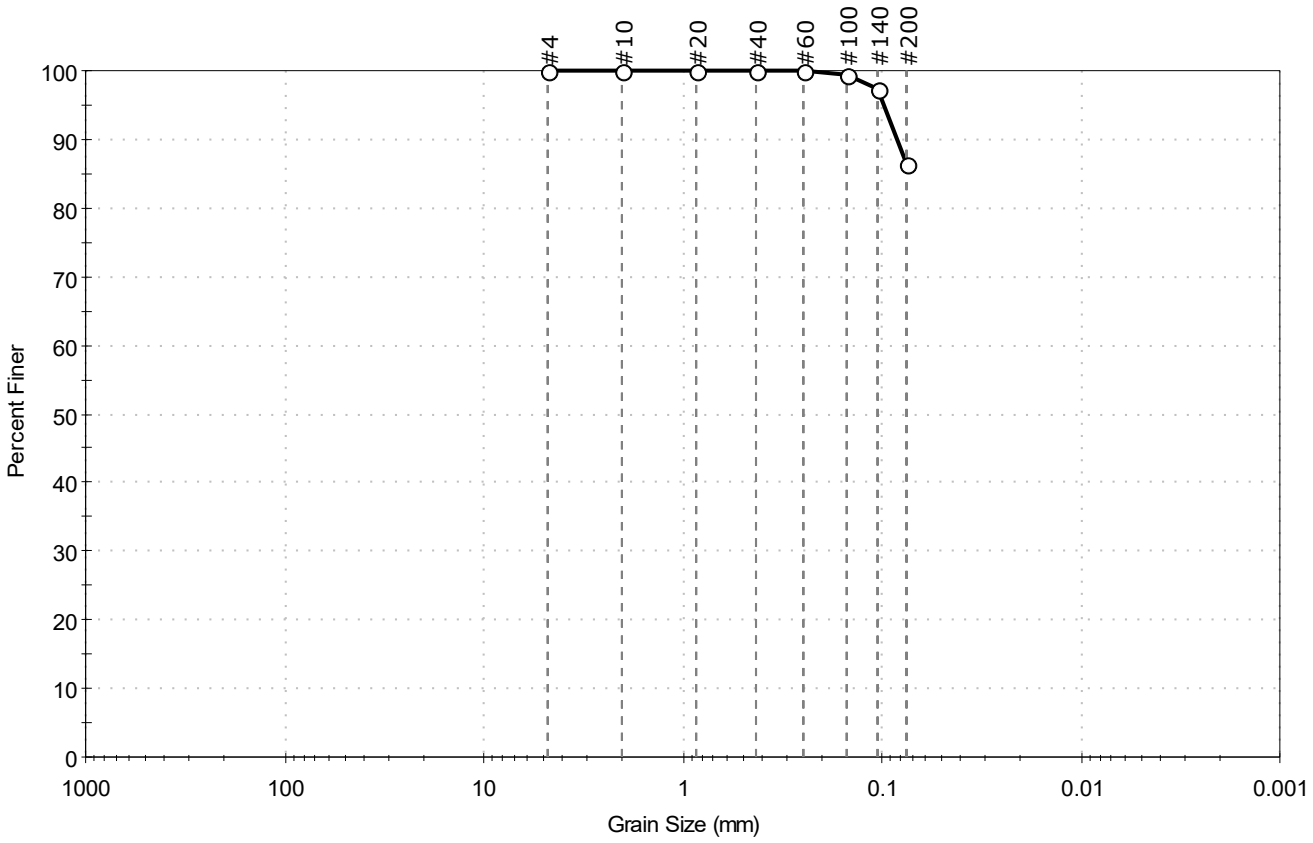
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-29	Test Date:	10/26/22	Checked By:	bfs
Depth :	80-82	Test Id:	690098		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	13.5	86.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	97		
#200	0.075	86		

Coefficients

D_{85} = N/A	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

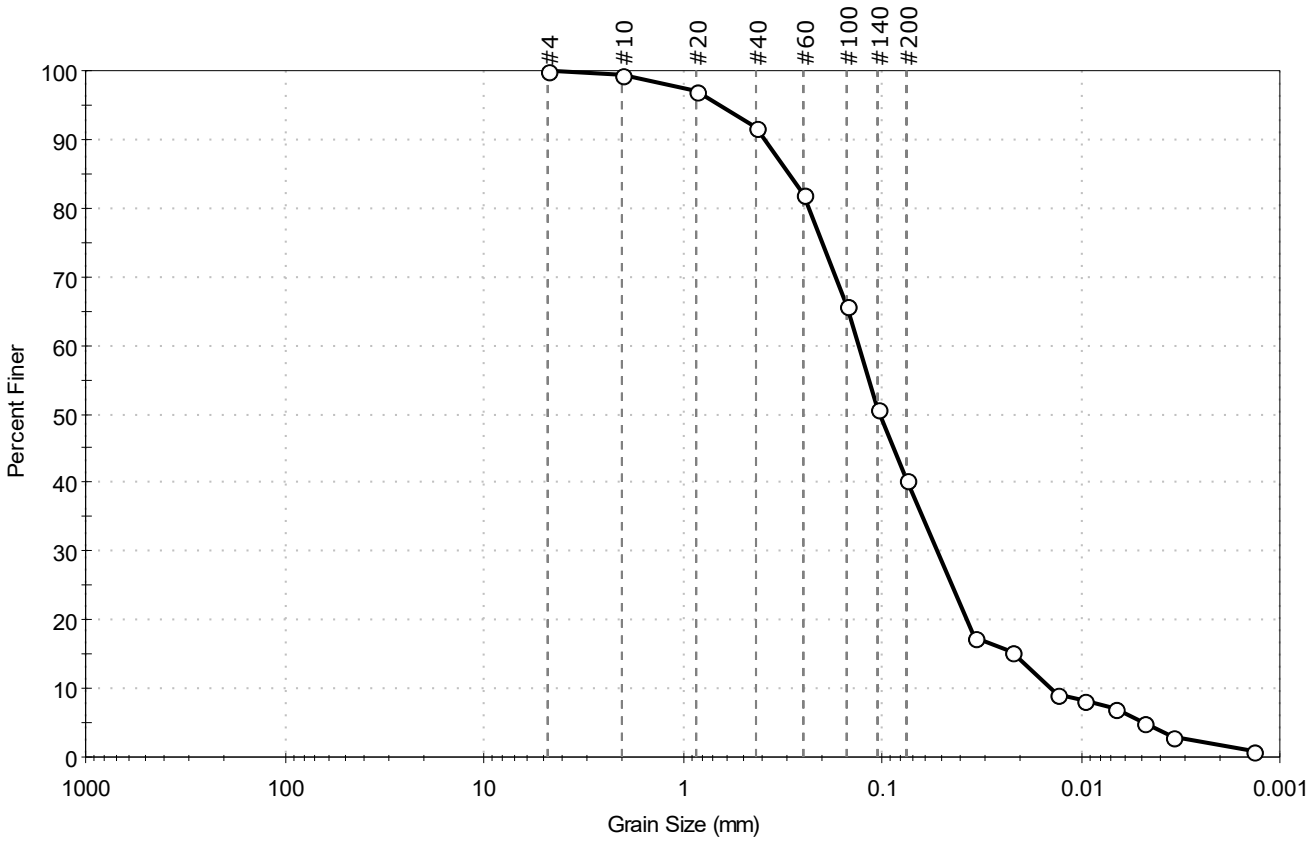
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-31	Test Date:	10/27/22	Checked By:	ank
Depth :	85-87	Test Id:	690138		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	59.5	40.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	97		
#40	0.42	92		
#60	0.25	82		
#100	0.15	66		
#140	0.11	51		
#200	0.075	41		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0341	17		
---	0.0222	15		
---	0.0131	9		
---	0.0096	8		
---	0.0067	7		
---	0.0049	5		
---	0.0035	3		
---	0.0014	1		

Coefficients

D_{85} =0.2933 mm	D_{30} =0.0525 mm
D_{60} =0.1313 mm	D_{15} =0.0217 mm
D_{50} =0.1032 mm	D_{10} =0.0141 mm
C_u =9.312	C_c =1.489

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

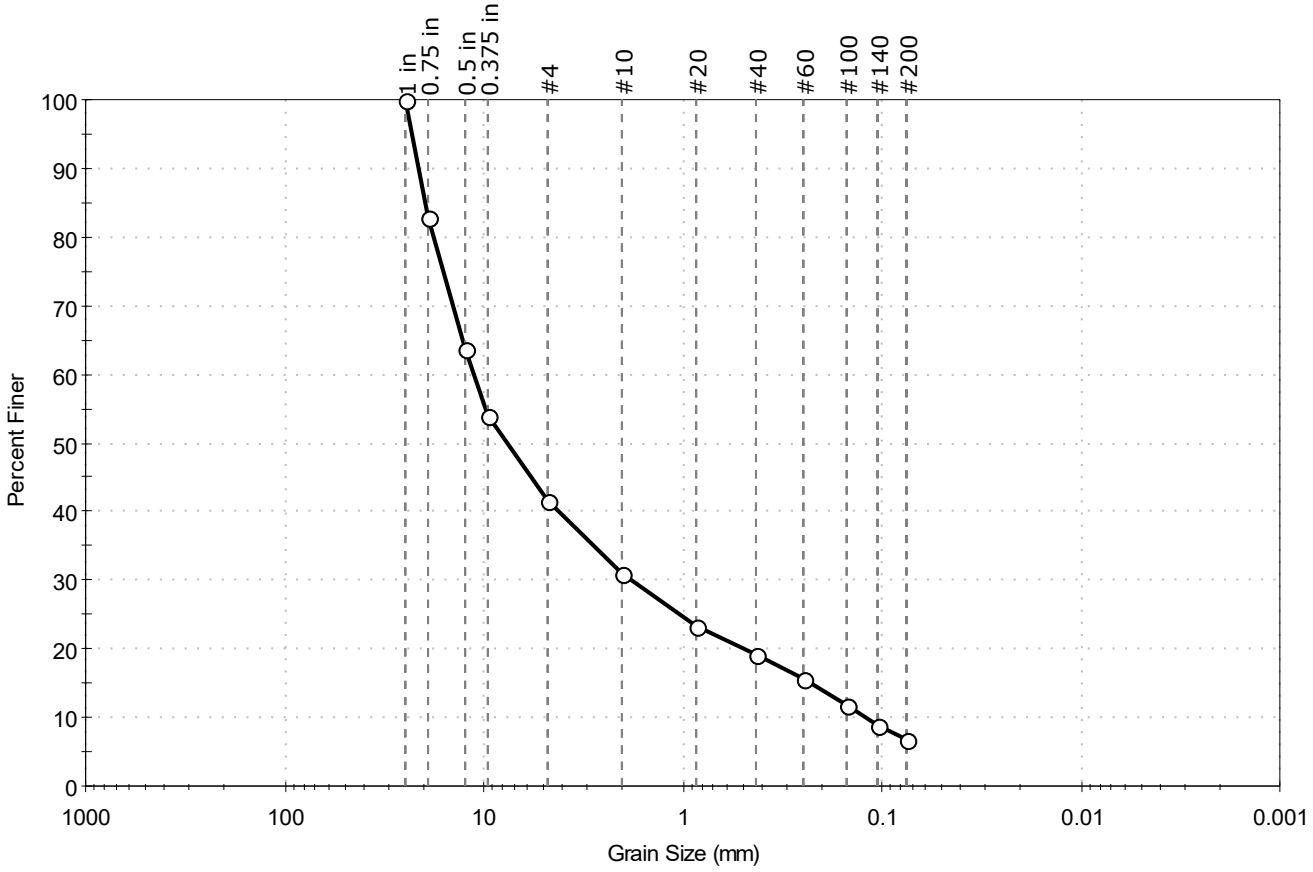
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-34	Test Date:	10/25/22	Checked By:	bfs
Depth :	100-102	Test Id:	690099		
Test Comment:	---				
Visual Description:	Moist, pale brown gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	58.5	34.8	6.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	83		
0.5 in	12.50	64		
0.375 in	9.50	54		
#4	4.75	42		
#10	2.00	31		
#20	0.85	23		
#40	0.42	19		
#60	0.25	16		
#100	0.15	12		
#140	0.11	9		
#200	0.075	6.7		

Coefficients

D_{85} = 19.6812 mm D_{30} = 1.7905 mm

D_{60} = 11.2899 mm D_{15} = 0.2286 mm

D_{50} = 7.6517 mm D_{10} = 0.1231 mm

C_u = 91.713 C_c = 2.307

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (1))

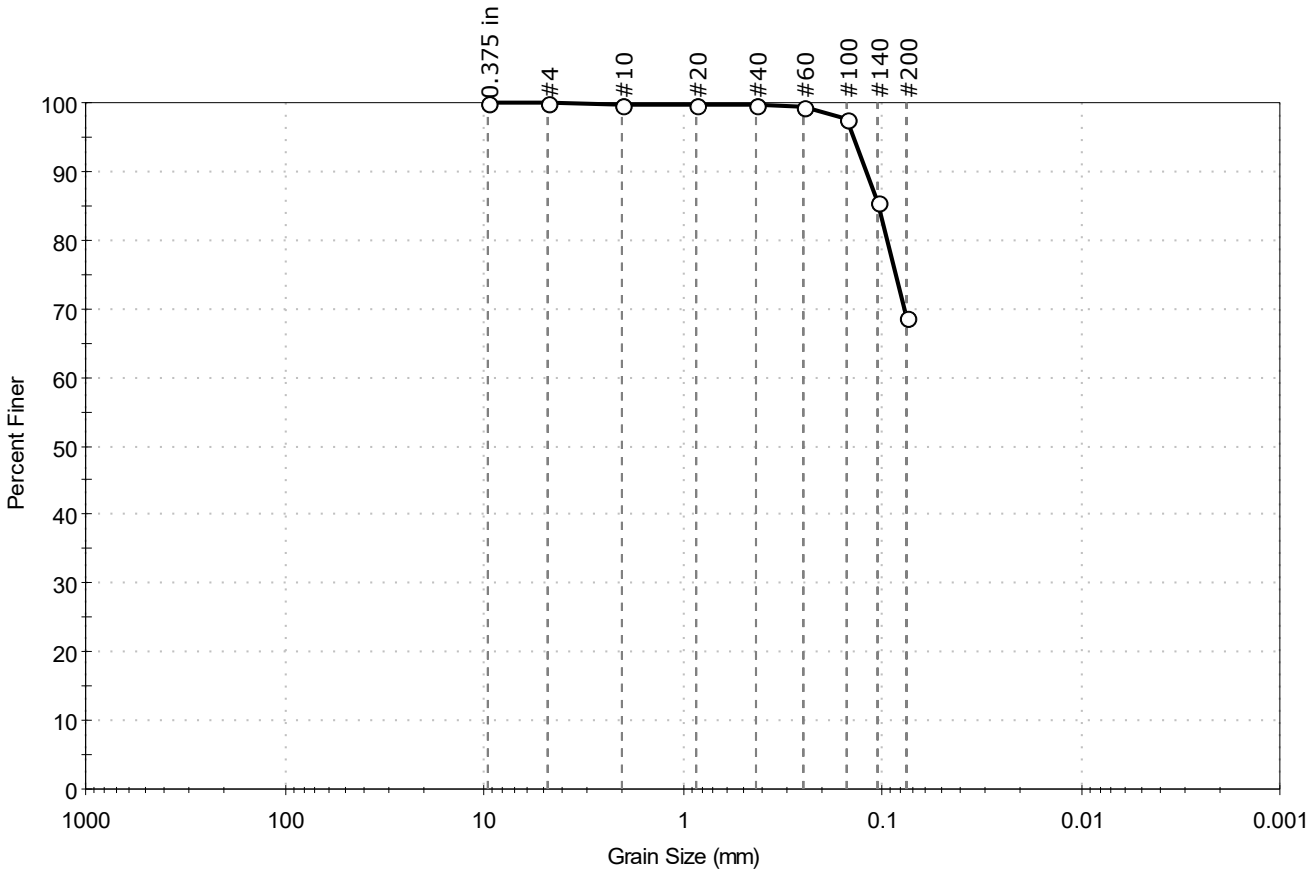
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-8, S-9	Test Date:	05/18/22	Checked By:	bfs
Depth :	14-16', 16-18'	Test Id:	668856		
Test Comment:	---				
Visual Description:	Moist, light brownish gray sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	31.2	68.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	97		
#140	0.11	85		
#200	0.075	69		

Coefficients

D_{85} = 0.1051 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

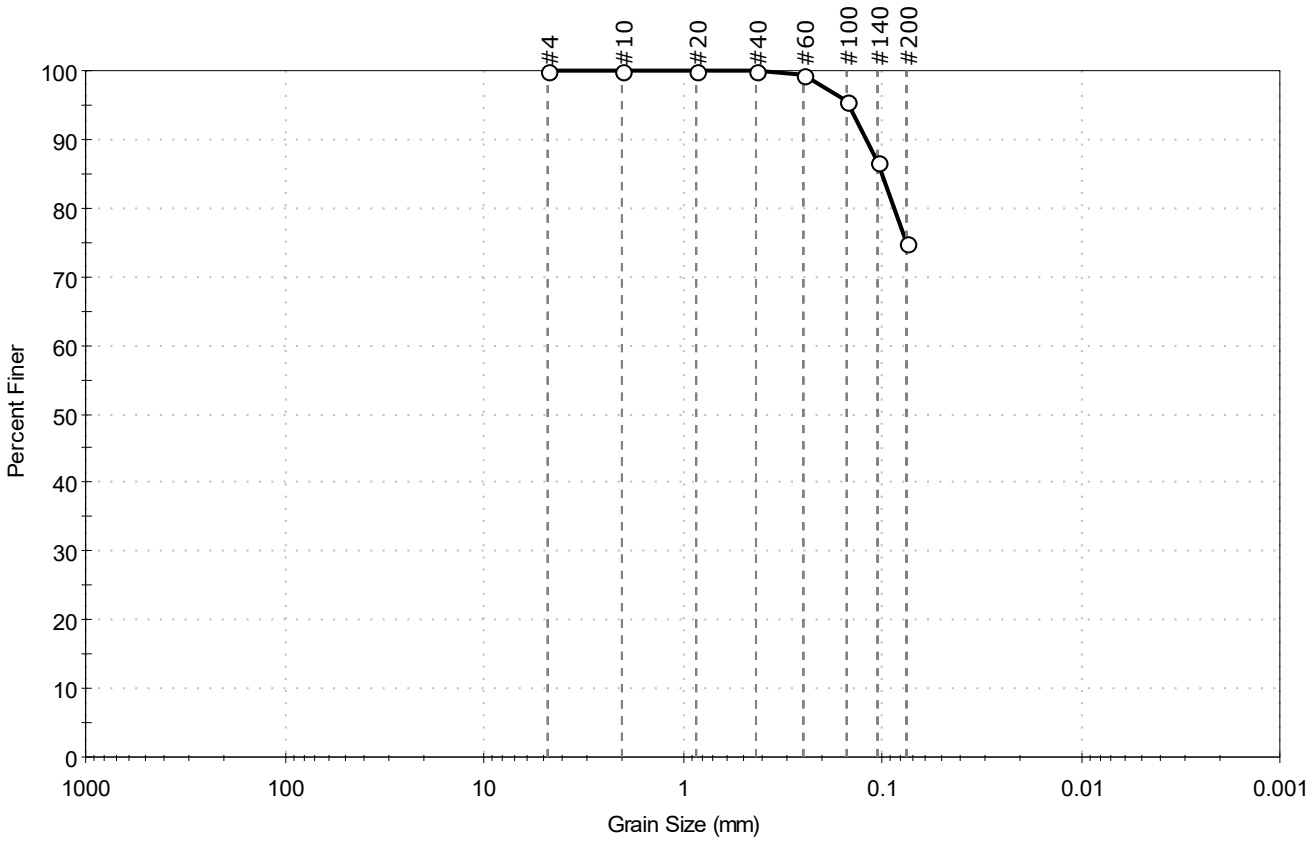
Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-12	Test Date:	05/19/22	Checked By:	bfs
Depth :	22-24'	Test Id:	668472		

Test Comment: ---
Visual Description: Moist, light yellowish brown silt with sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	25.0	75.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	96		
#140	0.11	87		
#200	0.075	75		

Coefficients

D_{85} = 0.1007 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

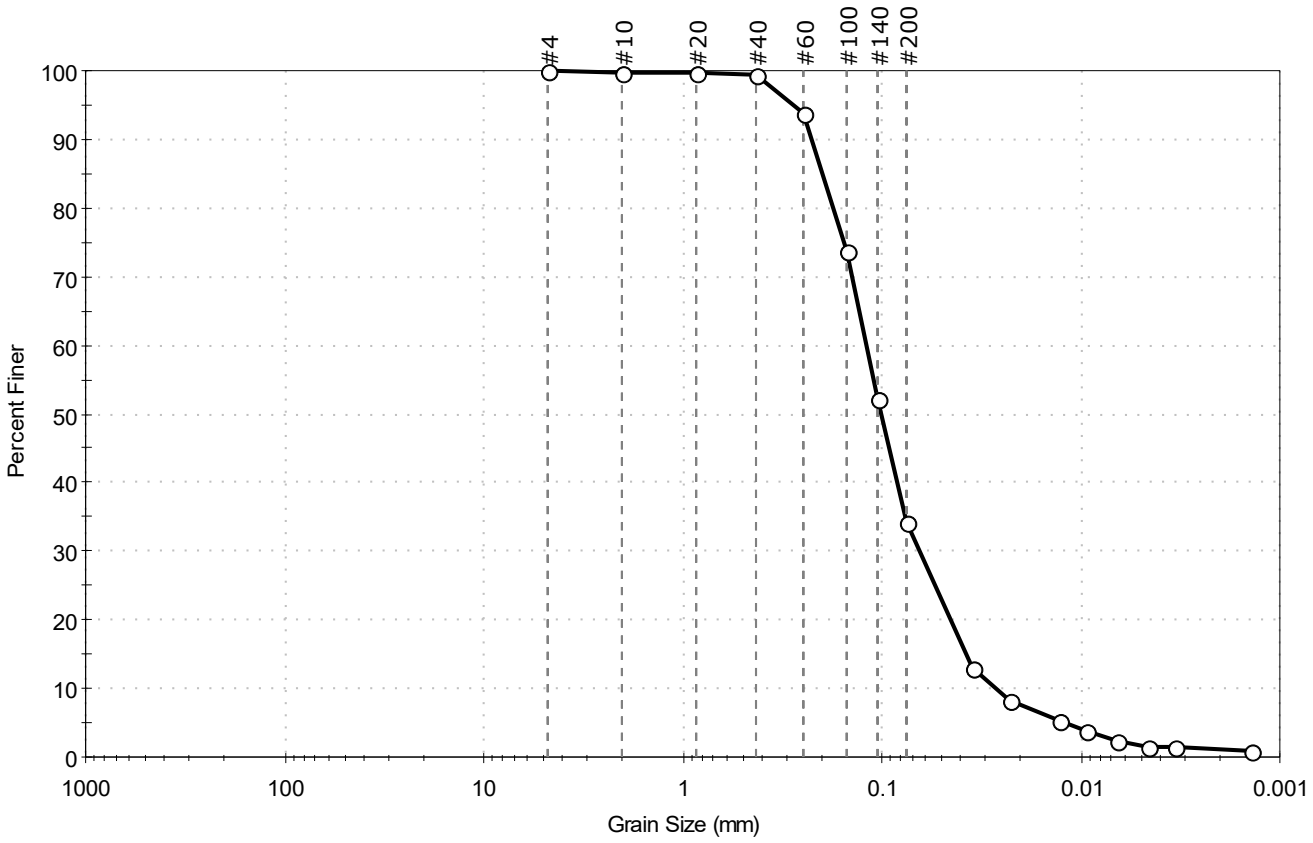
Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:23 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13	Test Date:	05/24/22	Checked By:	bfs
Depth :	24-26'	Test Id:	668448		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	65.8	34.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	94		
#100	0.15	74		
#140	0.11	52		
#200	0.075	34		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0347	13		
---	0.0225	8		
---	0.0130	5		
---	0.0093	4		
---	0.0067	2		
---	0.0046	2		
---	0.0033	2		
---	0.0014	1		

Coefficients

D_{85} =0.1995 mm	D_{30} =0.0646 mm
D_{60} =0.1203 mm	D_{15} =0.0375 mm
D_{50} =0.1018 mm	D_{10} =0.0264 mm
C_u =4.557	C_c =1.314

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

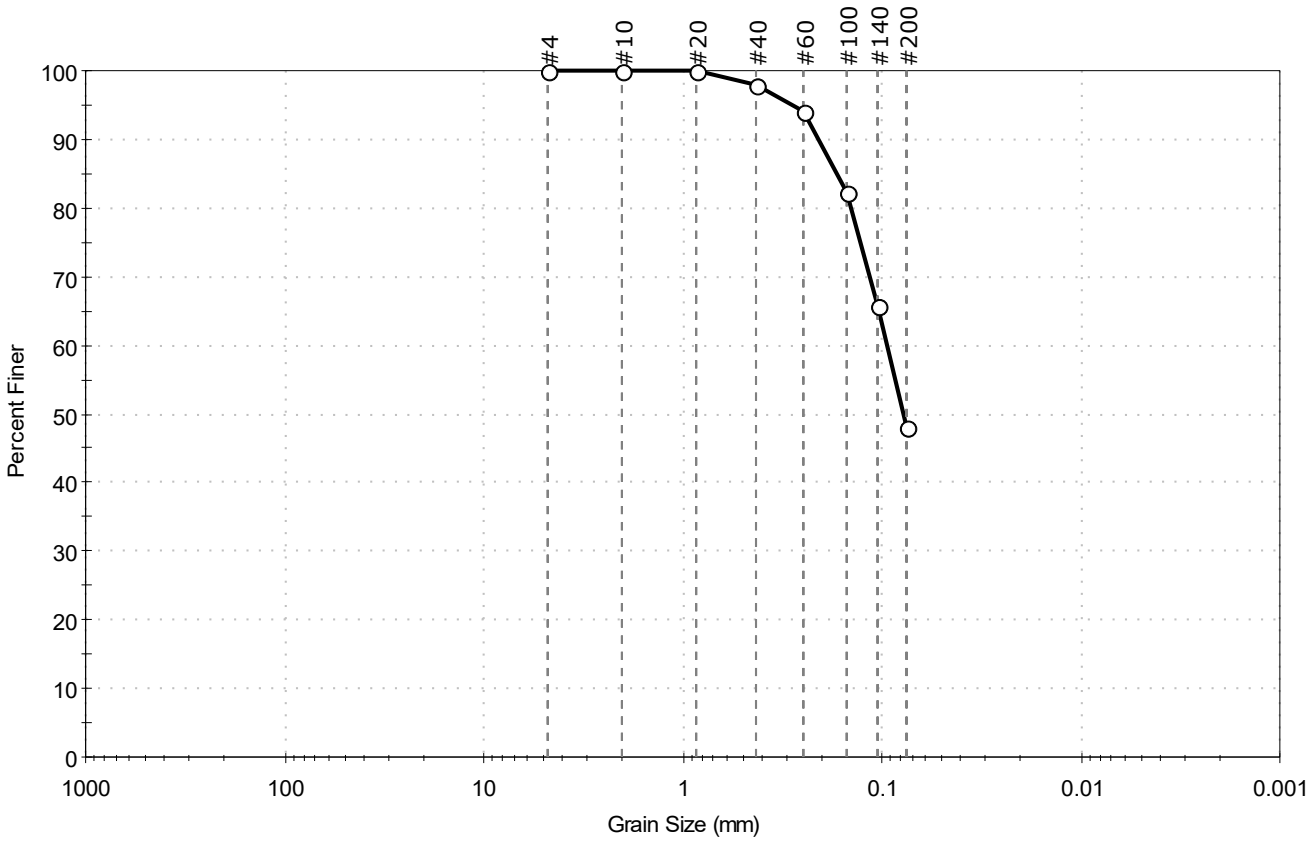
printed 5/24/2022 3:55:25 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-19	Test Date:	05/19/22	Checked By:	bfs
Depth :	45-47'	Test Id:	668473		

Test Comment: ---
Visual Description: Moist, light yellowish brown silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	52.0	48.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	94		
#100	0.15	82		
#140	0.11	66		
#200	0.075	48		

Coefficients

D_{85} = 0.1681 mm D_{30} = N/A
D_{60} = 0.0948 mm D_{15} = N/A
D_{50} = 0.0780 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

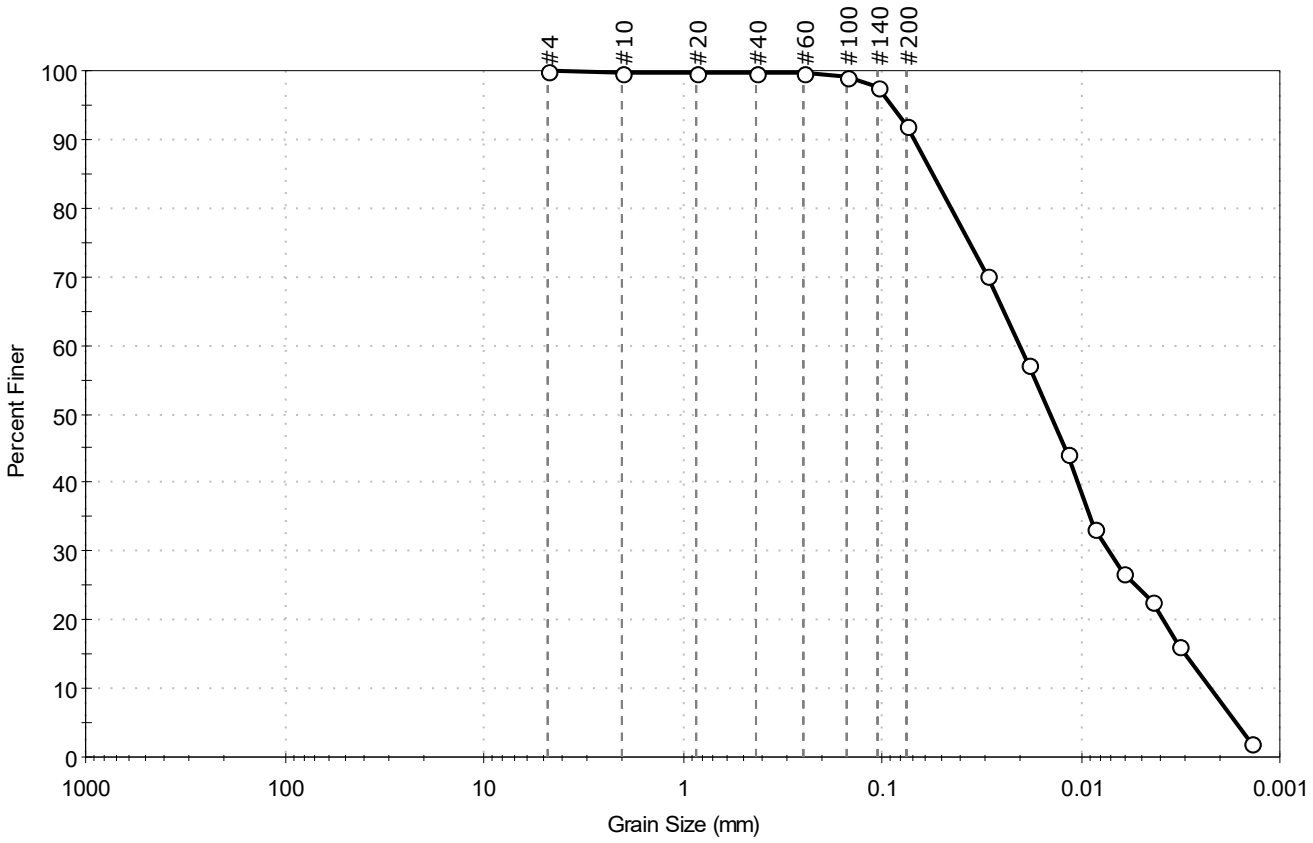
Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:26 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	05/24/22	Checked By:	bfs
Depth :	50-52'	Test Id:	668449		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	7.8	92.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	98		
#200	0.075	92		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0298	70		
---	0.0184	57		
---	0.0117	44		
---	0.0086	33		
---	0.0062	27		
---	0.0044	23		
---	0.0032	16		
---	0.0014	2		

Coefficients

D_{85} = 0.0556 mm	D_{30} = 0.0072 mm
D_{60} = 0.0204 mm	D_{15} = 0.0030 mm
D_{50} = 0.0143 mm	D_{10} = 0.0022 mm
C_u = 9.273	C_c = 1.155

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

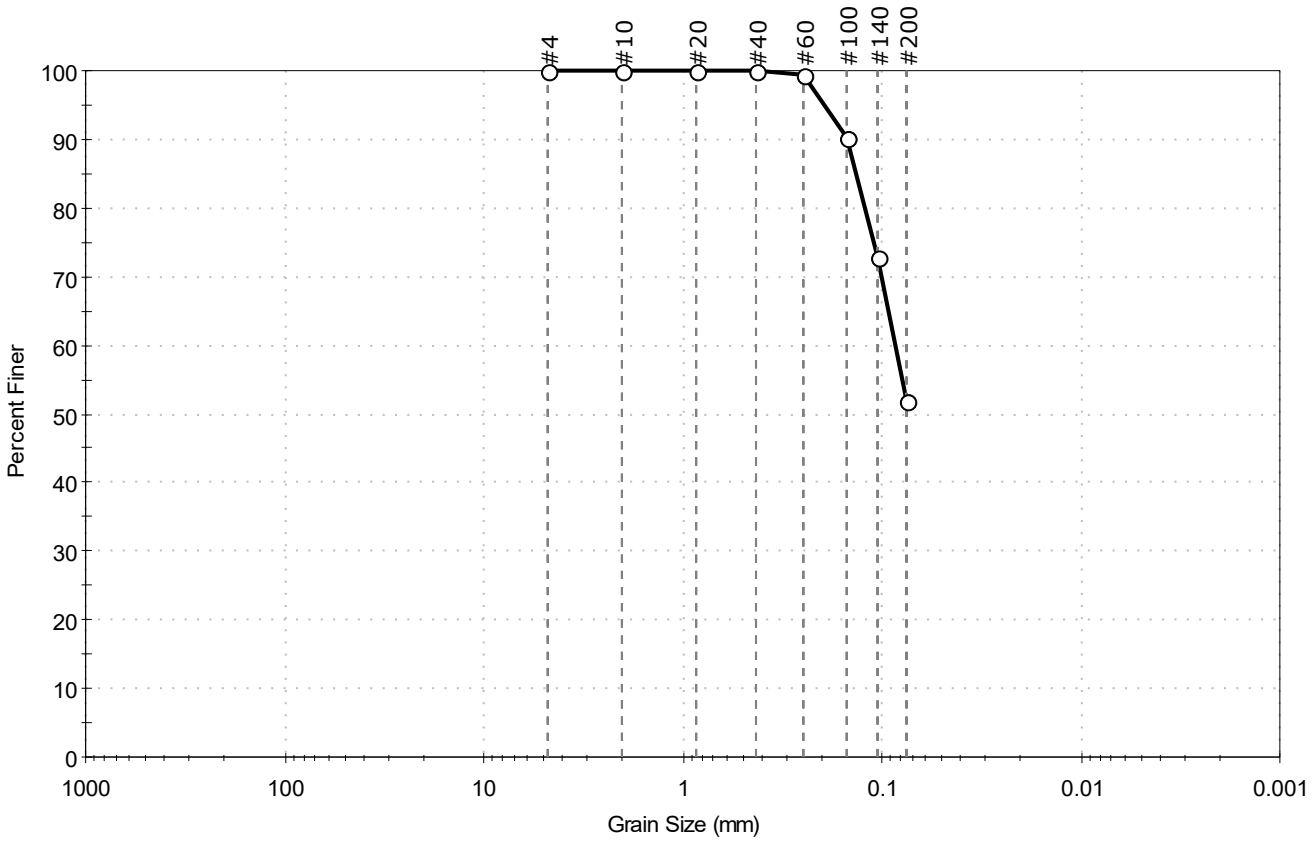
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23, S-24	Test Date:	05/19/22	Checked By:	bfs
Depth :	56-58', 58-60'	Test Id:	668474		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	48.1	51.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	90		
#140	0.11	73		
#200	0.075	52		

Coefficients

D_{85} = 0.1349 mm	D_{30} = N/A
D_{60} = 0.0857 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

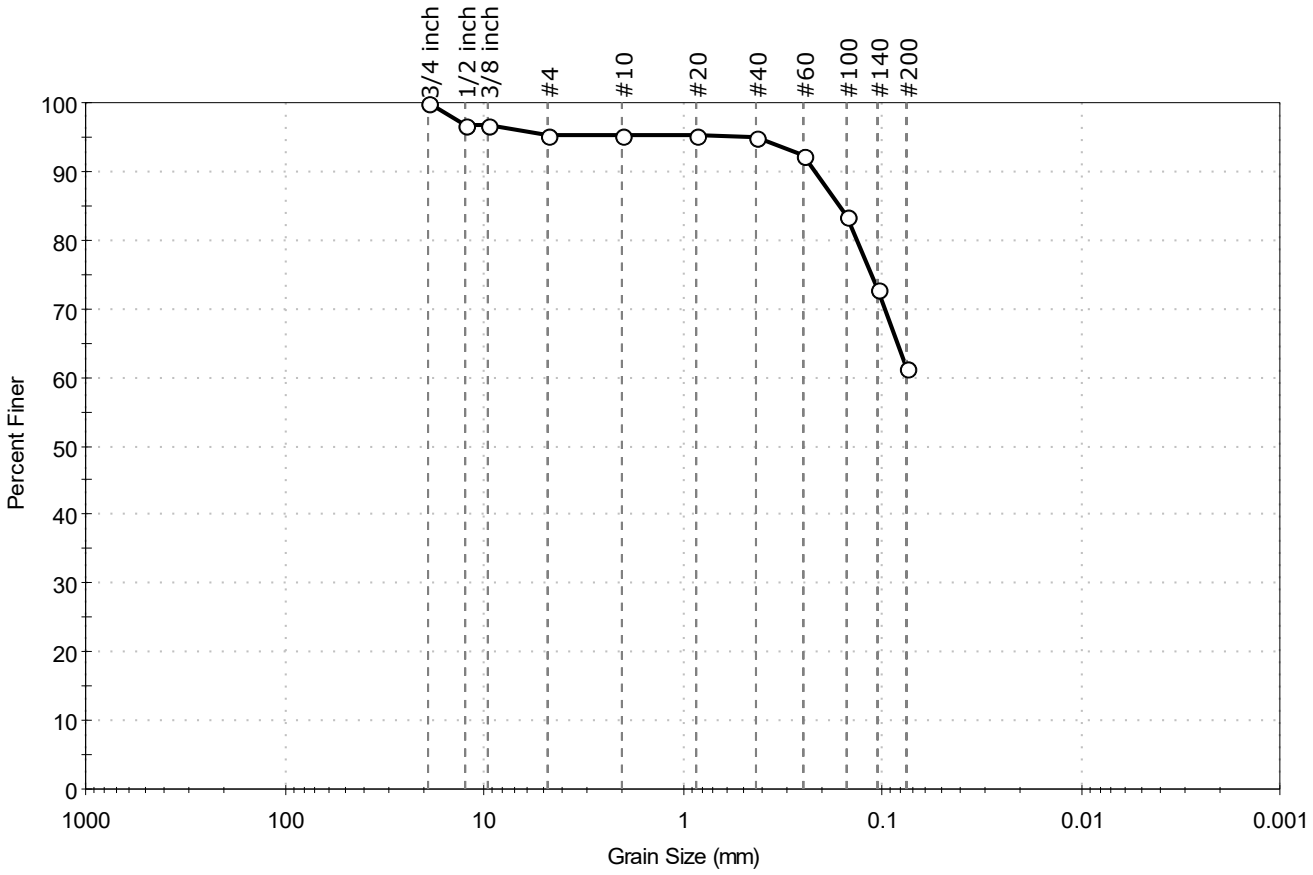
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:29 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26, S-27	Test Date:	05/19/22	Checked By:	bfs
Depth :	62-64', 64-66'	Test Id:	668475		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.6	34.0	61.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	97		
3/8 inch	9.50	97		
#4	4.75	95		
#10	2.00	95		
#20	0.85	95		
#40	0.42	95		
#60	0.25	92		
#100	0.15	84		
#140	0.11	73		
#200	0.075	61		

Coefficients

D_{85} = 0.1634 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

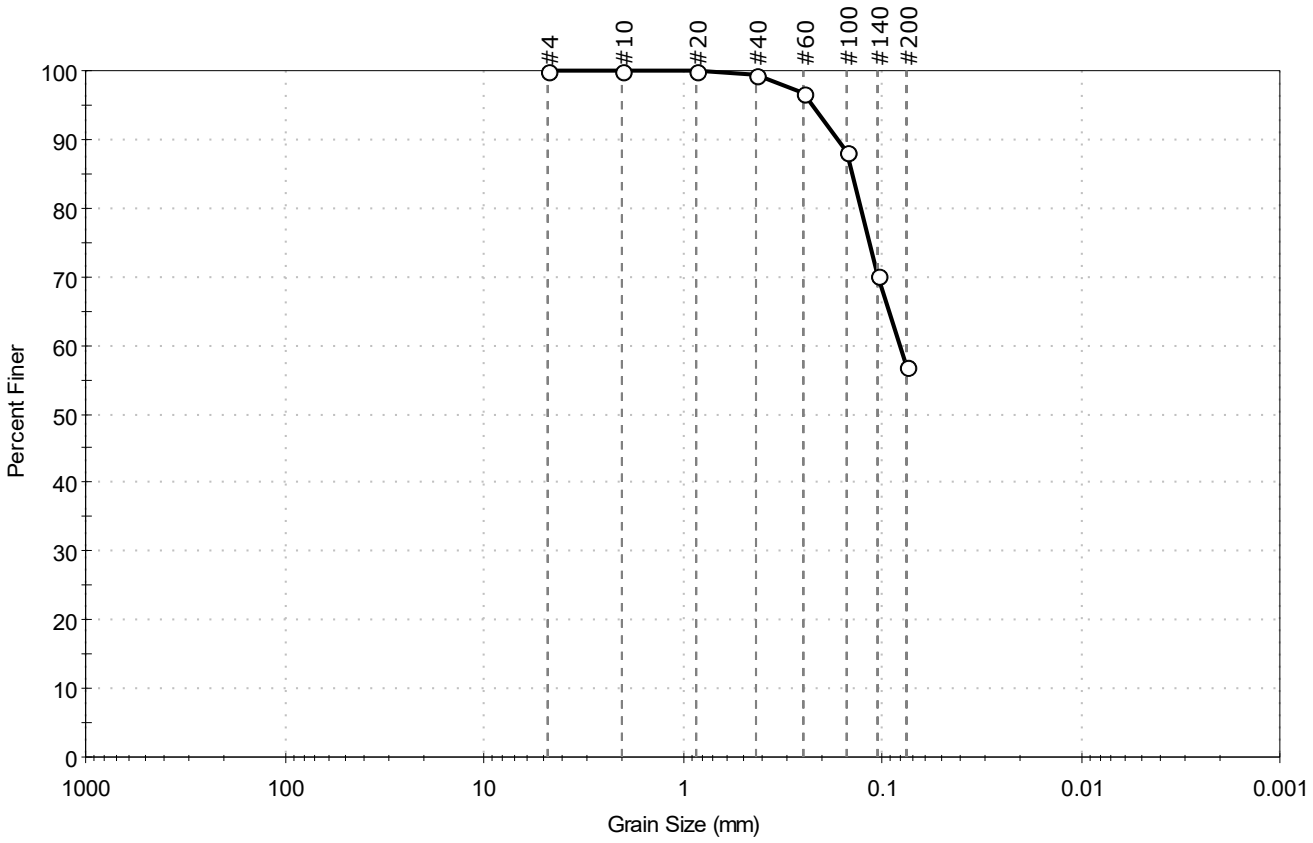
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-28	Test Date:	10/26/22	Checked By:	bfs
Depth :	66-68	Test Id:	690128		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	42.9	57.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	97		
#100	0.15	88		
#140	0.11	70		
#200	0.075	57		

Coefficients

D_{85} = 0.1408 mm	D_{30} = N/A
D_{60} = 0.0811 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

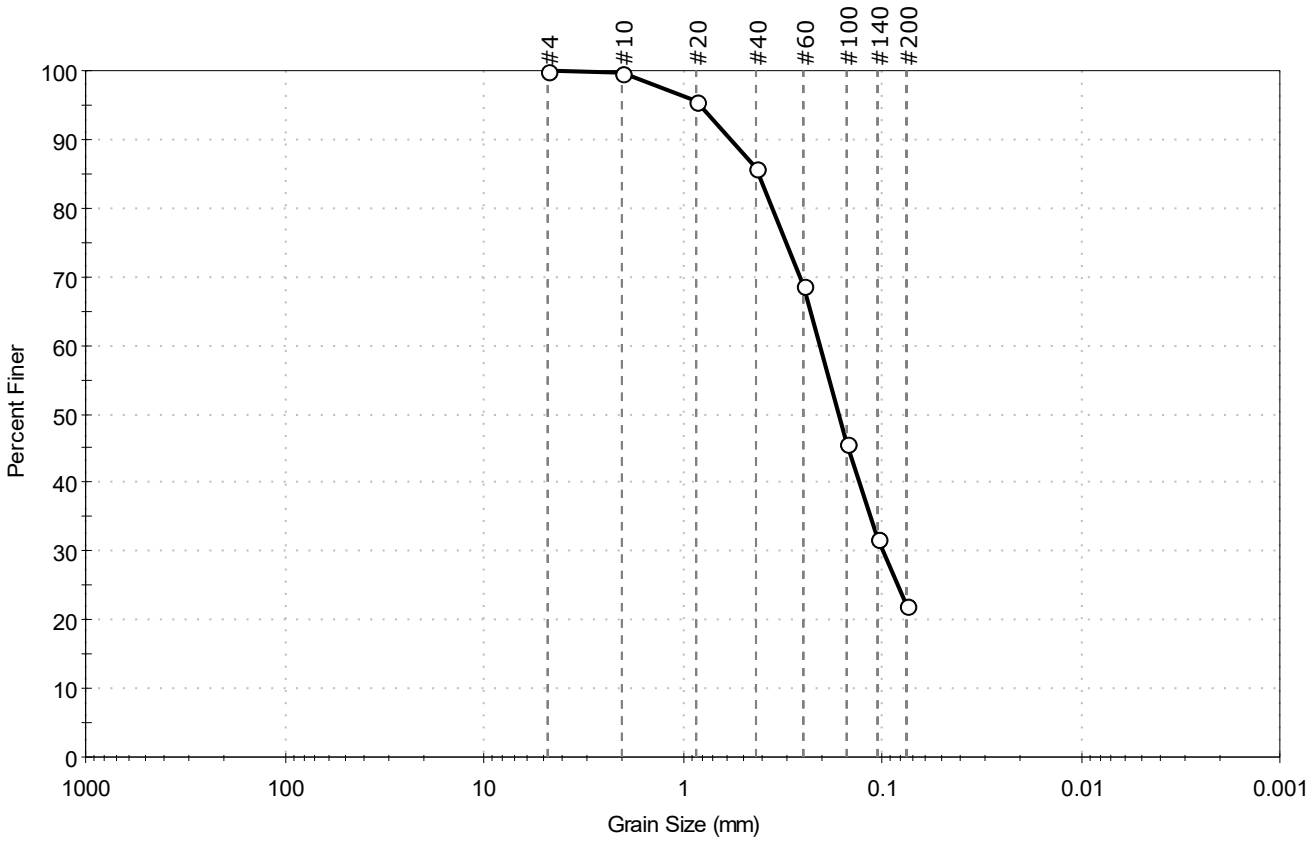
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-29	Test Date:	05/19/22	Checked By:	bfs
Depth :	68-70'	Test Id:	668476		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	77.8	22.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	86		
#60	0.25	69		
#100	0.15	46		
#140	0.11	32		
#200	0.075	22		

Coefficients

D_{85} = 0.4139 mm
D_{30} = 0.0992 mm
D_{60} = 0.2060 mm
D_{15} = N/A
D_{50} = 0.1652 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

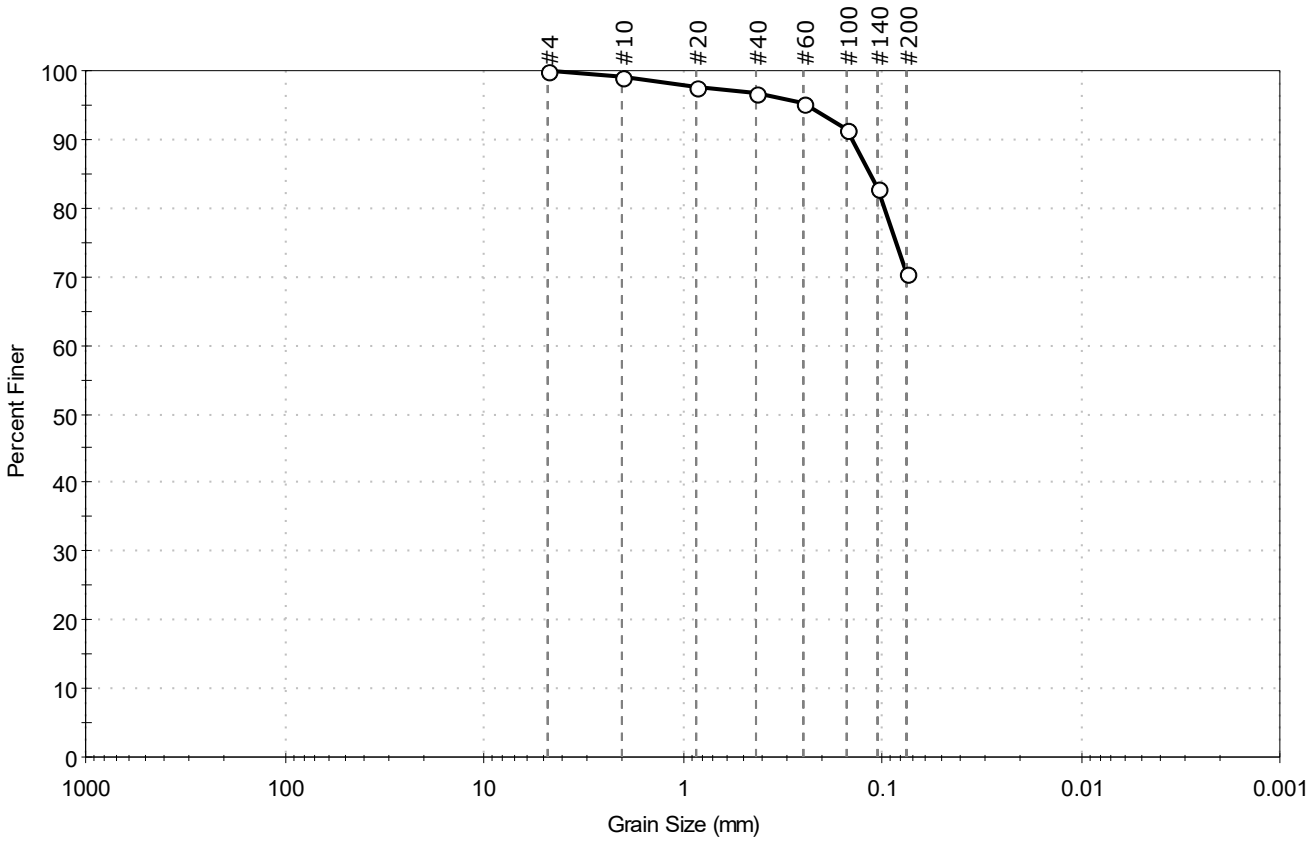
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-31	Test Date:	05/18/22	Checked By:	bfs
Depth :	80-82'	Test Id:	668477		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	29.4	70.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	97		
#60	0.25	95		
#100	0.15	91		
#140	0.11	83		
#200	0.075	71		

Coefficients

D_{85} = 0.1153 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

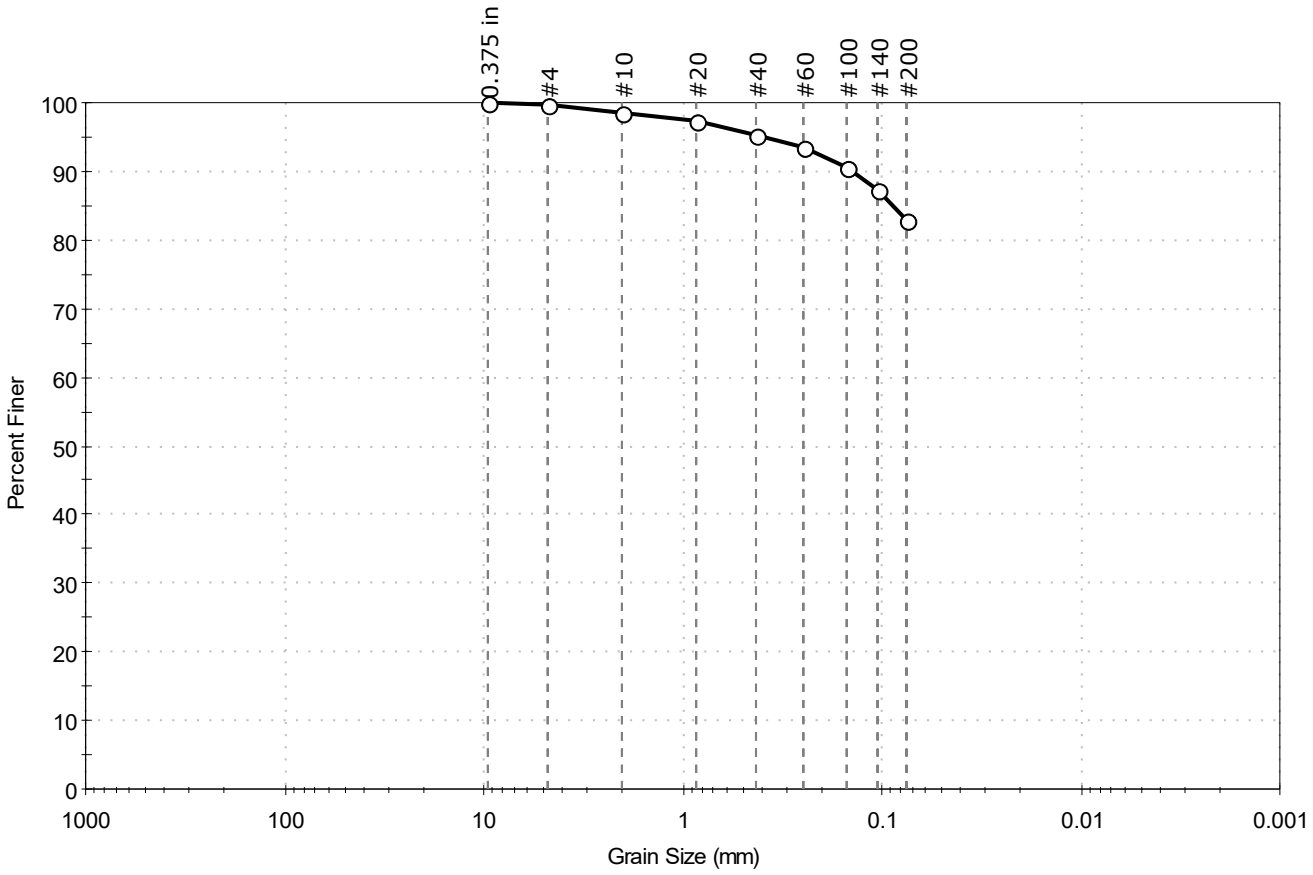
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:32 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2	Test Date:	05/18/22	Checked By:	bfs
Depth :	2-4'	Test Id:	668465		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.4	16.8	82.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	97		
#40	0.42	95		
#60	0.25	93		
#100	0.15	91		
#140	0.11	87		
#200	0.075	83		

Coefficients

D_{85} = 0.0889 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

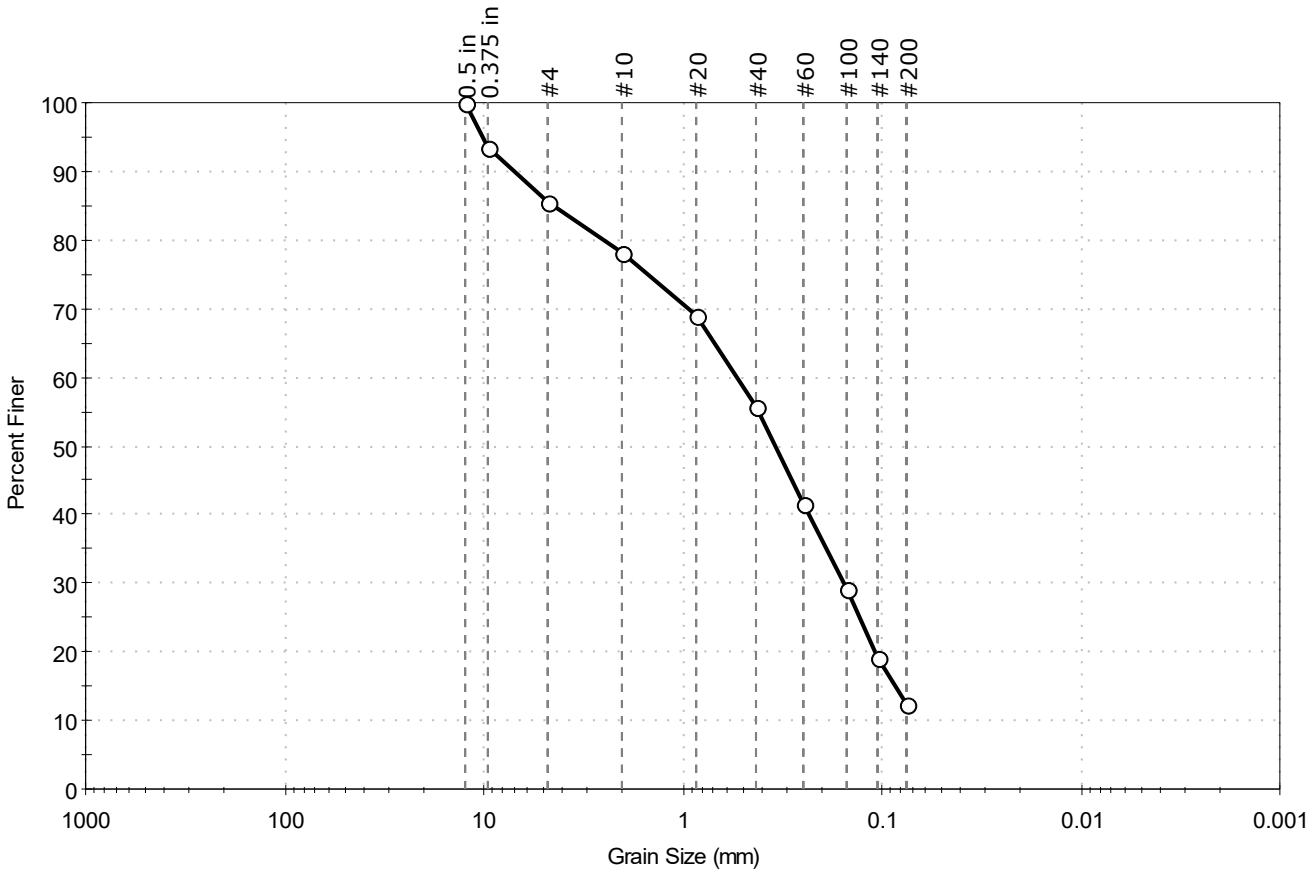
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:33 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-8, S-9	Test Date:	05/18/22	Checked By:	bfs
Depth :	14-16', 16-18'	Test Id:	668466		
Test Comment:	---				
Visual Description:	Moist, light brownish gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	14.4	73.3	12.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	93		
#4	4.75	86		
#10	2.00	78		
#20	0.85	69		
#40	0.42	56		
#60	0.25	41		
#100	0.15	29		
#140	0.11	19		
#200	0.075	12		

Coefficients

D_{85} = 4.4501 mm D_{30} = 0.1551 mm

D_{60} = 0.5292 mm D_{15} = 0.0858 mm

D_{50} = 0.3428 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

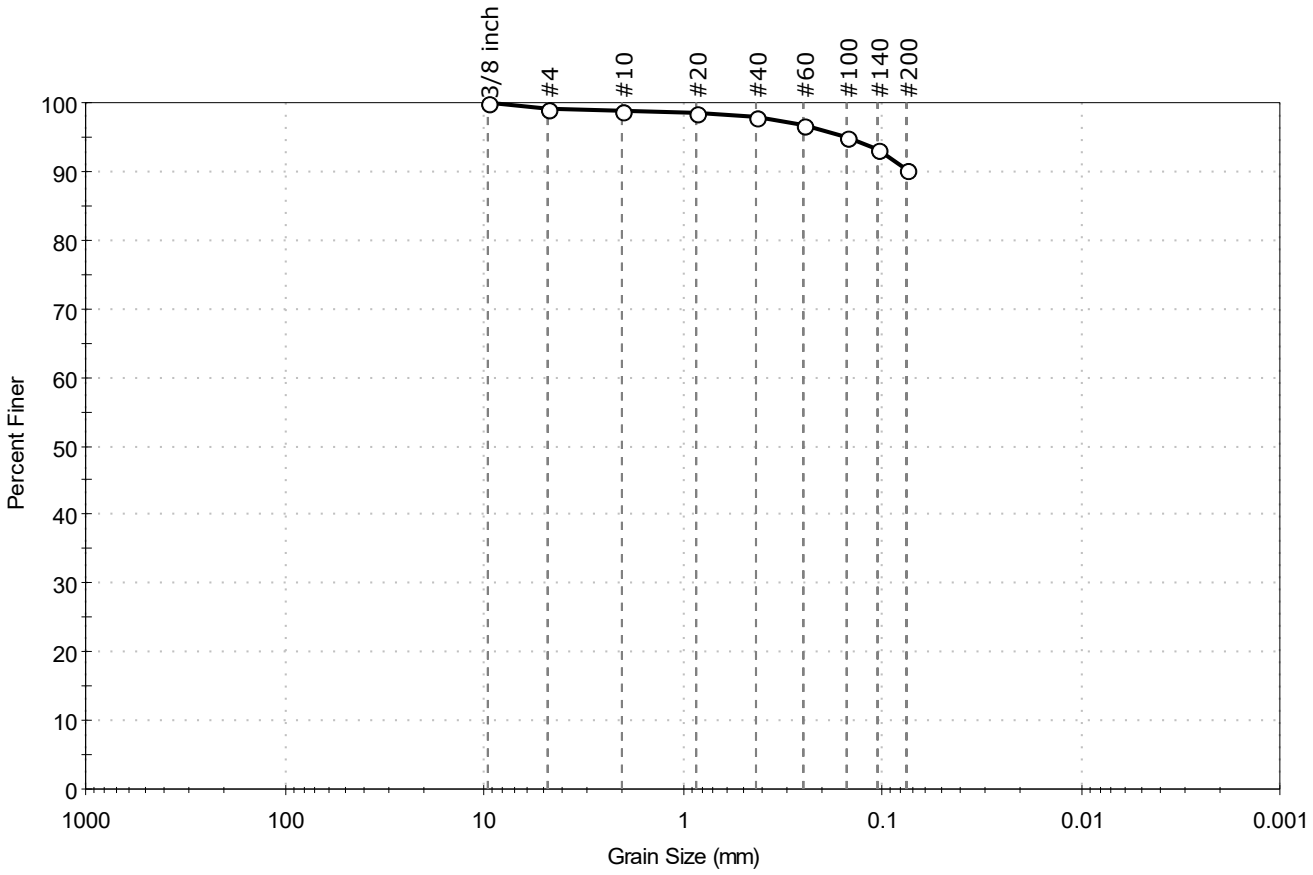
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13	Test Date:	05/19/22	Checked By:	bfs
Depth :	24-26'	Test Id:	668467		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	1.0	8.8	90.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	99		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	97		
#100	0.15	95		
#140	0.11	93		
#200	0.075	90		

Coefficients

D_{85} = N/A D_{30} = N/A

D_{60} = N/A D_{15} = N/A

D_{50} = N/A D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

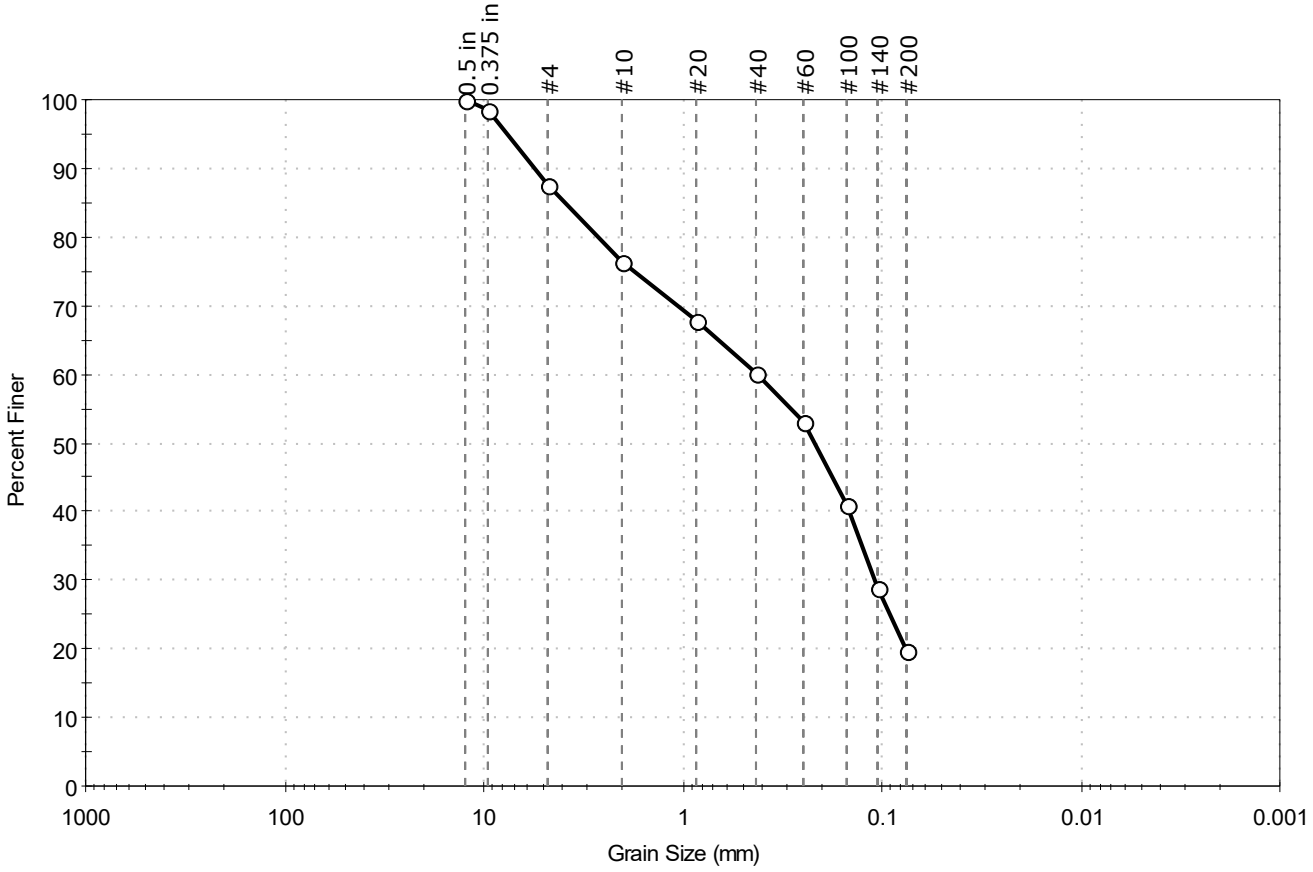
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-14	Test Date:	05/18/22	Checked By:	bfs
Depth :	26-28'	Test Id:	668468		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	12.4	67.8	19.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	98		
#4	4.75	88		
#10	2.00	76		
#20	0.85	68		
#40	0.42	60		
#60	0.25	53		
#100	0.15	41		
#140	0.11	29		
#200	0.075	20		

Coefficients

D_{85} = 3.8832 mm D_{30} = 0.1091 mm

D_{60} = 0.4169 mm D_{15} = N/A

D_{50} = 0.2195 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

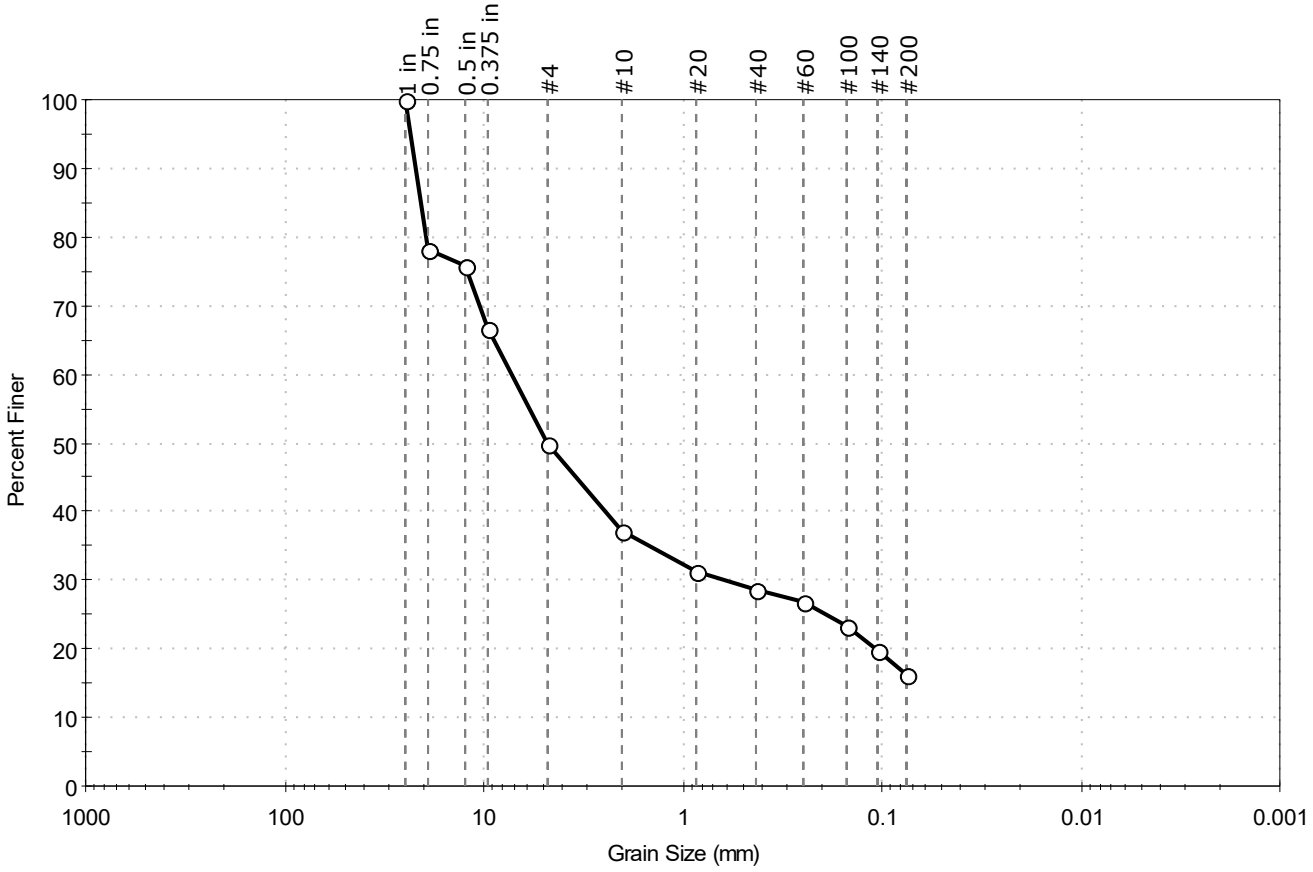
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-17	Test Date:	05/18/22	Checked By:	bfs
Depth :	32-34'	Test Id:	668469		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	50.0	33.9	16.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	78		
0.5 in	12.50	76		
0.375 in	9.50	67		
#4	4.75	50		
#10	2.00	37		
#20	0.85	31		
#40	0.42	29		
#60	0.25	27		
#100	0.15	23		
#140	0.11	20		
#200	0.075	16		

Coefficients

D_{85} = 20.6923 mm D_{30} = 0.5884 mm

D_{60} = 7.2093 mm D_{15} = N/A

D_{50} = 4.7545 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

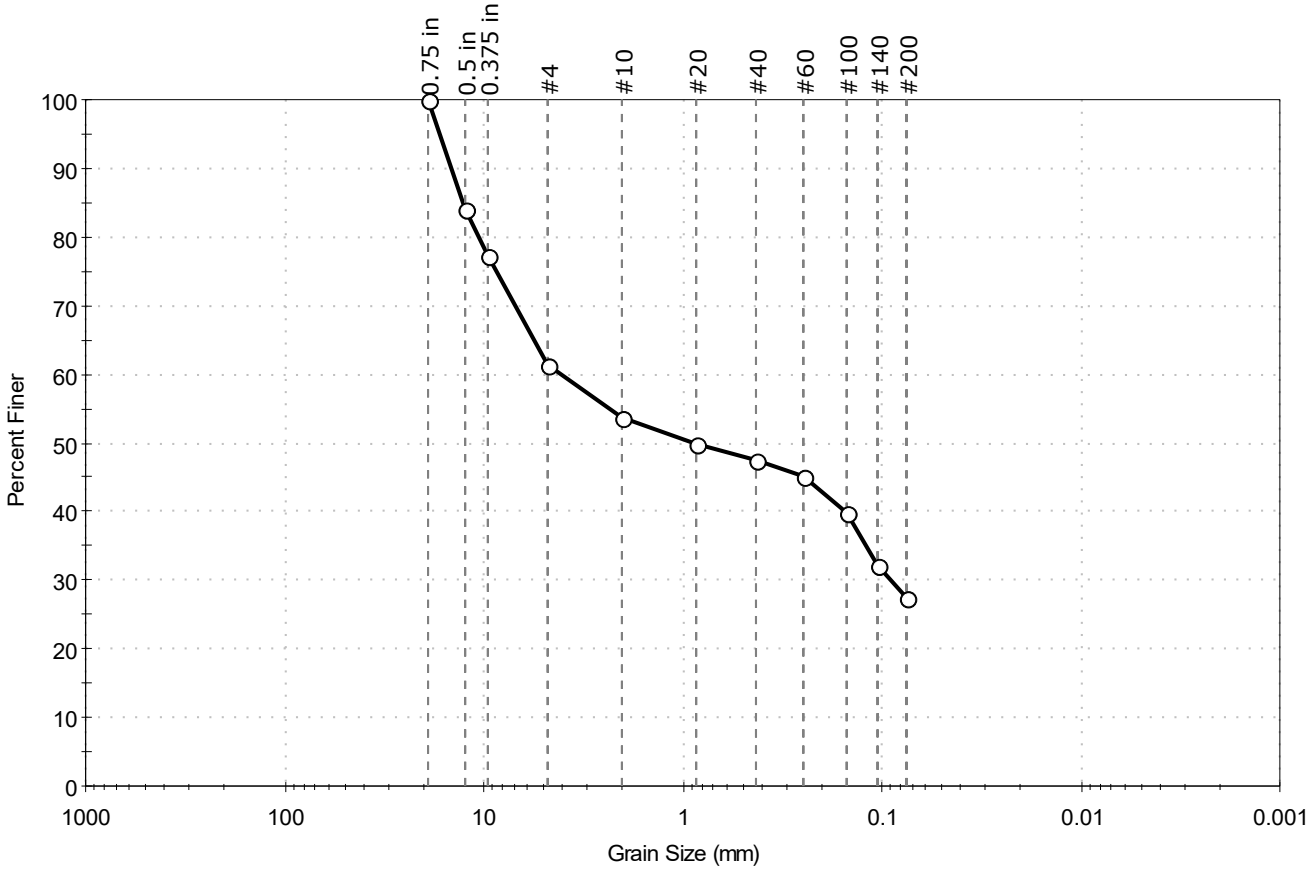
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-18	Test Date:	10/26/22	Checked By:	bfs
Depth :	34-36	Test Id:	690127		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	38.7	33.8	27.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	84		
0.375 in	9.50	77		
#4	4.75	61		
#10	2.00	54		
#20	0.85	50		
#40	0.42	48		
#60	0.25	45		
#100	0.15	40		
#140	0.11	32		
#200	0.075	28		

Coefficients

D_{85} = 12.7713 mm D_{30} = 0.0903 mm

D_{60} = 4.0565 mm D_{15} = N/A

D_{50} = 0.8975 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Silty GRAVEL with Sand (GM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

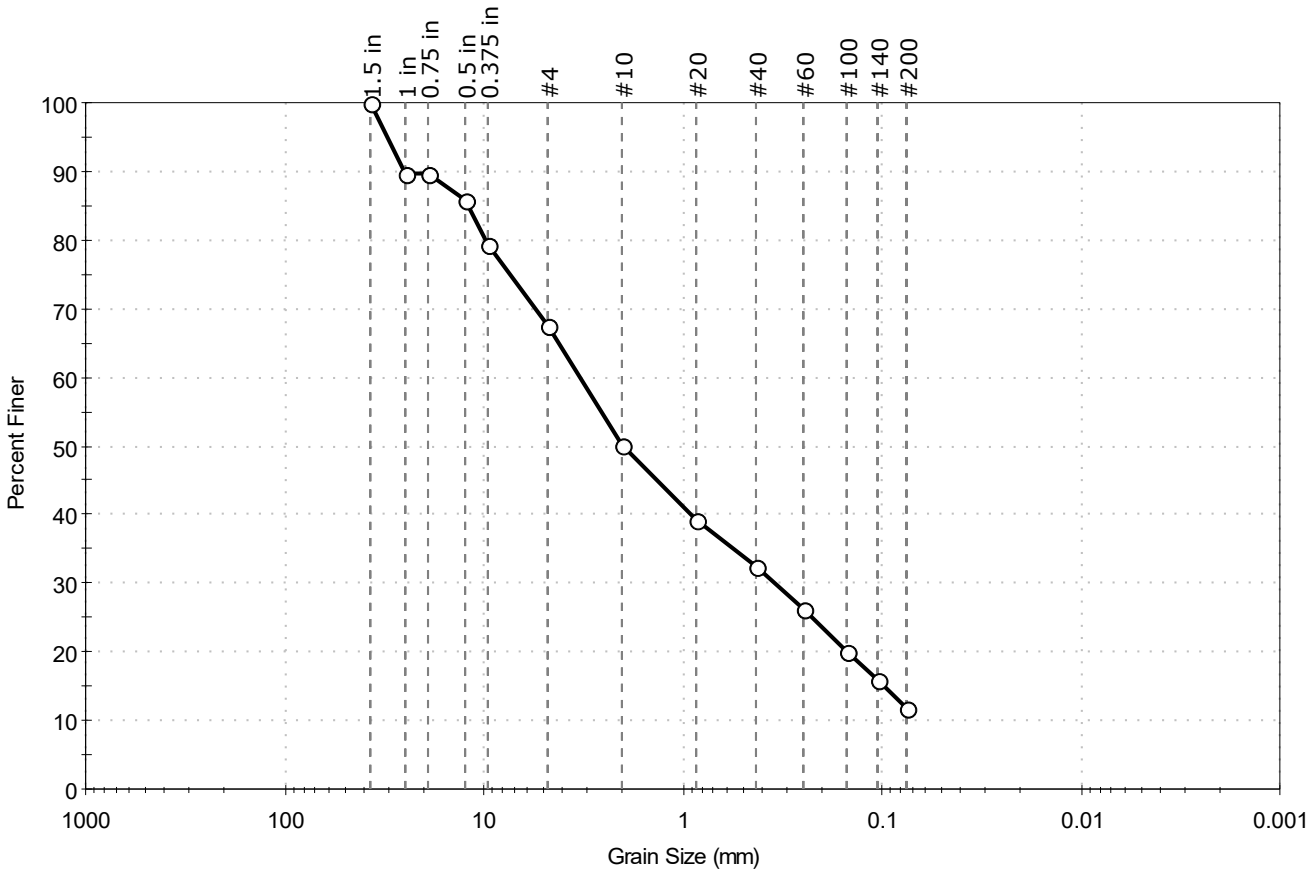
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-21	Test Date:	05/18/22	Checked By:	bfs
Depth :	40-42'	Test Id:	668470		
Test Comment:	---				
Visual Description:	Moist, light olive brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	32.5	55.7	11.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	90		
0.75 in	19.00	90		
0.5 in	12.50	86		
0.375 in	9.50	79		
#4	4.75	67		
#10	2.00	50		
#20	0.85	39		
#40	0.42	32		
#60	0.25	26		
#100	0.15	20		
#140	0.11	16		
#200	0.075	12		

Coefficients

D_{85} = 12.0758 mm D_{30} = 0.3469 mm

D_{60} = 3.2754 mm D_{15} = 0.0988 mm

D_{50} = 1.9907 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

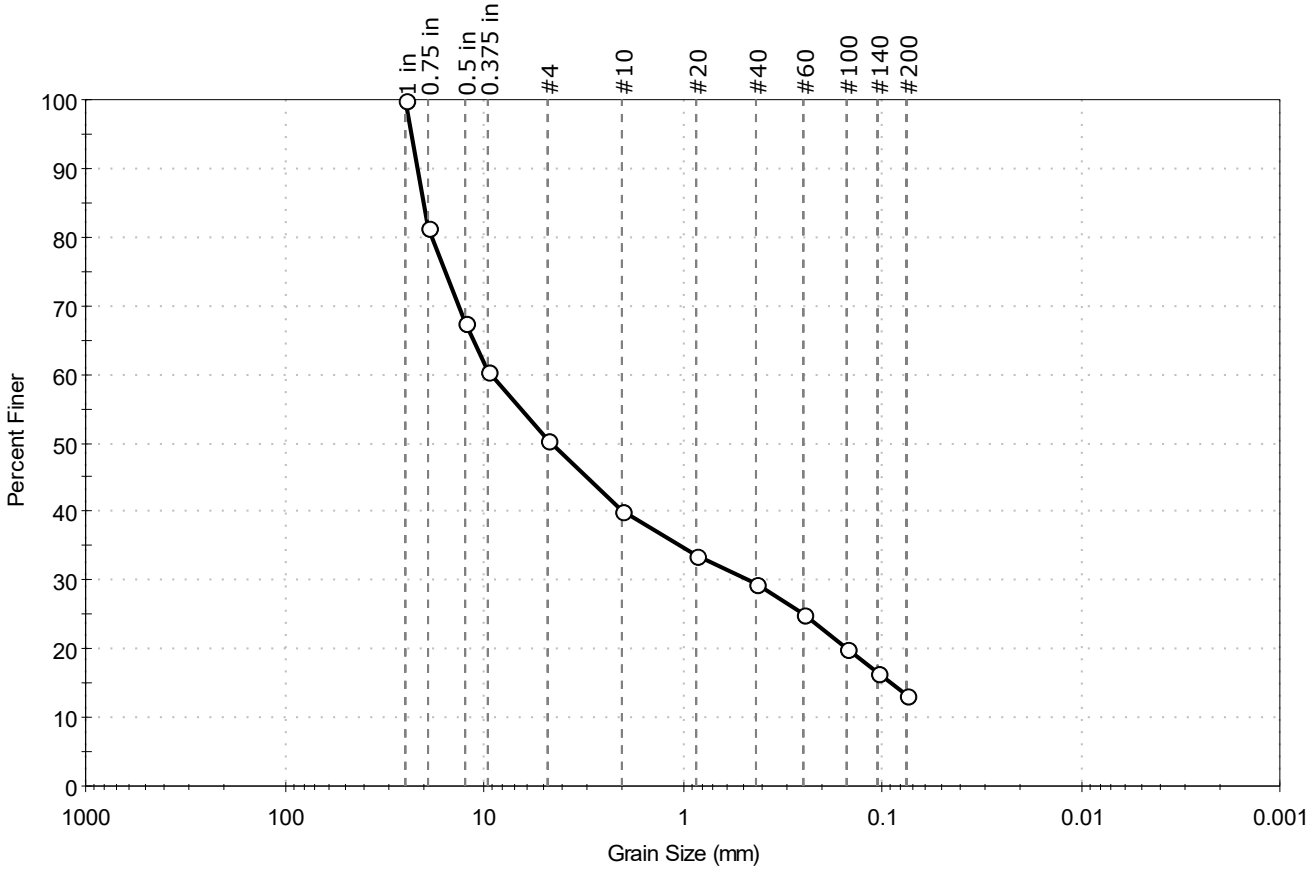
Sand/Gravel Hardness : HARD

printed 5/24/2022 3:55:38 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	05/18/22	Checked By:	bfs
Depth :	44-46'	Test Id:	668471		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	49.5	37.1	13.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	81		
0.5 in	12.50	67		
0.375 in	9.50	60		
#4	4.75	50		
#10	2.00	40		
#20	0.85	34		
#40	0.42	30		
#60	0.25	25		
#100	0.15	20		
#140	0.11	17		
#200	0.075	13		

Coefficients

D_{85} = 20.0266 mm	D_{30} = 0.4616 mm
D_{60} = 9.1820 mm	D_{15} = 0.0894 mm
D_{50} = 4.5663 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM — Silty GRAVEL with Sand (GM)

AASHTO — Stone Fragments, Gravel and Sand (A-1-a (0))

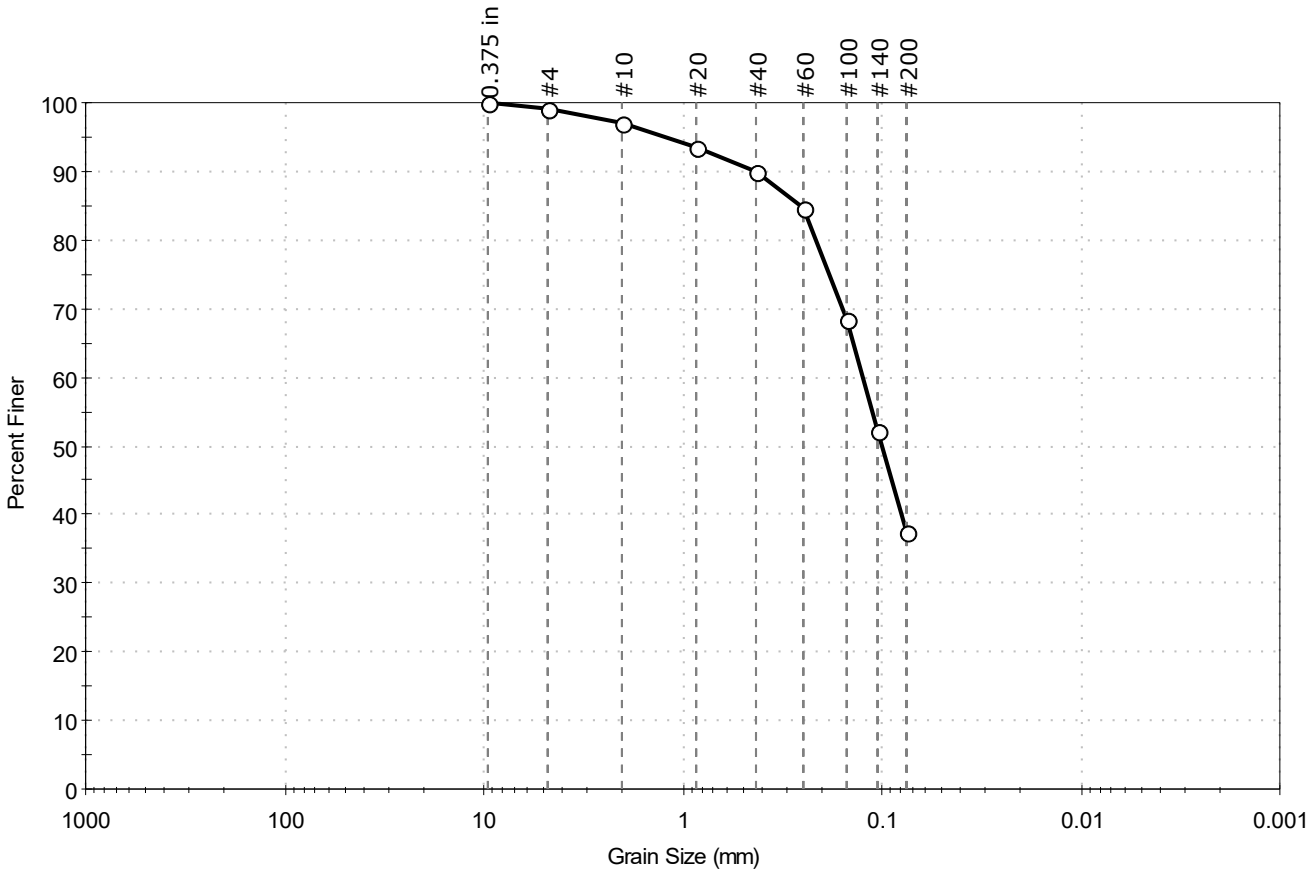
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-4, S-5	Test Date:	06/13/22	Checked By:	bfs
Depth :	6-8', 8-10'	Test Id:	672394		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.7	61.9	37.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	97		
#20	0.85	93		
#40	0.42	90		
#60	0.25	85		
#100	0.15	68		
#140	0.11	52		
#200	0.075	37		

Coefficients

D_{85} = 0.2608 mm D_{30} = N/A

D_{60} = 0.1253 mm D_{15} = N/A

D_{50} = 0.1009 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

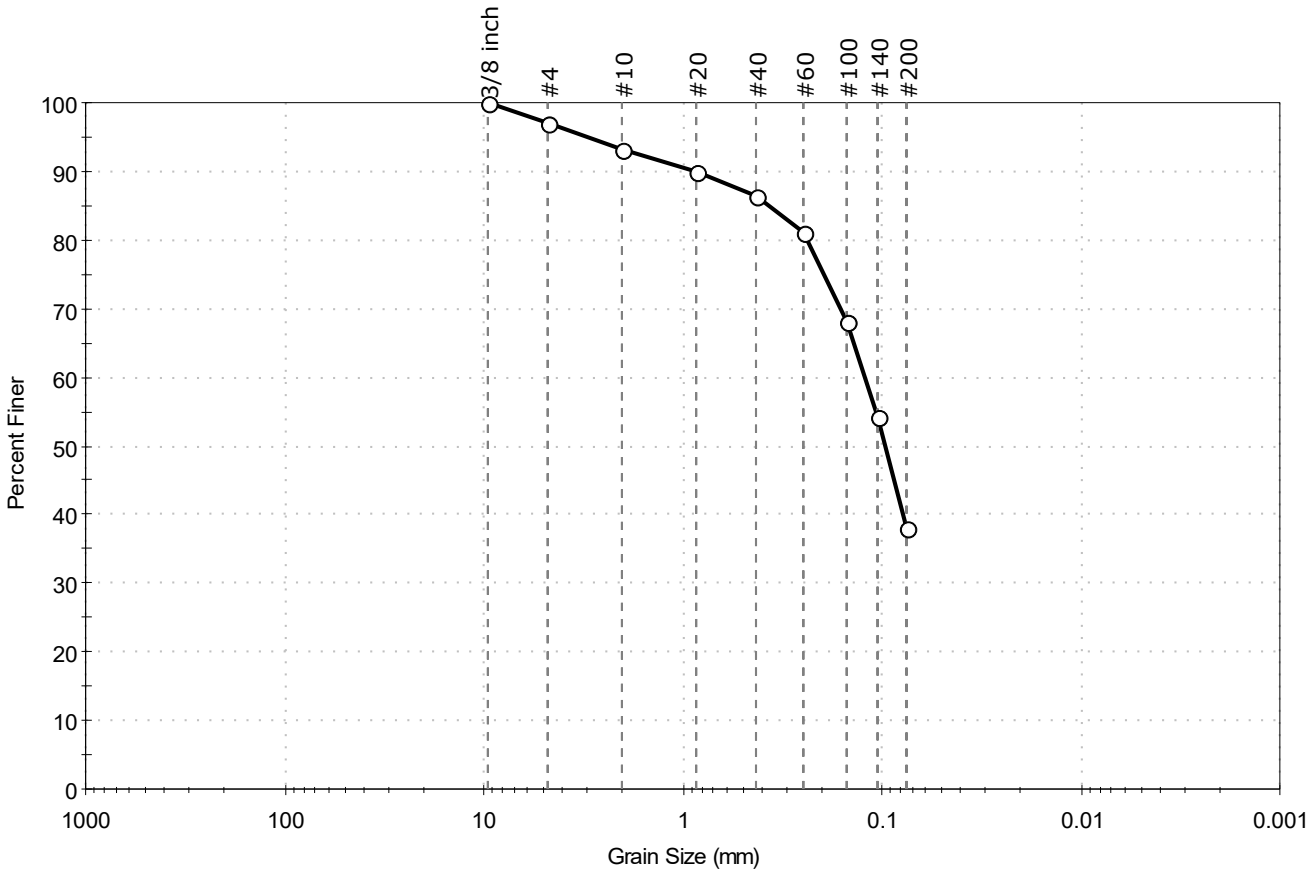
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-7	Test Date:	06/14/22	Checked By:	bfs
Depth :	12-14'	Test Id:	672395		
Test Comment:	---				
Visual Description:	Moist, olive yellow silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.0	58.8	38.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	97		
#10	2.00	93		
#20	0.85	90		
#40	0.42	86		
#60	0.25	81		
#100	0.15	68		
#140	0.11	54		
#200	0.075	38		

Coefficients

D_{85} = 0.3711 mm D_{30} = N/A

D_{60} = 0.1222 mm D_{15} = N/A

D_{50} = 0.0967 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

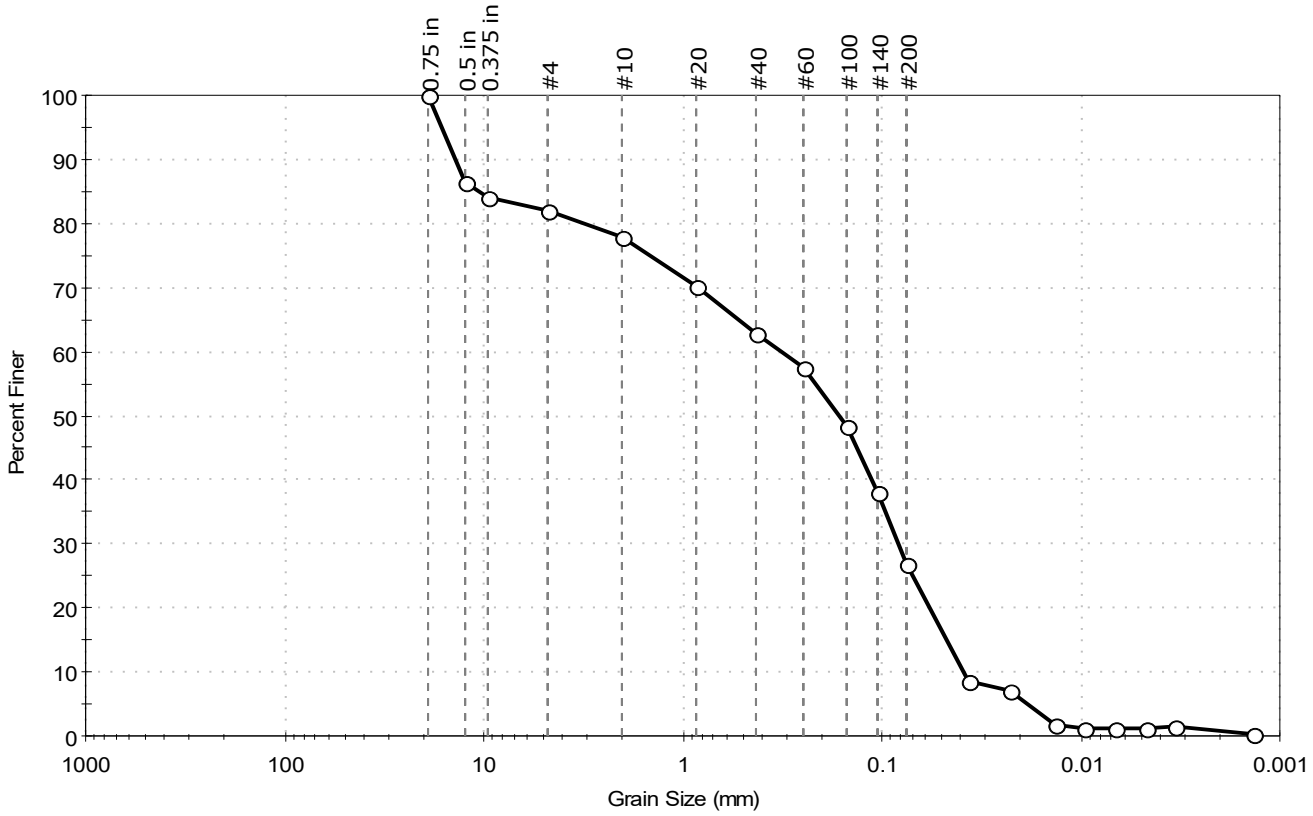
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-10	Test Date:	06/16/22	Checked By:	jsc
Depth :	18-20'	Test Id:	672411		
Test Comment:	---				
Visual Description:	Moist, dark yellowish brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
–	17.8	55.3	26.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	86		
0.375 in	9.50	84		
#4	4.75	82		
#10	2.00	78		
#20	0.85	70		
#40	0.42	63		
#60	0.25	58		
#100	0.15	48		
#140	0.11	38		
#200	0.075	27		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0368	9		
---	0.0226	7		
---	0.0135	2		
---	0.0096	1		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} = 10.6040 mm	D_{30} = 0.0825 mm
D_{60} = 0.3198 mm	D_{15} = 0.0473 mm
D_{50} = 0.1637 mm	D_{10} = 0.0389 mm
C_u = 8.221	C_c = 0.547

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

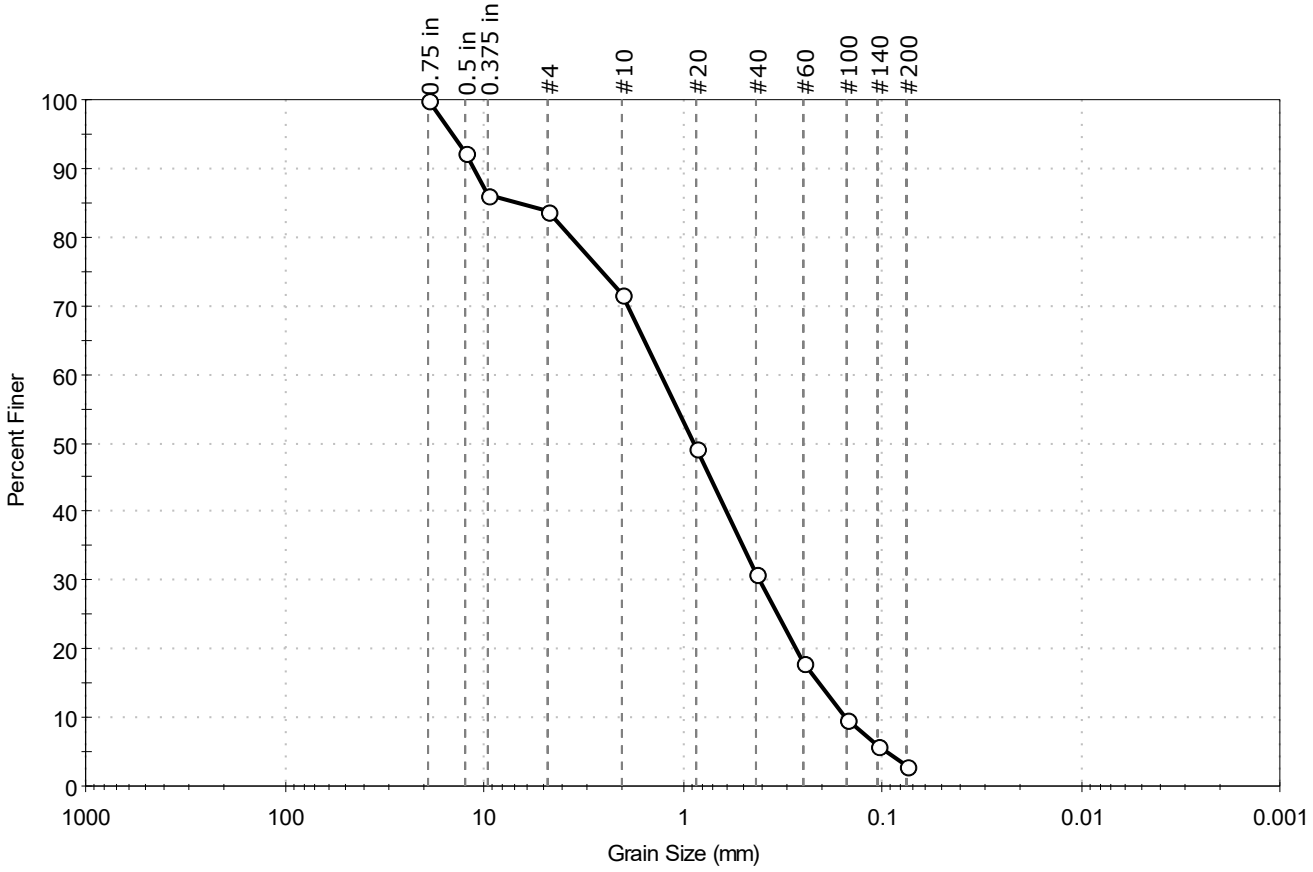
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-14	Test Date:	06/14/22	Checked By:	bfs
Depth :	26-28'	Test Id:	672396		
Test Comment:	---				
Visual Description:	Moist, light brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	16.3	80.6	3.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	92		
0.375 in	9.50	86		
#4	4.75	84		
#10	2.00	72		
#20	0.85	49		
#40	0.42	31		
#60	0.25	18		
#100	0.15	10		
#140	0.11	6		
#200	0.075	3.1		

Coefficients

D_{85} = 6.8381 mm	D_{30} = 0.4084 mm
D_{60} = 1.2854 mm	D_{15} = 0.2076 mm
D_{50} = 0.8781 mm	D_{10} = 0.1520 mm
C_u = 8.457	C_c = 0.854

Classification

ASTM — Poorly graded SAND with Gravel (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (1))

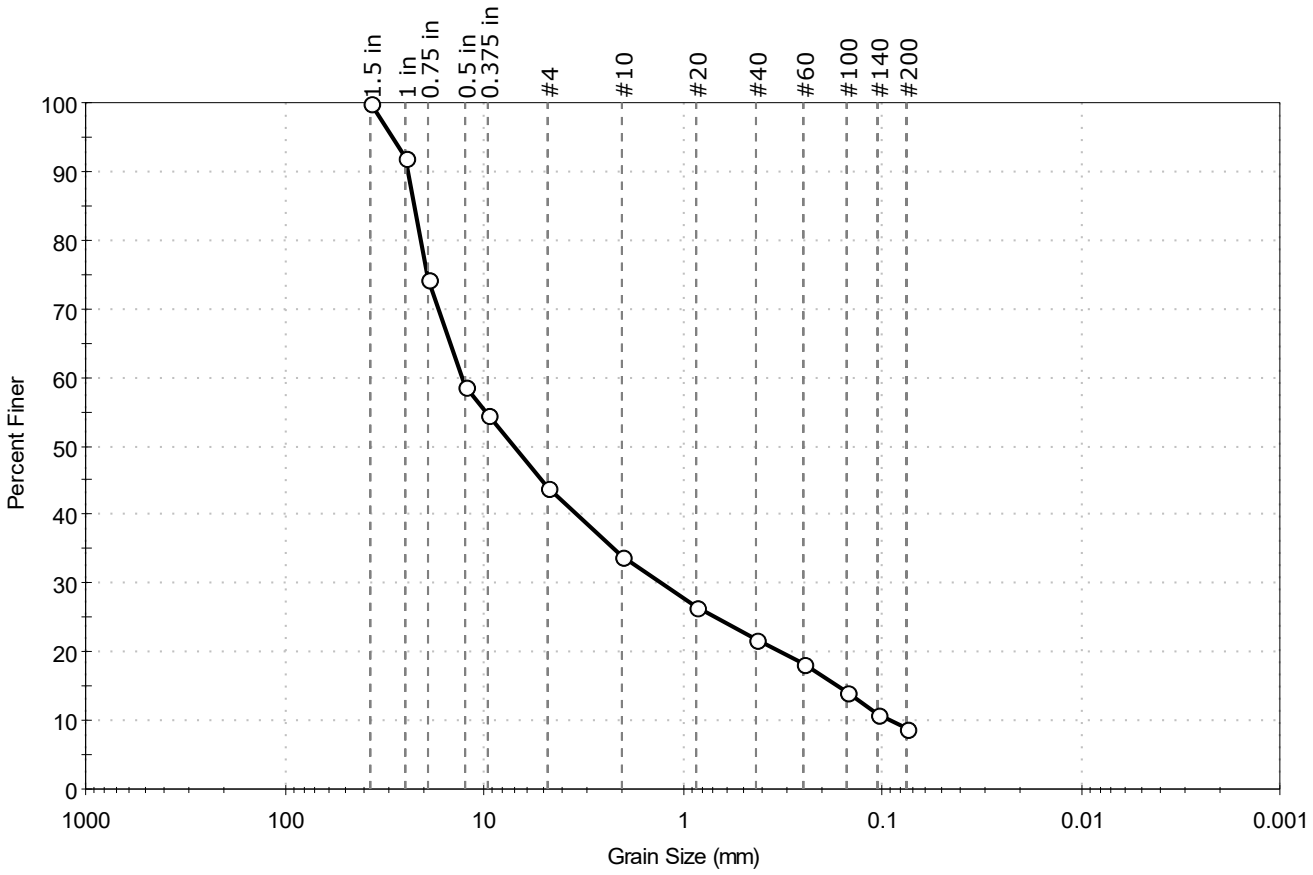
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	06/15/22	Checked By:	bfs
Depth :	56-58'	Test Id:	672397		
Test Comment:	---				
Visual Description:	Moist, light brownish gray gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	56.0	35.2	8.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	92		
0.75 in	19.00	74		
0.5 in	12.50	59		
0.375 in	9.50	55		
#4	4.75	44		
#10	2.00	34		
#20	0.85	27		
#40	0.42	22		
#60	0.25	18		
#100	0.15	14		
#140	0.11	11		
#200	0.075	8.8		

Coefficients

D_{85} = 22.4497 mm	D_{30} = 1.2662 mm
D_{60} = 12.9063 mm	D_{15} = 0.1690 mm
D_{50} = 7.0224 mm	D_{10} = 0.0902 mm
C_u = 143.085	C_c = 1.377

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (1))

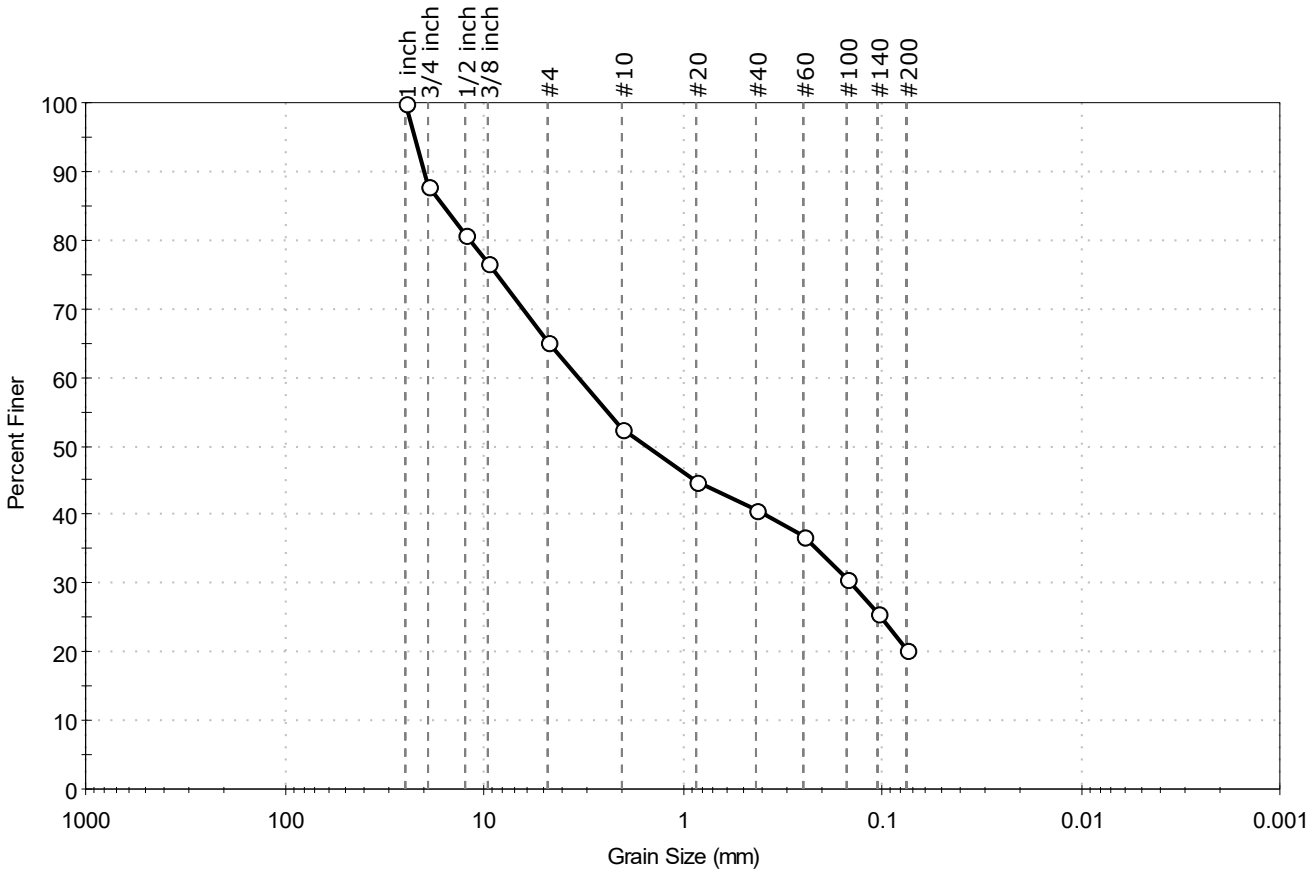
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	06/14/22	Checked By:	bfs
Depth :	68-70'	Test Id:	672398		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	34.7	45.0	20.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 inch	25.00	100		
3/4 inch	19.00	88		
1/2 inch	12.50	81		
3/8 inch	9.50	77		
#4	4.75	65		
#10	2.00	52		
#20	0.85	45		
#40	0.42	41		
#60	0.25	37		
#100	0.15	31		
#140	0.11	26		
#200	0.075	20		

Coefficients

D_{85} = 15.9391 mm	D_{30} = 0.1430 mm
D_{60} = 3.3301 mm	D_{15} = N/A
D_{50} = 1.5167 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

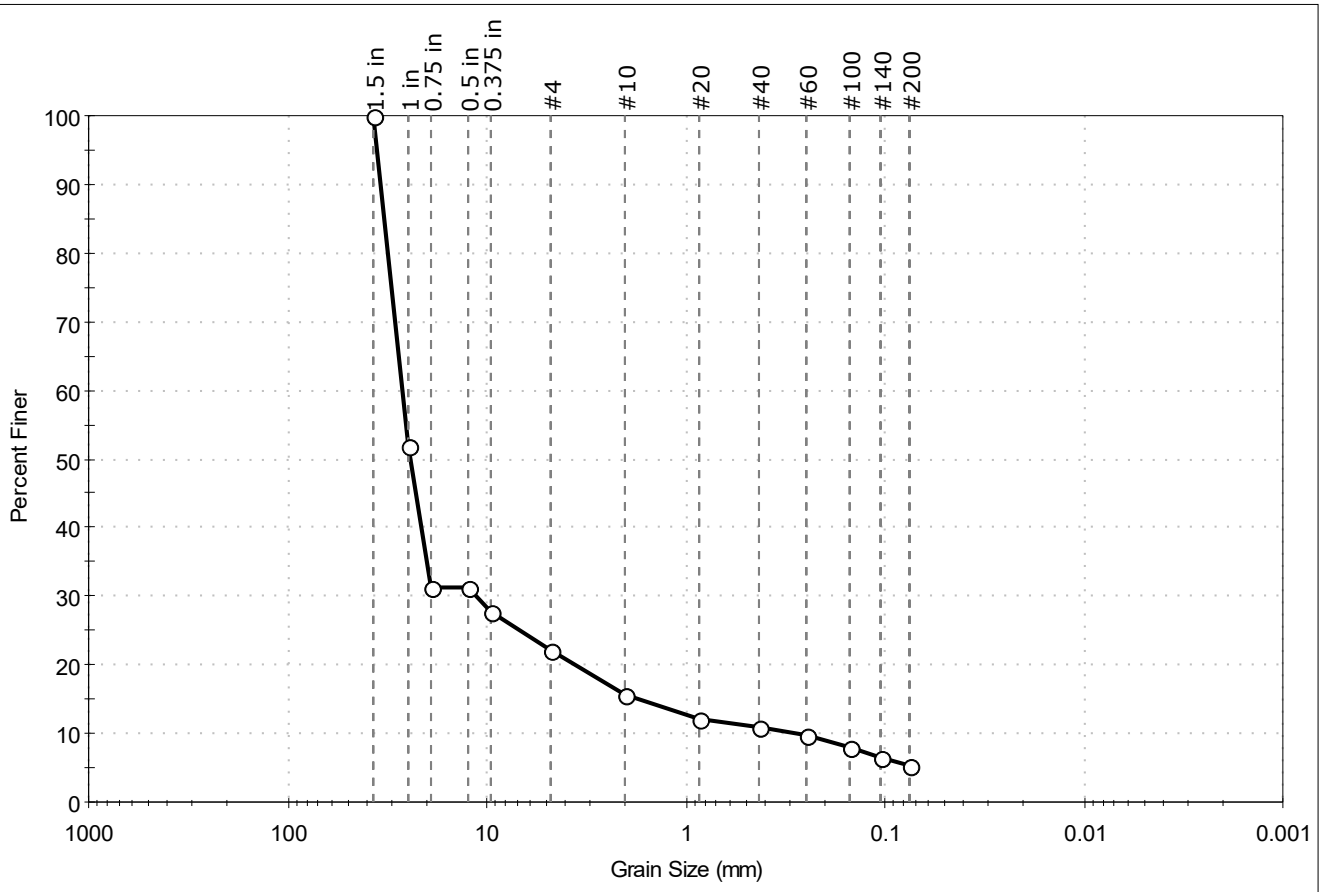
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	10/25/22	Checked By:	bfs
Depth :	70-72	Test Id:	690131		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	78.0	16.8	5.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	52		
0.75 in	19.00	31		
0.5 in	12.50	31		
0.375 in	9.50	28		
#4	4.75	22		
#10	2.00	16		
#20	0.85	12		
#40	0.42	11		
#60	0.25	10		
#100	0.15	8		
#140	0.11	6		
#200	0.075	5.2		

Coefficients

D_{85} = 33.0460 mm D_{30} = 11.2664 mm

D_{60} = 26.7669 mm D_{15} = 1.6754 mm

D_{50} = 24.3731 mm D_{10} = 0.2722 mm

C_u = 98.335 C_c = 17.421

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (1))

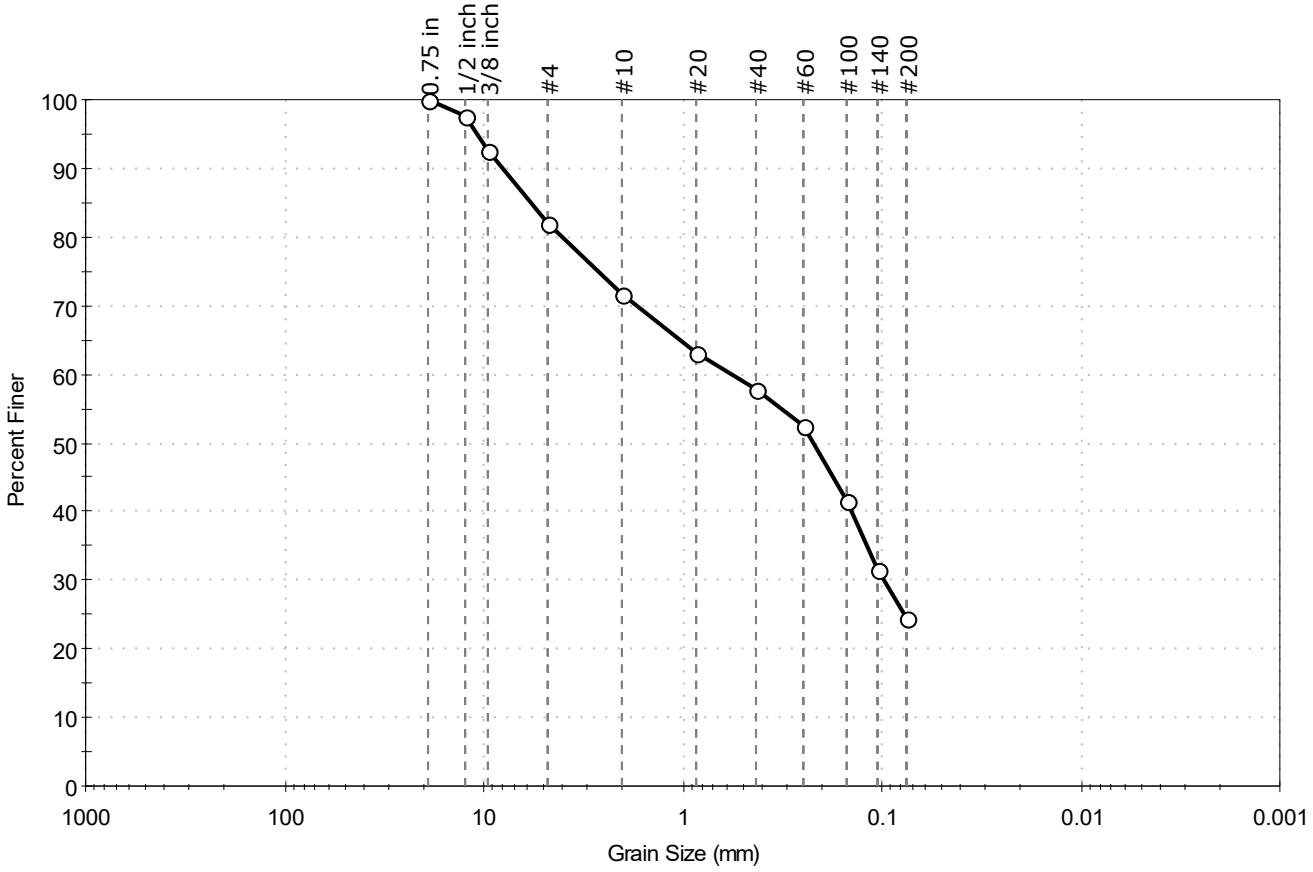
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	06/14/22	Checked By:	bfs
Depth :	4-6', 6-8'	Test Id:	672399		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	17.9	57.7	24.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
1/2 inch	12.50	98		
3/8 inch	9.50	93		
#4	4.75	82		
#10	2.00	72		
#20	0.85	63		
#40	0.42	58		
#60	0.25	52		
#100	0.15	42		
#140	0.11	32		
#200	0.075	24		

Coefficients

D_{85} = 5.7514 mm	D_{30} = 0.0984 mm
D_{60} = 0.5700 mm	D_{15} = N/A
D_{50} = 0.2231 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND with Gravel (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

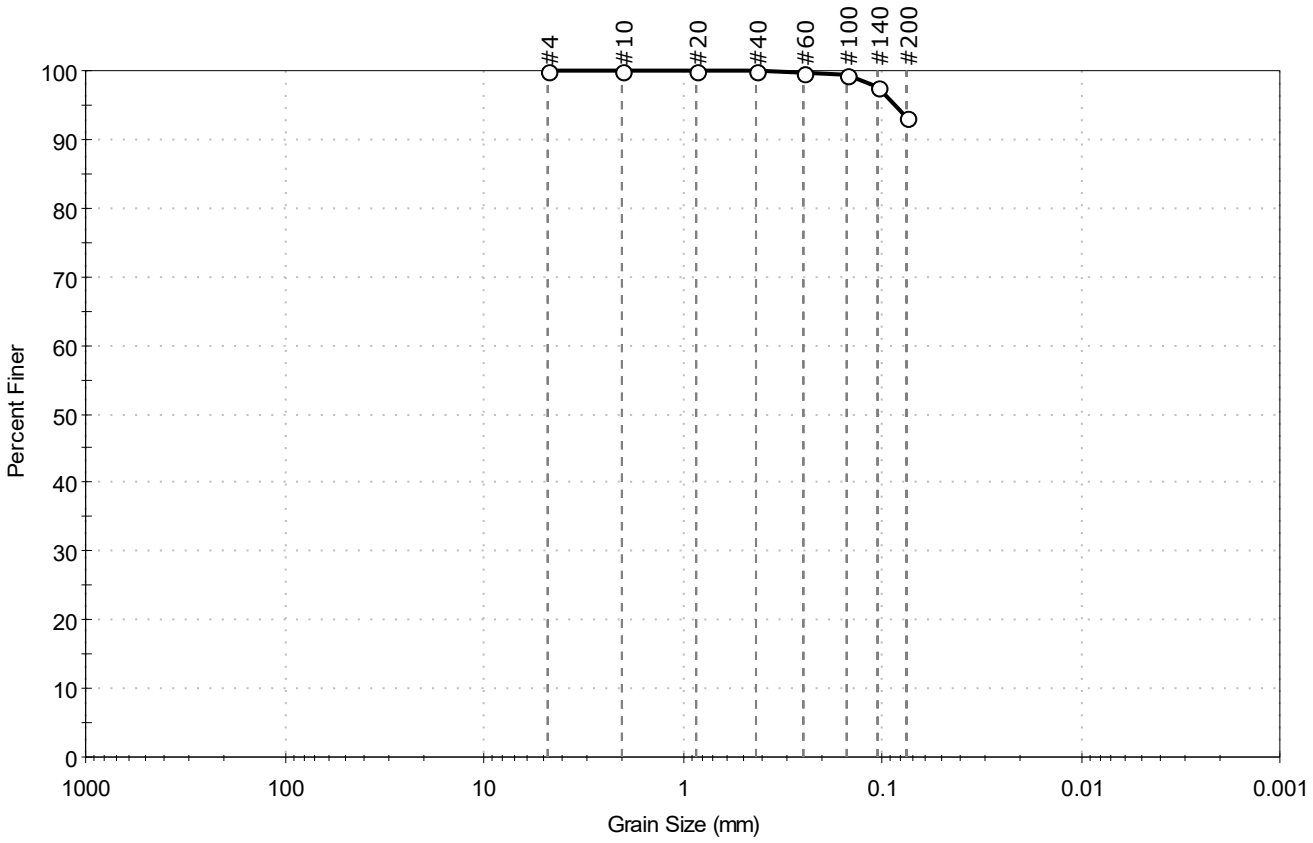
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-10	Test Date:	06/14/22	Checked By:	bfs
Depth :	18-20'	Test Id:	672400		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	6.7	93.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	98		
#200	0.075	93		

Coefficients

D_{85} = N/A	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

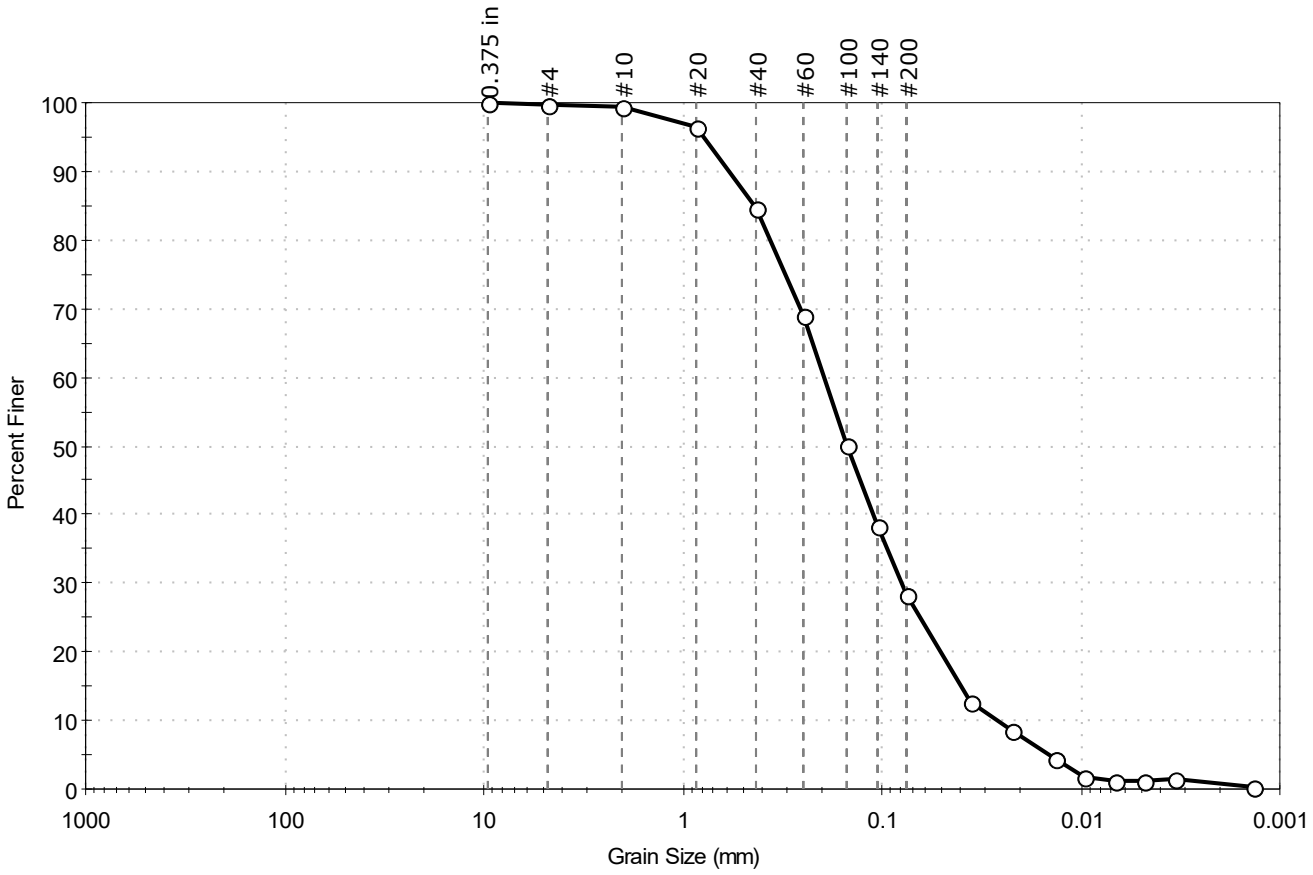
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-17	Test Date:	06/16/22	Checked By:	jsc
Depth :	40-42'	Test Id:	672412		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.3	71.3	28.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	85		
#60	0.25	69		
#100	0.15	50		
#140	0.11	38		
#200	0.075	28		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0362	13		
---	0.0220	9		
---	0.0133	5		
---	0.0096	2		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} =0.4324 mm	D_{30} =0.0792 mm
D_{60} =0.1963 mm	D_{15} =0.0404 mm
D_{50} =0.1500 mm	D_{10} =0.0262 mm
C_u =7.492	C_c =1.220

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

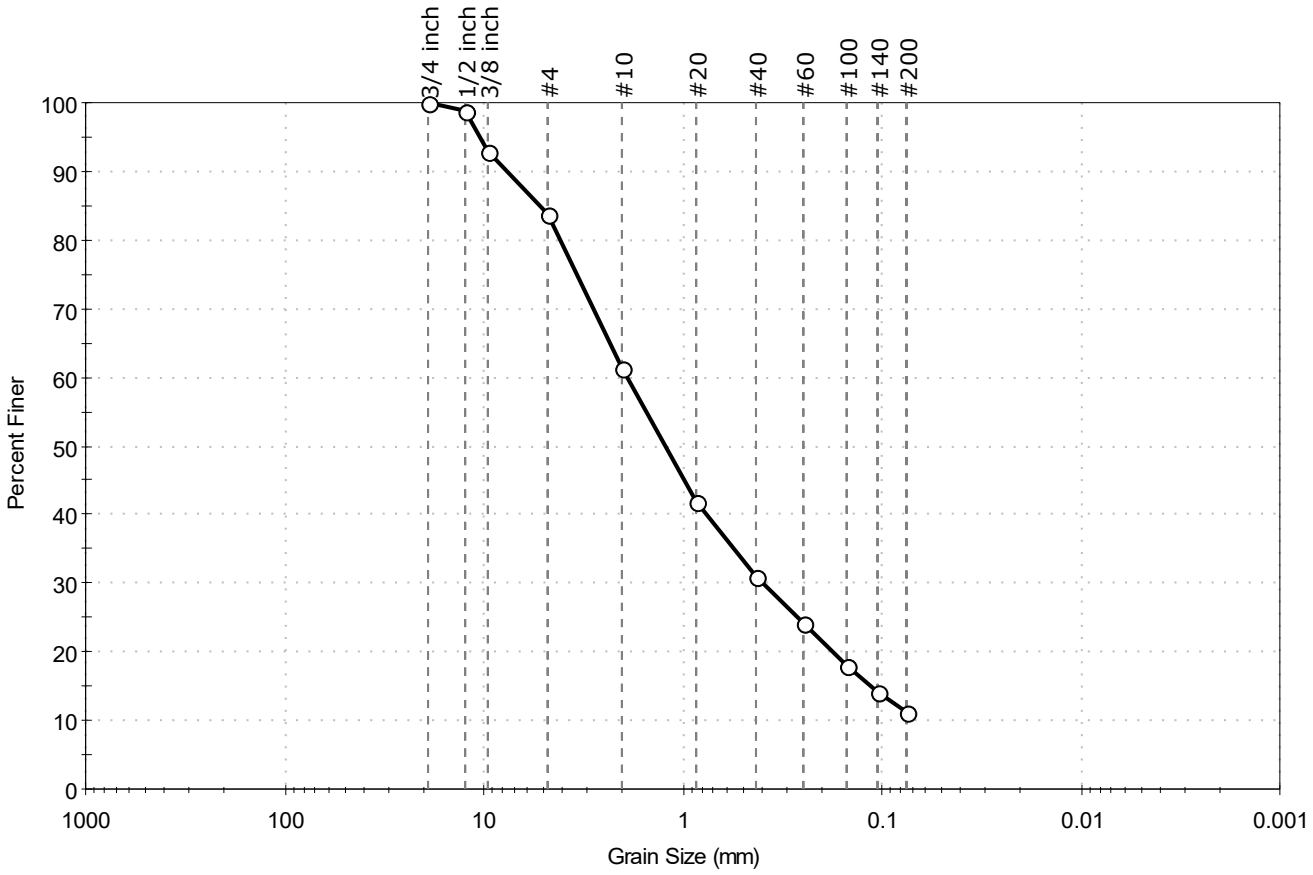
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 6/20/2022 10:26:50 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	06/14/22	Checked By:	bfs
Depth :	55-57'	Test Id:	672401		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	16.3	72.6	11.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	99		
3/8 inch	9.50	93		
#4	4.75	84		
#10	2.00	61		
#20	0.85	42		
#40	0.42	31		
#60	0.25	24		
#100	0.15	18		
#140	0.11	14		
#200	0.075	11		

Coefficients

D_{85} = 5.2313 mm
D_{30} = 0.3942 mm
D_{60} = 1.8751 mm
D_{15} = 0.1150 mm
D_{50} = 1.2103 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

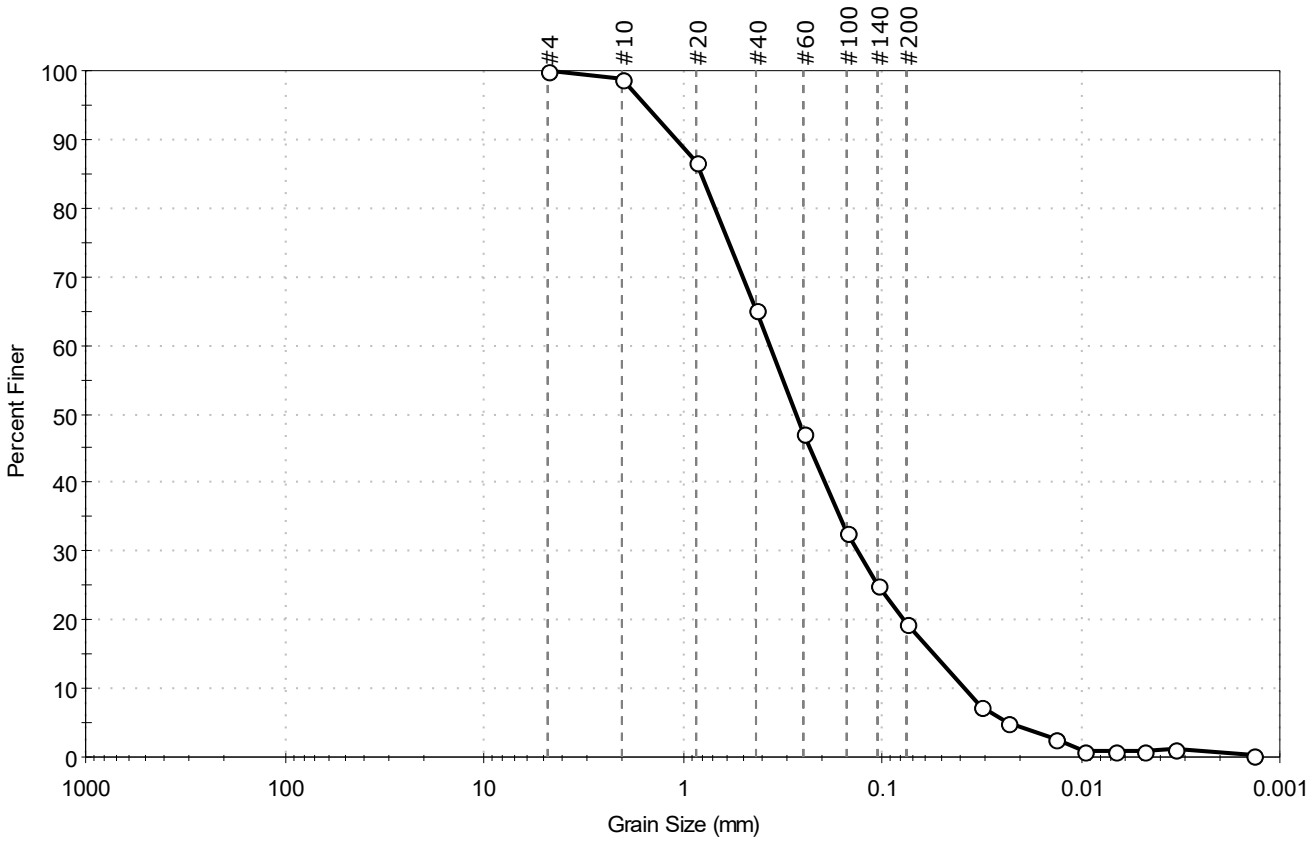
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 6/20/2022 10:26:51 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24	Test Date:	06/16/22	Checked By:	jsc
Depth :	68-70'	Test Id:	672413		
Test Comment:	---				
Visual Description:	Moist, white silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	80.7	19.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	87		
#40	0.42	65		
#60	0.25	47		
#100	0.15	33		
#140	0.11	25		
#200	0.075	19		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0317	7		
---	0.0232	5		
---	0.0135	3		
---	0.0096	1		
---	0.0068	1		
---	0.0048	1		
---	0.0034	1		
---	0.0014	0		

Coefficients

D_{85} =0.8061 mm	D_{30} =0.1317 mm
D_{60} =0.3650 mm	D_{15} =0.0547 mm
D_{50} =0.2712 mm	D_{10} =0.0381 mm
C_u =9.580	C_c =1.247

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

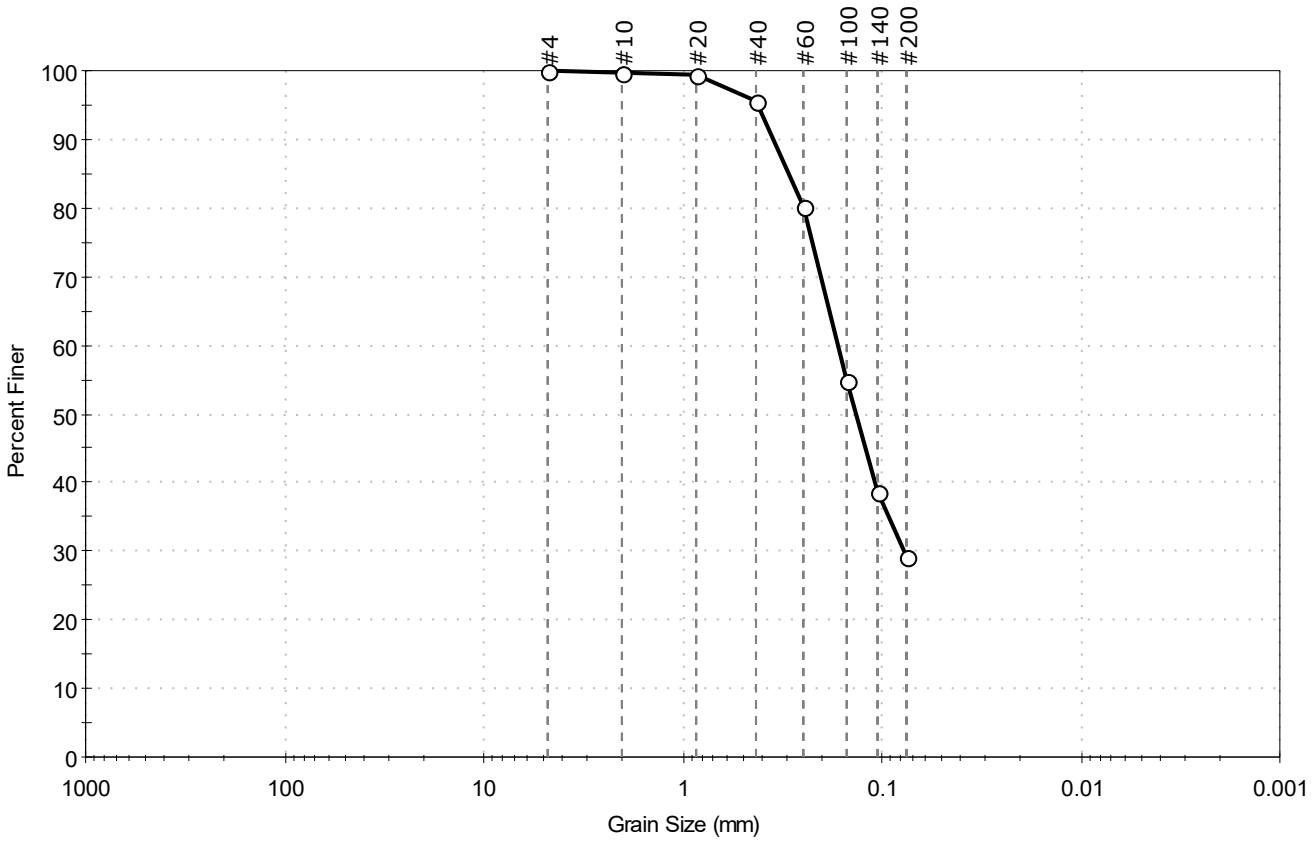
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-28	Test Date:	10/26/22	Checked By:	bfs
Depth :	76-78	Test Id:	690132		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	70.9	29.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	96		
#60	0.25	80		
#100	0.15	55		
#140	0.11	39		
#200	0.075	29		

Coefficients

D_{85} = 0.2954 mm	D_{30} = 0.0775 mm
D_{60} = 0.1664 mm	D_{15} = N/A
D_{50} = 0.1351 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

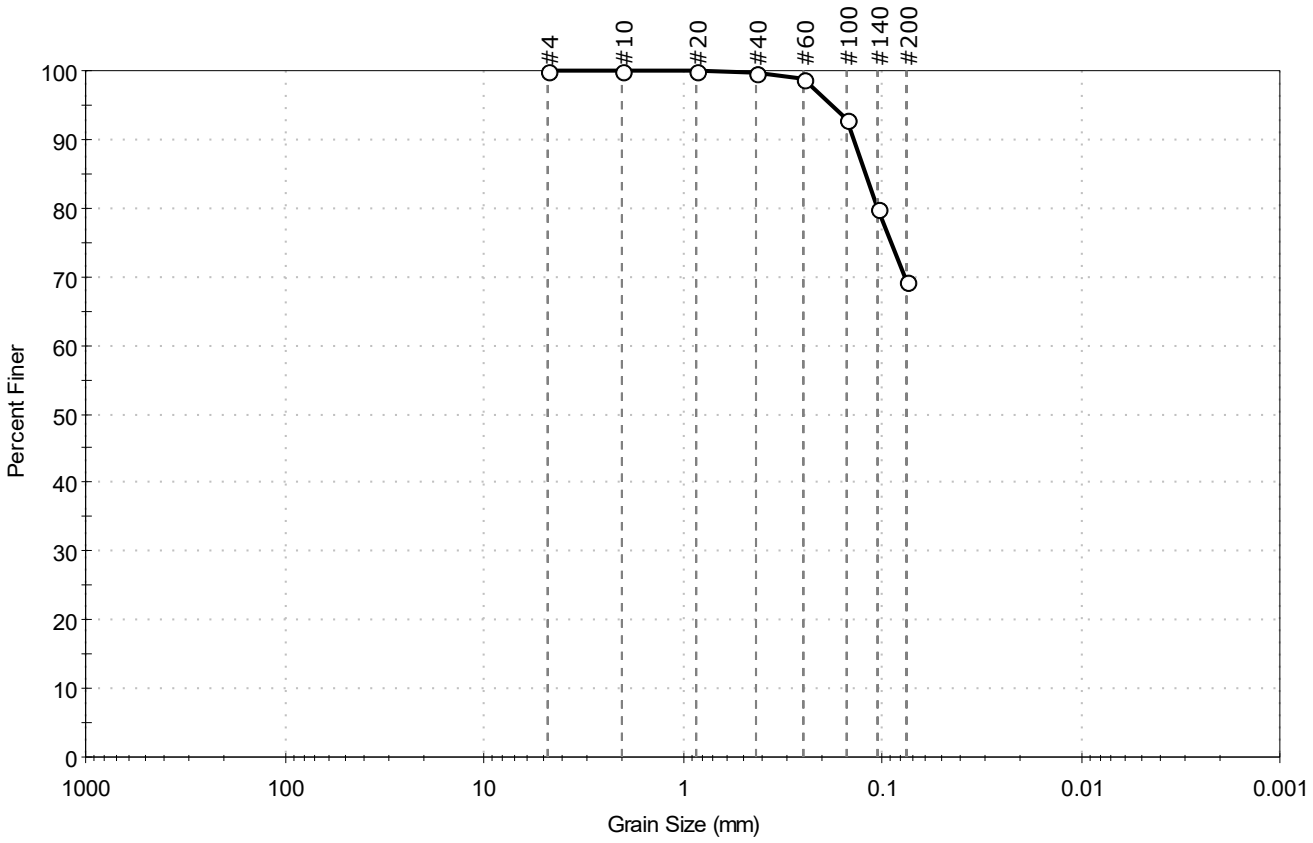
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-30	Test Date:	06/14/22	Checked By:	bfs
Depth :	85-87'	Test Id:	672402		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	30.8	69.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	93		
#140	0.11	80		
#200	0.075	69		

Coefficients

D_{85} = 0.1214 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

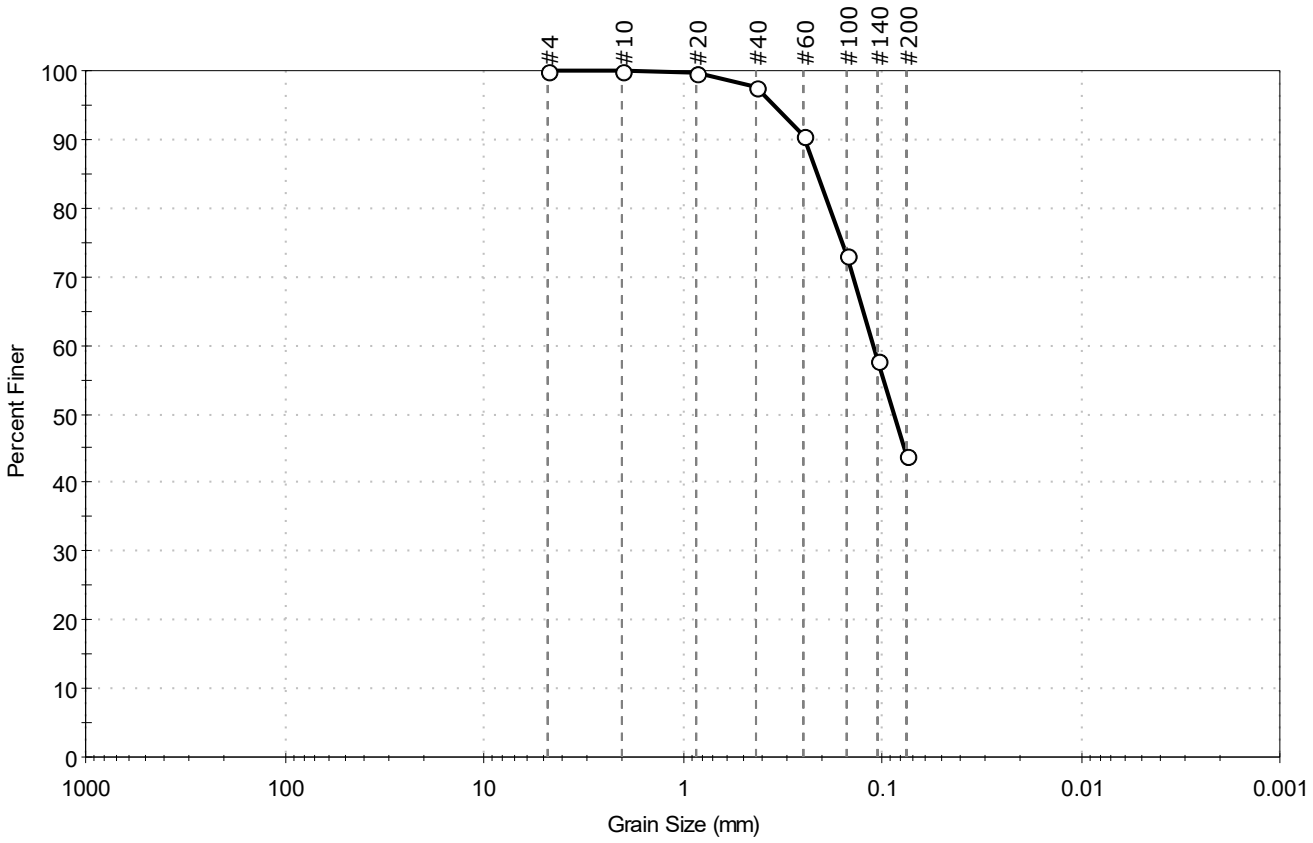
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2, S-3	Test Date:	06/14/22	Checked By:	bfs
Depth :	2-4', 4-6'	Test Id:	672389		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	56.1	43.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	90		
#100	0.15	73		
#140	0.11	58		
#200	0.075	44		

Coefficients

D_{85} = 0.2125 mm D_{30} = N/A
D_{60} = 0.1111 mm D_{15} = N/A
D_{50} = 0.0872 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

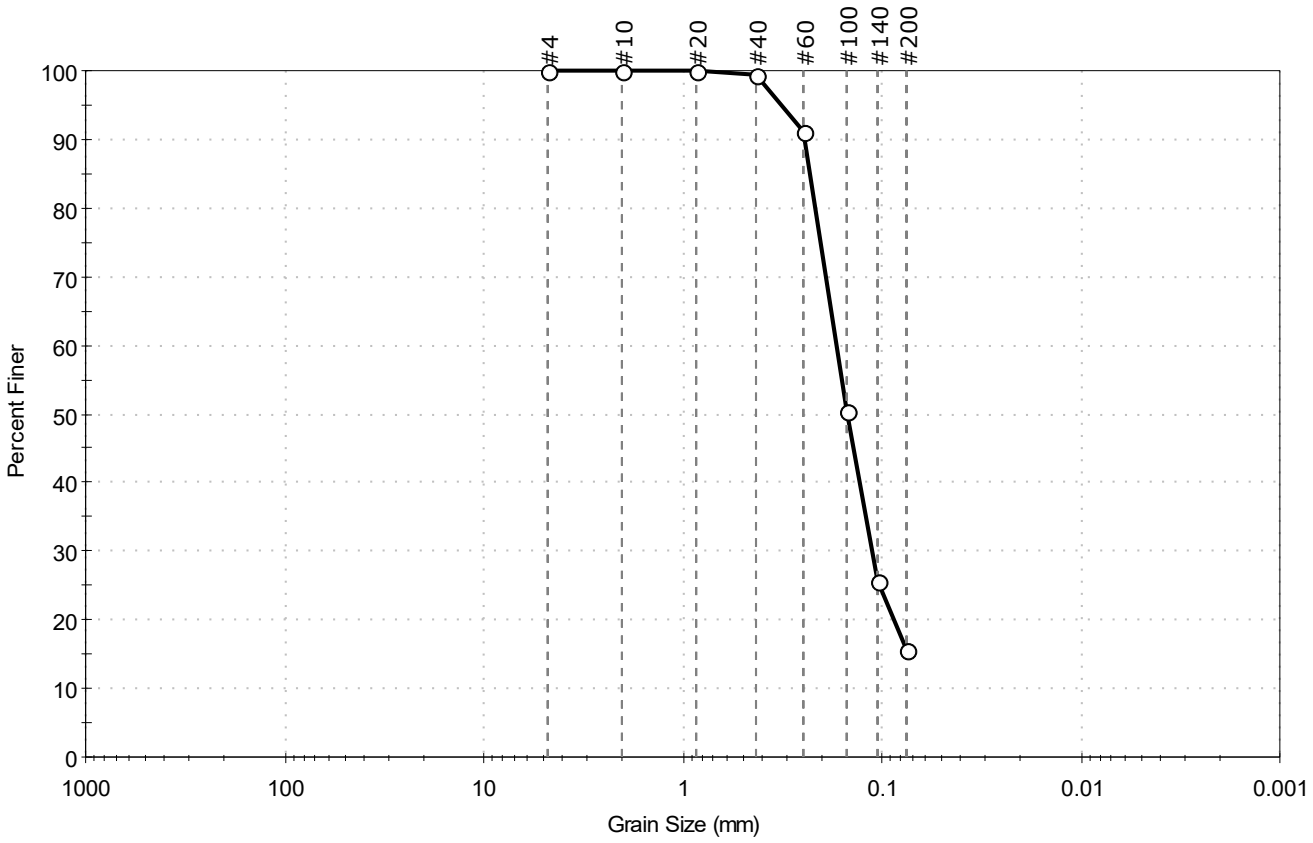
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13, S-14	Test Date:	06/14/22	Checked By:	bfs
Depth :	24-26', 26-28	Test Id:	672390		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	84.3	15.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	91		
#100	0.15	50		
#140	0.11	26		
#200	0.075	16		

Coefficients

D_{85} = 0.2311 mm	D_{30} = 0.1125 mm
D_{60} = 0.1690 mm	D_{15} = N/A
D_{50} = 0.1490 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

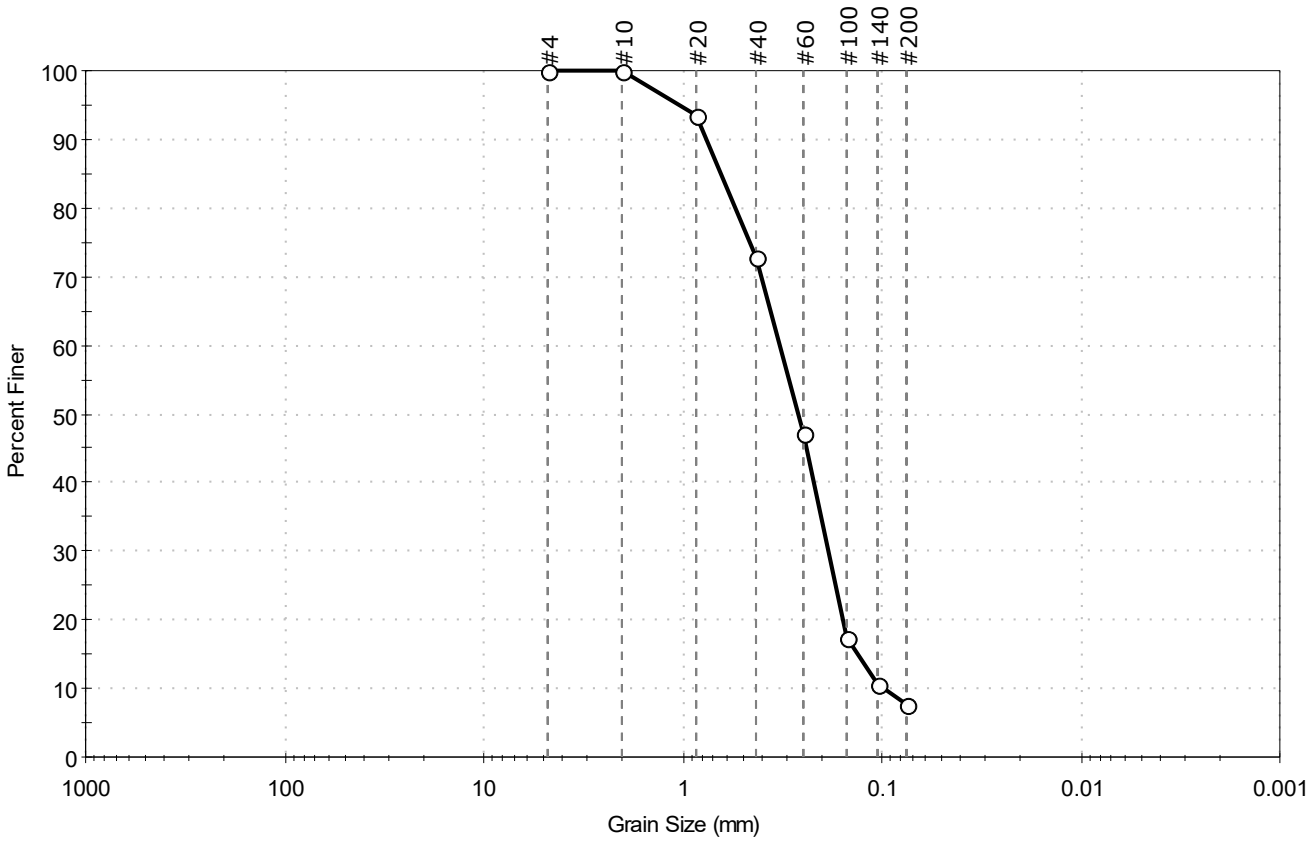
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 6/20/2022 10:26:56 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	06/14/22	Checked By:	bfs
Depth :	55-57'	Test Id:	672391		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	92.2	7.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	93		
#40	0.42	73		
#60	0.25	47		
#100	0.15	17		
#140	0.11	11		
#200	0.075	7.8		

Coefficients

D_{85} = 0.6403 mm	D_{30} = 0.1865 mm
D_{60} = 0.3264 mm	D_{15} = 0.1333 mm
D_{50} = 0.2656 mm	D_{10} = 0.0992 mm
C_u = 3.290	C_c = 1.074

Classification

ASTM Poorly graded SAND with Silt (SP-SM)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

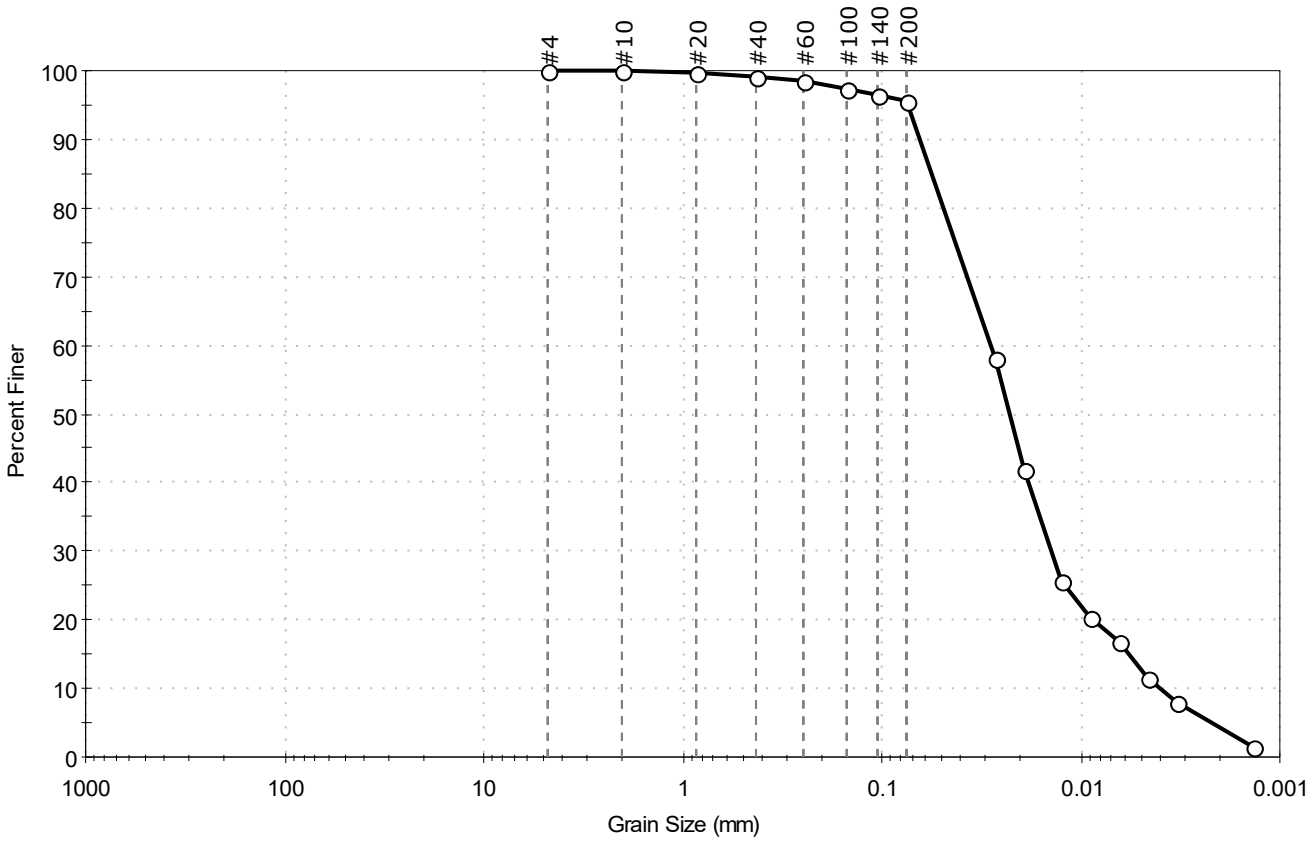
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-22	Test Date:	06/16/22	Checked By:	jsc
Depth :	65-67'	Test Id:	672410		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	4.5	95.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	97		
#140	0.11	97		
#200	0.075	95		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0270	58		
---	0.0195	42		
---	0.0124	26		
---	0.0091	20		
---	0.0065	17		
---	0.0046	11		
---	0.0033	8		
---	0.0014	1		

Coefficients

D_{85} = 0.0564 mm	D_{30} = 0.0140 mm
D_{60} = 0.0285 mm	D_{15} = 0.0058 mm
D_{50} = 0.0230 mm	D_{10} = 0.0040 mm
C_u = 7.125	C_c = 1.719

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

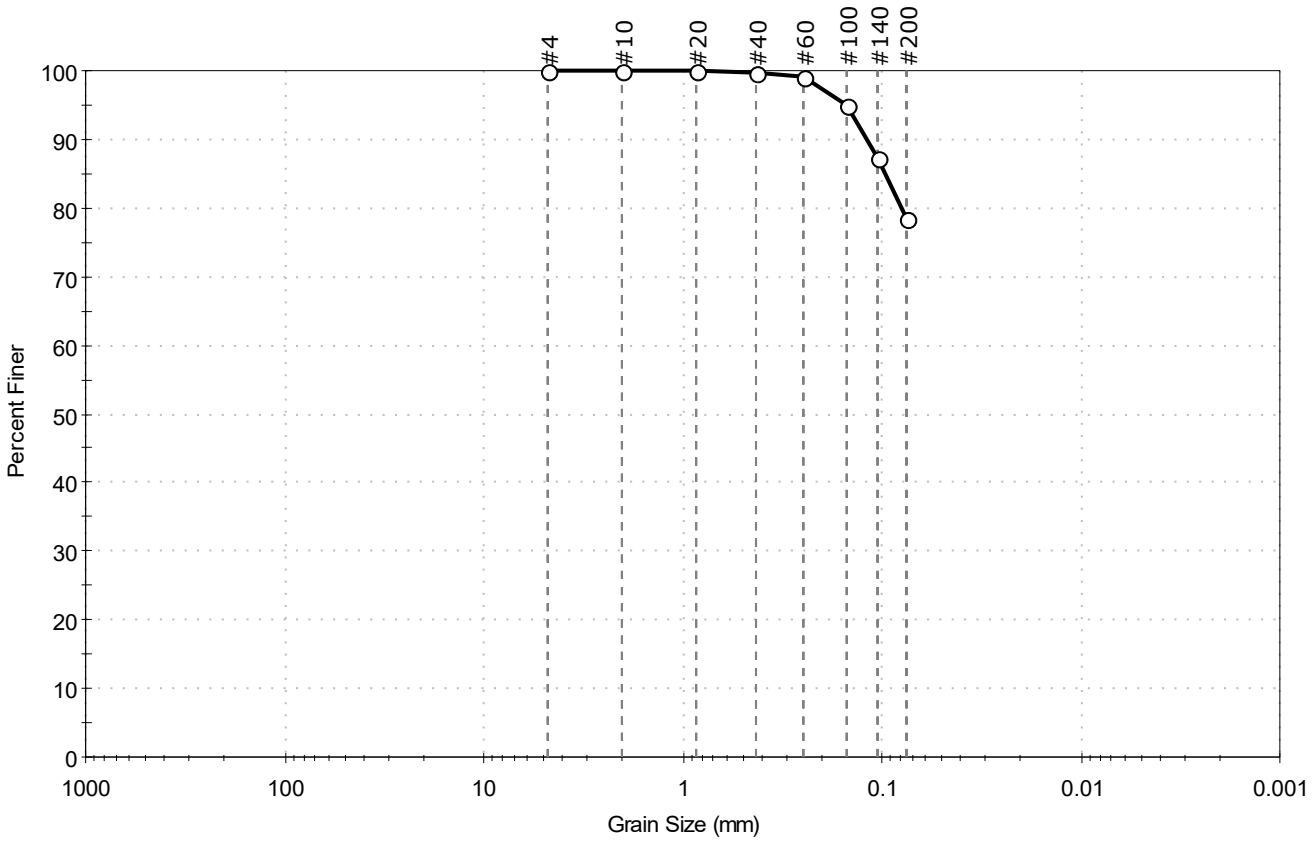
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	10/26/22	Checked By:	bfs
Depth :	70-72	Test Id:	690130		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	21.5	78.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	95		
#140	0.11	87		
#200	0.075	79		

Coefficients

D_{85} = 0.0971 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

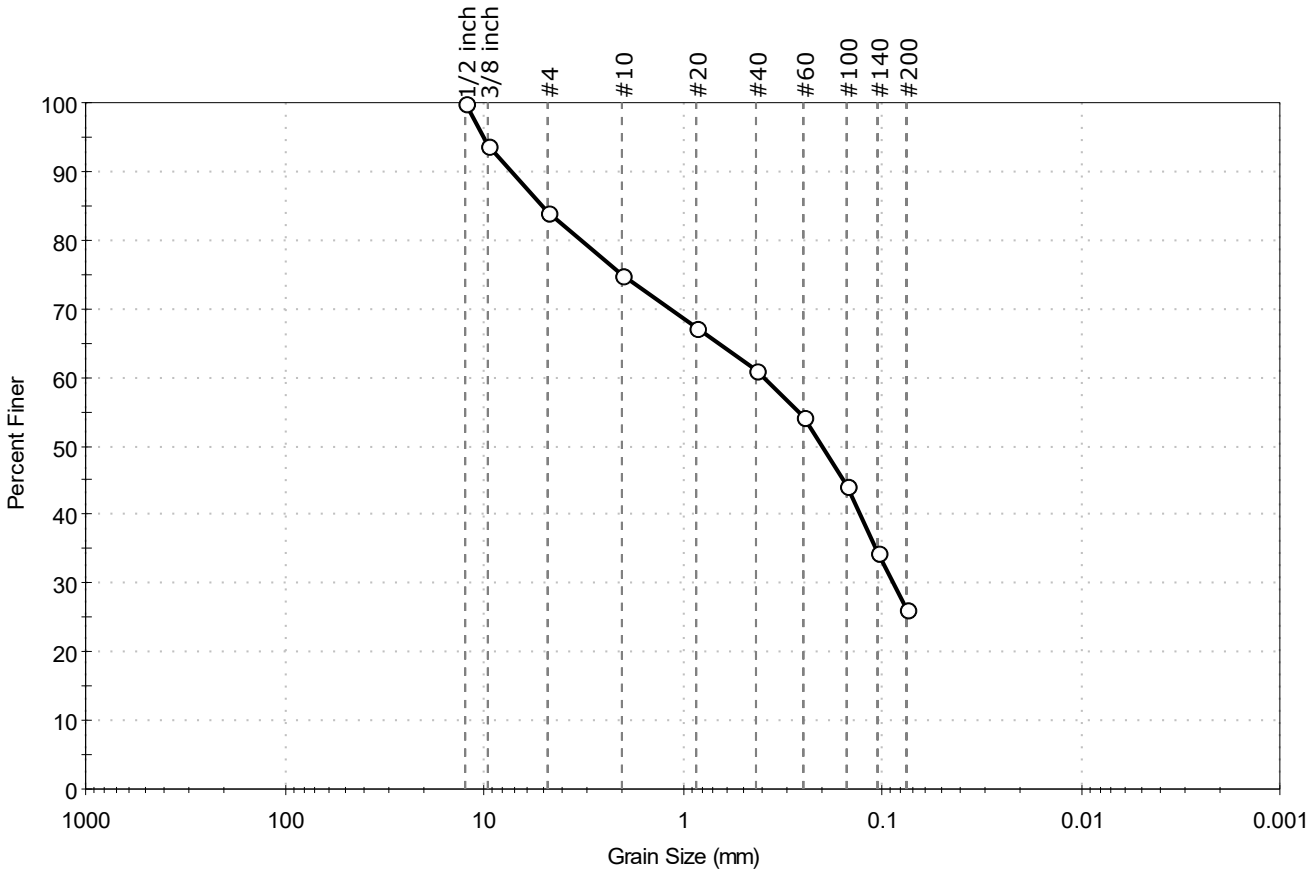
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/27/2022 12:57:23 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-26	Test Date:	06/14/22	Checked By:	bfs
Depth :	76-78'	Test Id:	672392		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	15.9	57.8	26.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1/2 inch	12.50	100		
3/8 inch	9.50	94		
#4	4.75	84		
#10	2.00	75		
#20	0.85	67		
#40	0.42	61		
#60	0.25	54		
#100	0.15	44		
#140	0.11	34		
#200	0.075	26		

Coefficients

D_{85} = 5.0904 mm	D_{30} = 0.0879 mm
D_{60} = 0.3886 mm	D_{15} = N/A
D_{50} = 0.2012 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

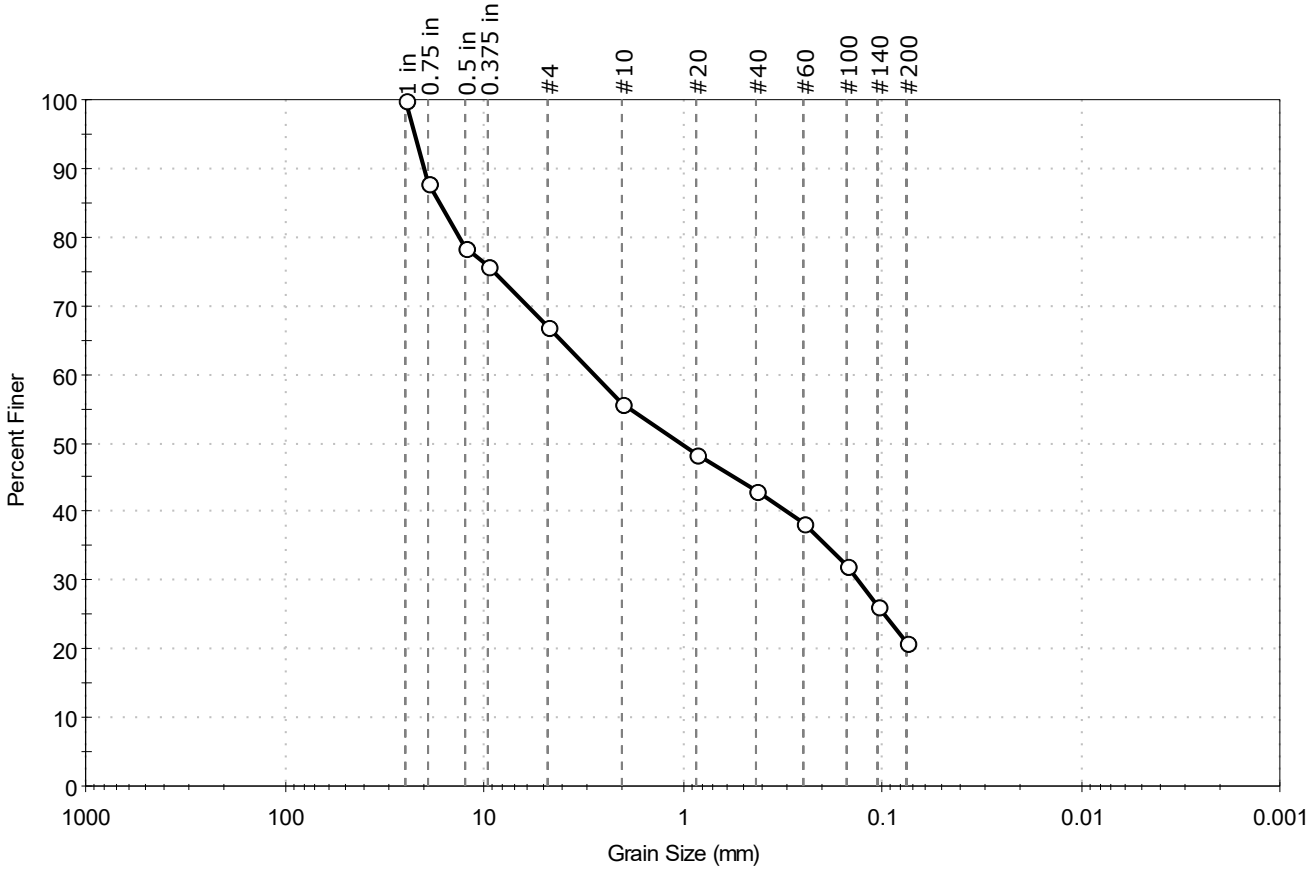
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	06/13/22	Checked By:	bfs
Depth :	78-80'	Test Id:	672393		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	33.0	46.2	20.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	88		
0.5 in	12.50	78		
0.375 in	9.50	76		
#4	4.75	67		
#10	2.00	56		
#20	0.85	48		
#40	0.42	43		
#60	0.25	38		
#100	0.15	32		
#140	0.11	26		
#200	0.075	21		

Coefficients

D_{85} = 16.7763 mm	D_{30} = 0.1317 mm
D_{60} = 2.7614 mm	D_{15} = N/A
D_{50} = 1.0301 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

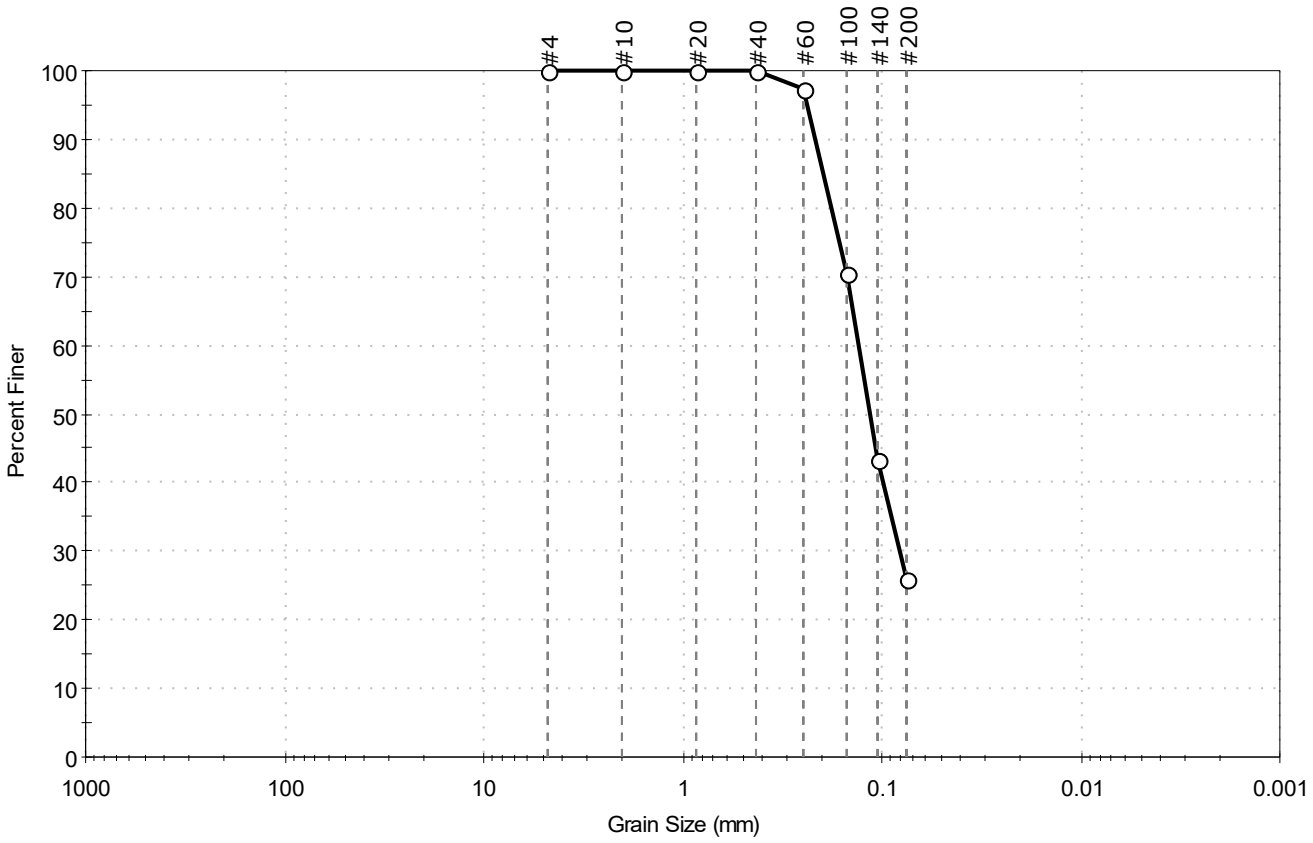
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-2	Test Date:	05/19/22	Checked By:	bfs
Depth :	2-4'	Test Id:	668478		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	73.9	26.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	97		
#100	0.15	70		
#140	0.11	43		
#200	0.075	26		

Coefficients

D_{85} = 0.1976 mm	D_{30} = 0.0811 mm
D_{60} = 0.1312 mm	D_{15} = N/A
D_{50} = 0.1155 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

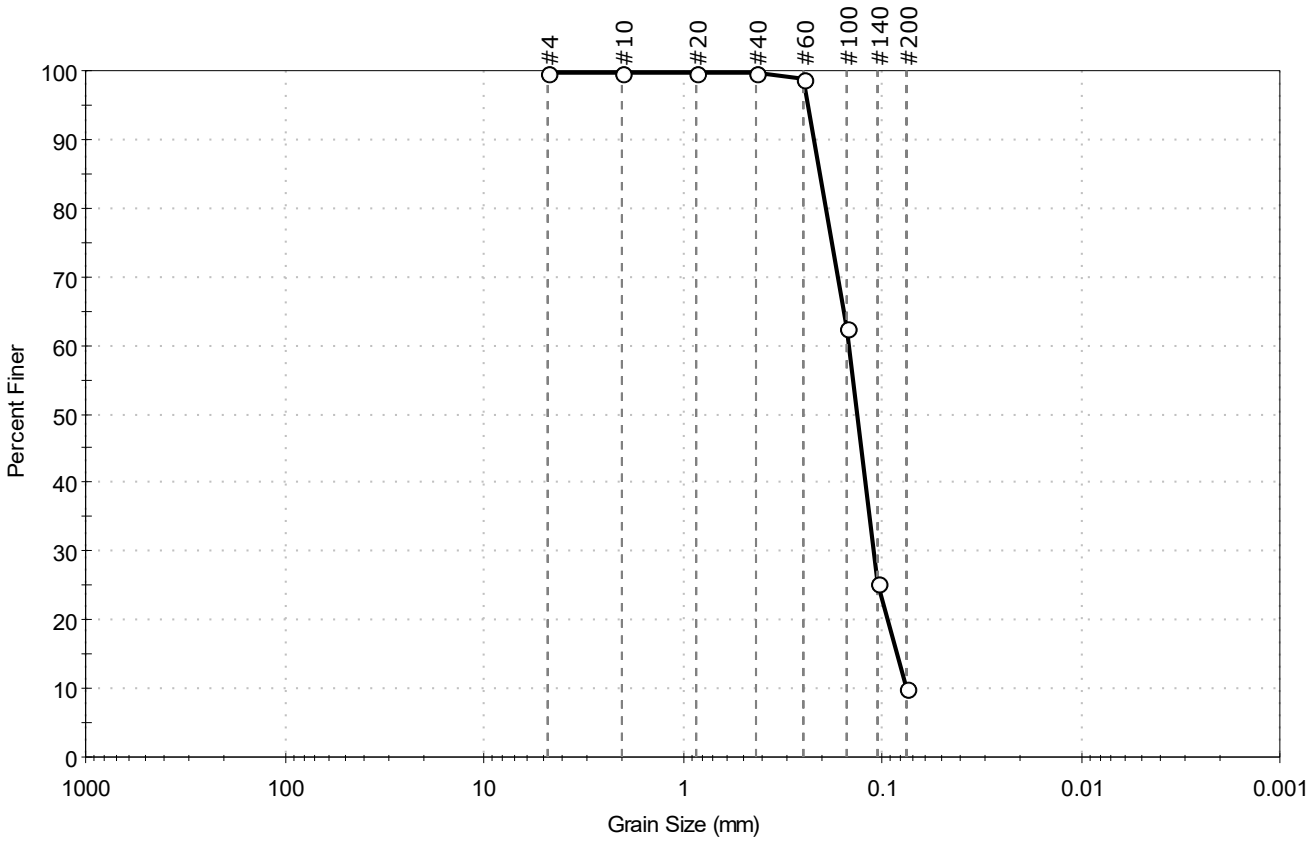
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:49 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-5	Test Date:	05/19/22	Checked By:	bfs
Depth :	8-10	Test Id:	668479		
Test Comment:	---				
Visual Description:	Moist, pale brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.2	89.6	10.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	62		
#140	0.11	25		
#200	0.075	10		

Coefficients

D_{85} = 0.2061 mm
D_{30} = 0.1108 mm
D_{60} = 0.1467 mm
D_{15} = 0.0838 mm
D_{50} = 0.1336 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

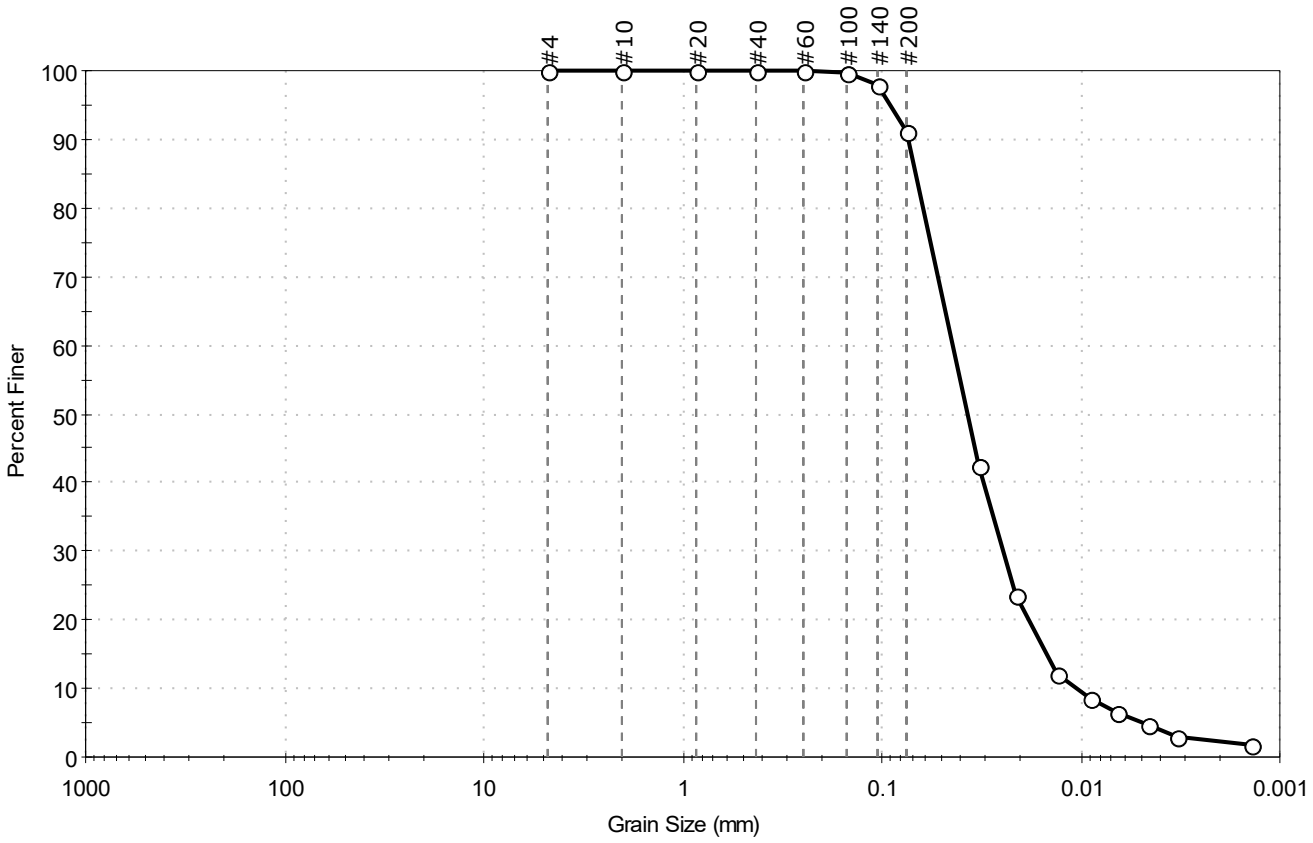
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:50 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-9	Test Date:	05/24/22	Checked By:	bfs
Depth :	16-18'	Test Id:	668450		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	8.9	91.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	100		
#140	0.11	98		
#200	0.075	91		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0323	42		
---	0.0214	24		
---	0.0130	12		
---	0.0090	8		
---	0.0065	7		
---	0.0046	5		
---	0.0033	3		
---	0.0014	2		

Coefficients

D_{85} =0.0675 mm	D_{30} =0.0246 mm
D_{60} =0.0438 mm	D_{15} =0.0147 mm
D_{50} =0.0369 mm	D_{10} =0.0105 mm
C_u =4.171	C_c =1.316

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

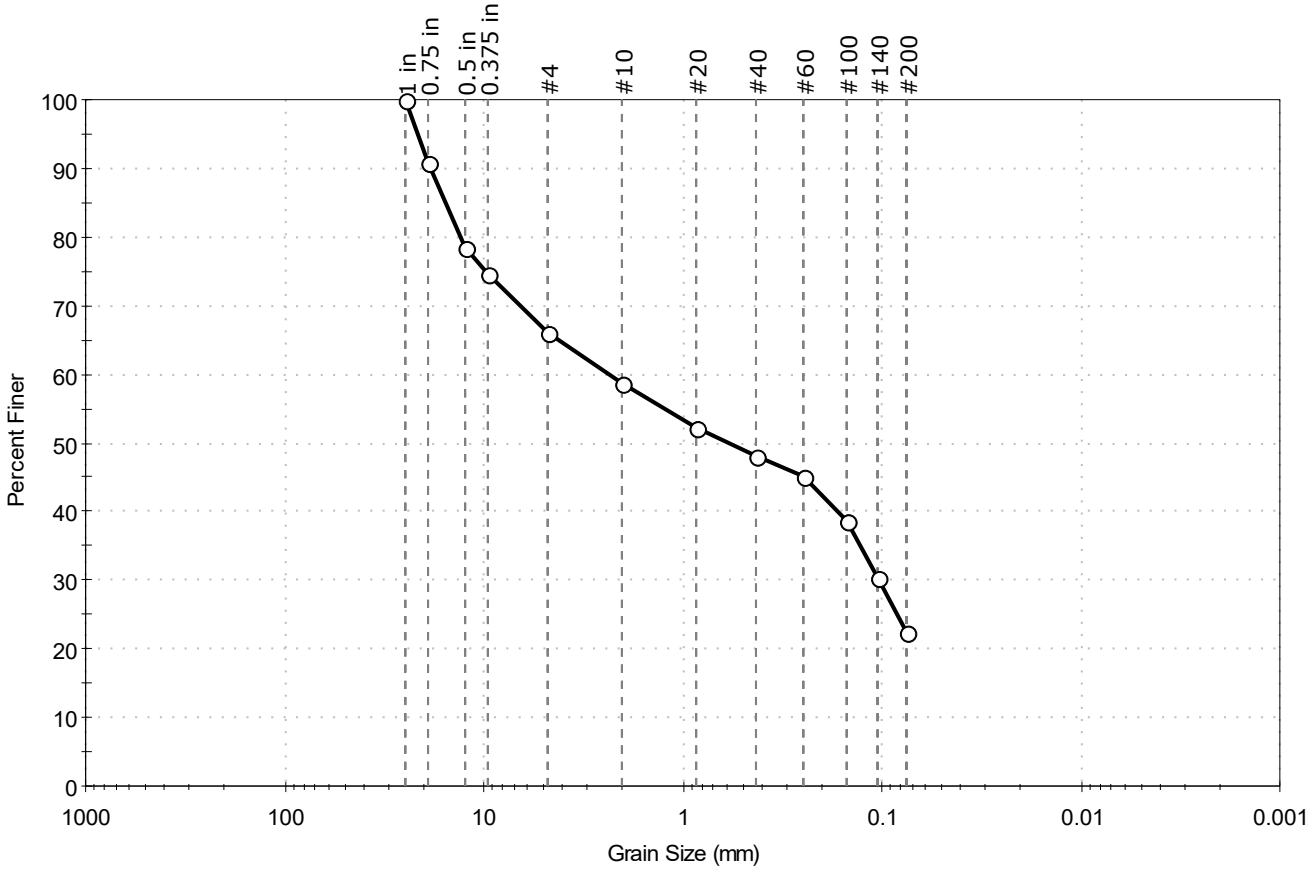
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	06/13/22	Checked By:	bfs
Depth :	80-82'	Test Id:	672387		
Test Comment:	---				
Visual Description:	Moist, light brownish gray silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	34.0	43.5	22.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	91		
0.5 in	12.50	78		
0.375 in	9.50	75		
#4	4.75	66		
#10	2.00	59		
#20	0.85	52		
#40	0.42	48		
#60	0.25	45		
#100	0.15	39		
#140	0.11	30		
#200	0.075	22		

Coefficients

D_{85} = 15.5935 mm	D_{30} = 0.1048 mm
D_{60} = 2.3312 mm	D_{15} = N/A
D_{50} = 0.5809 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

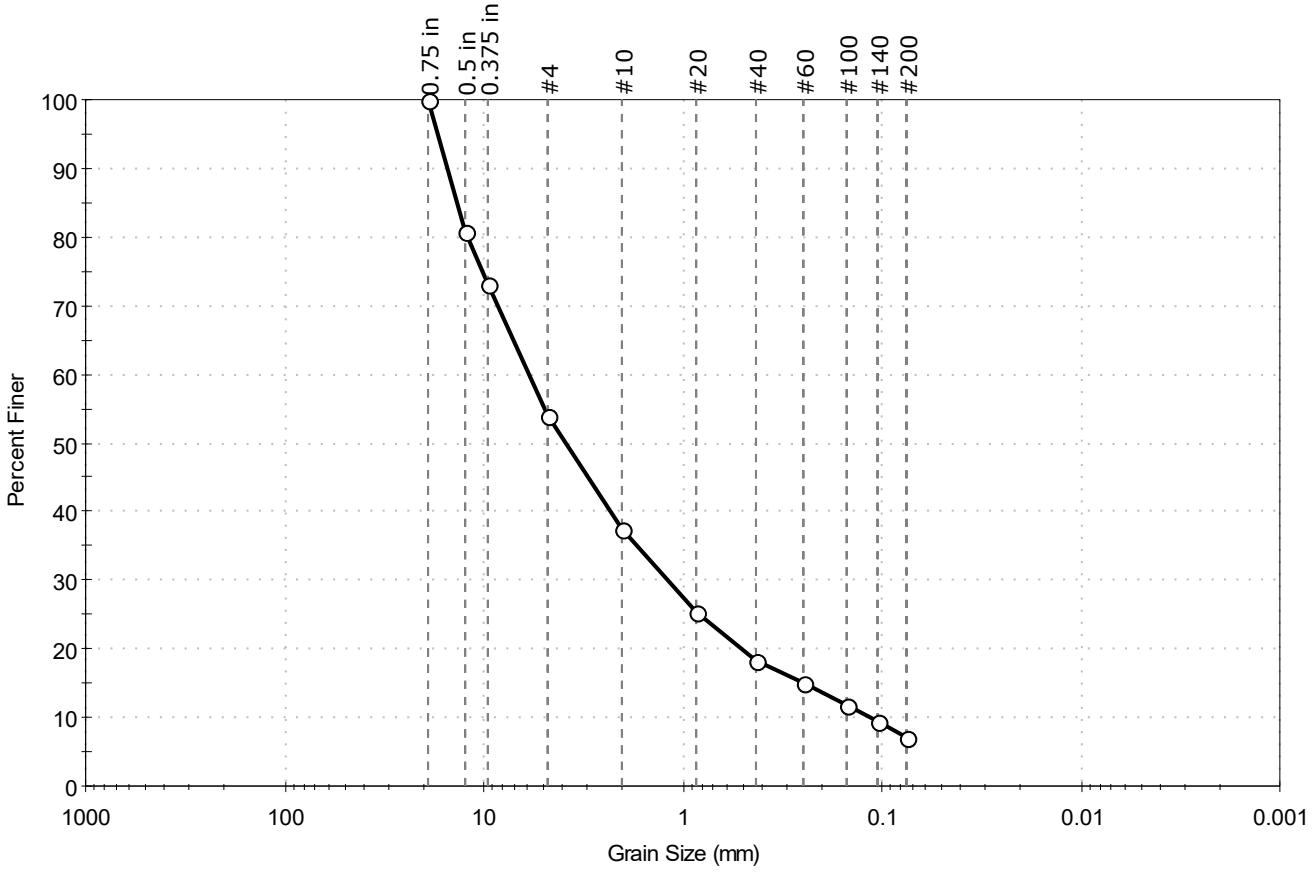
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-29	Test Date:	06/13/22	Checked By:	bfs
Depth :	90-92'	Test Id:	672388		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	46.1	46.9	7.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	81		
0.375 in	9.50	73		
#4	4.75	54		
#10	2.00	37		
#20	0.85	25		
#40	0.42	18		
#60	0.25	15		
#100	0.15	12		
#140	0.11	9		
#200	0.075	7.0		

Coefficients

D_{85} = 13.6963 mm D_{30} = 1.1863 mm

D_{60} = 5.9231 mm D_{15} = 0.2511 mm

D_{50} = 3.8704 mm D_{10} = 0.1151 mm

C_u = 51.460 C_c = 2.064

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (1))

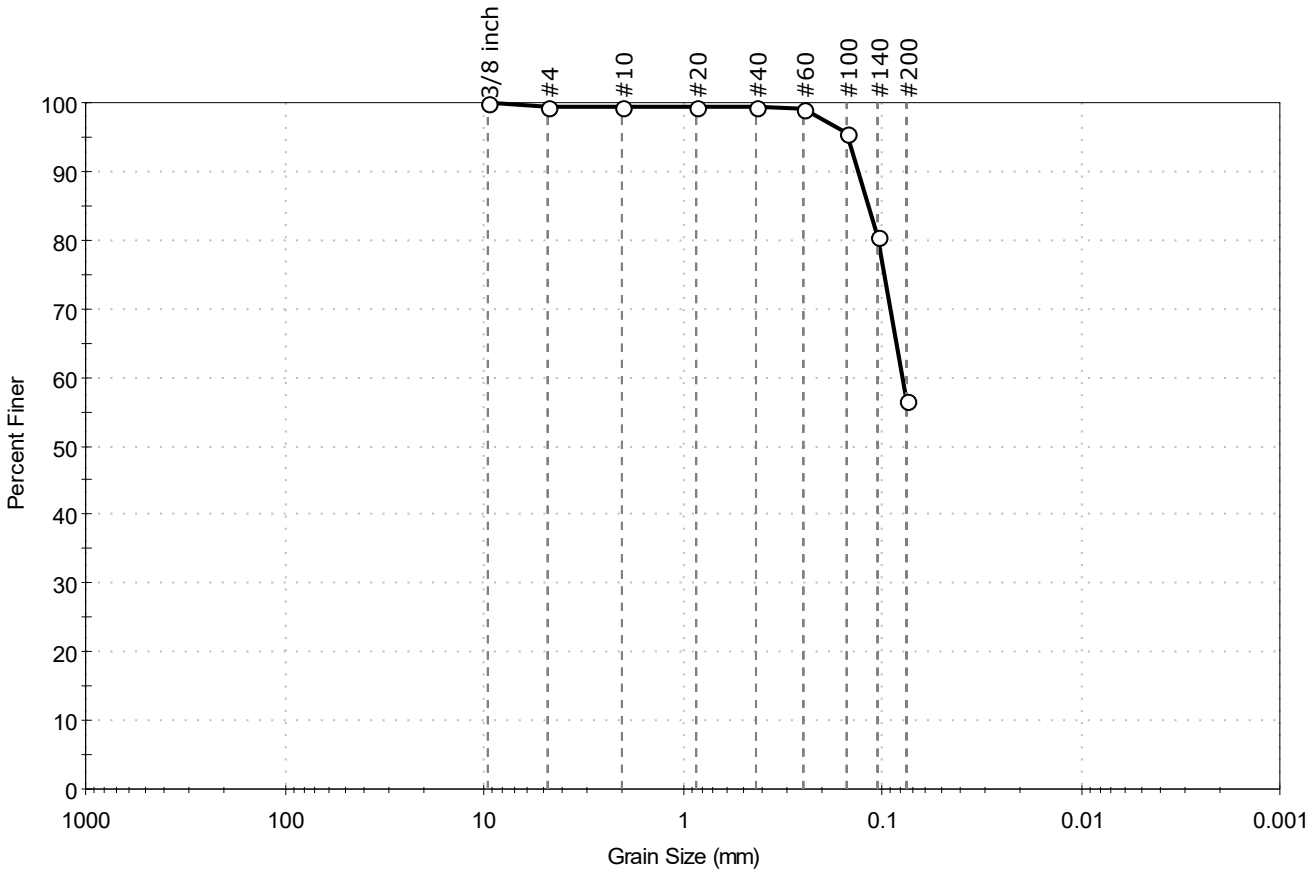
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-12	Test Date:	05/19/22	Checked By:	bfs
Depth :	22-24'	Test Id:	668480		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.5	42.8	56.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	99		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	96		
#140	0.11	80		
#200	0.075	57		

Coefficients

D_{85} = 0.1176 mm D_{30} = N/A

D_{60} = 0.0787 mm D_{15} = N/A

D_{50} = N/A D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM Sandy SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

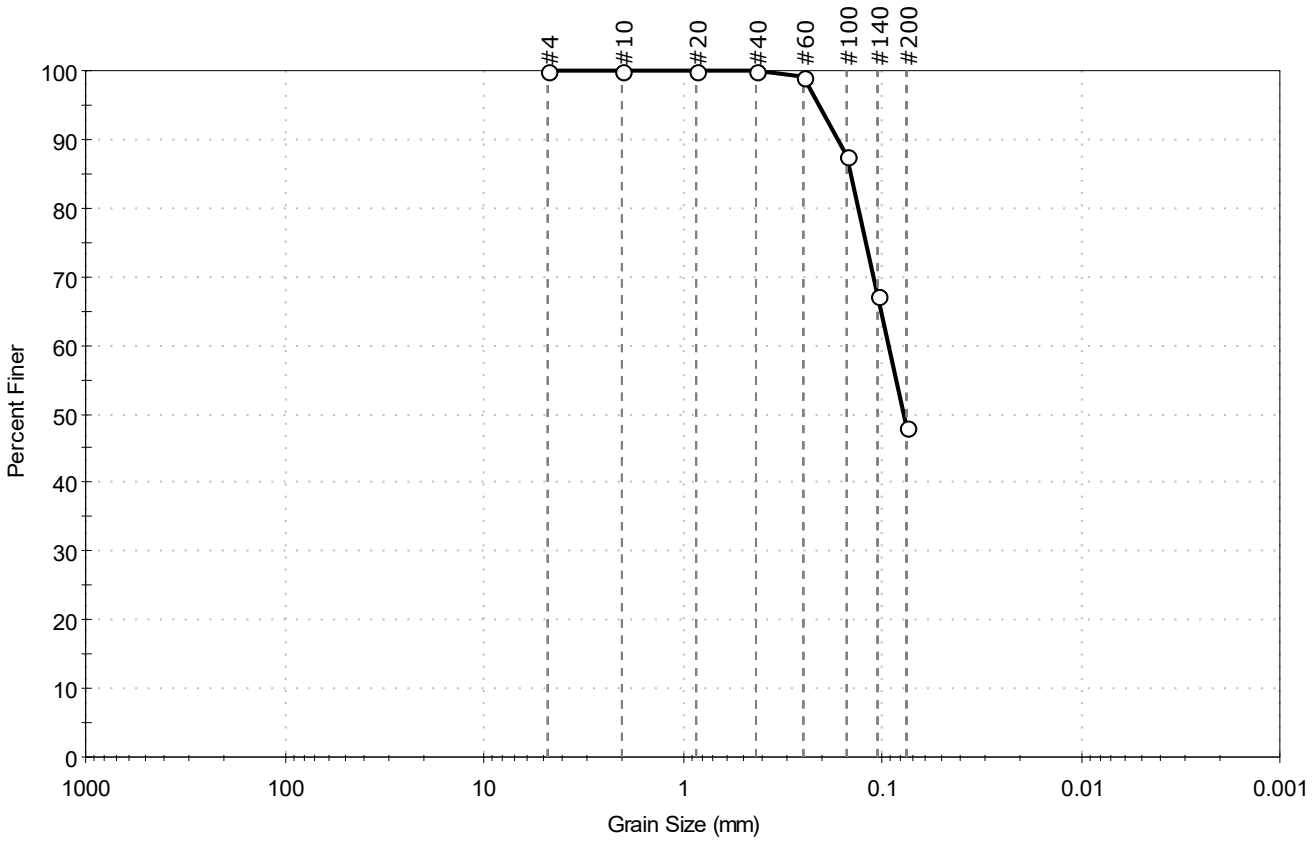
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:52 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-18	Test Date:	05/18/22	Checked By:	bfs
Depth :	45-47'	Test Id:	668481		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	51.9	48.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	88		
#140	0.11	67		
#200	0.075	48		

Coefficients

D_{85} = 0.1435 mm	D_{30} = N/A
D_{60} = 0.0931 mm	D_{15} = N/A
D_{50} = 0.0777 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

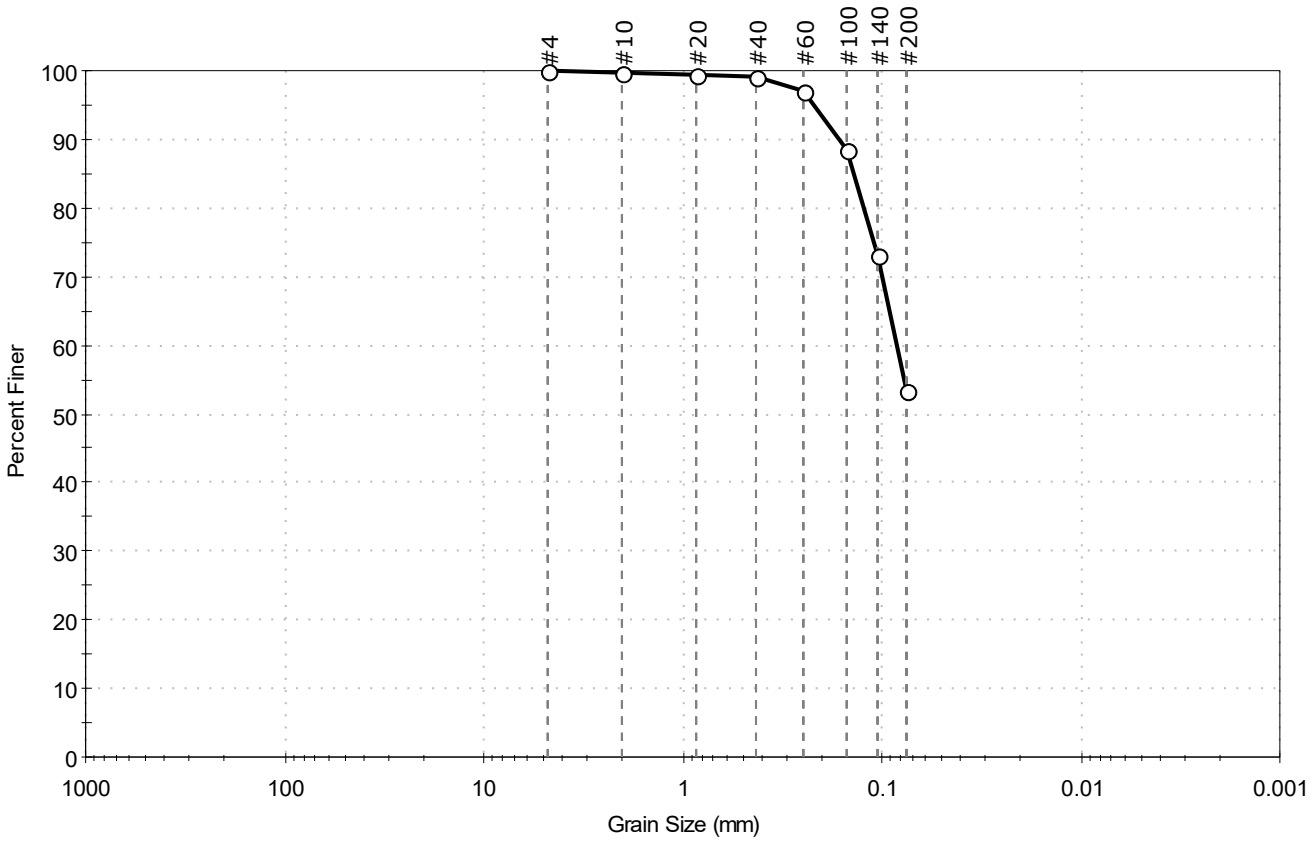
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-22	Test Date:	05/19/22	Checked By:	bfs
Depth :	65-67'	Test Id:	668482		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	46.4	53.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	97		
#100	0.15	88		
#140	0.11	73		
#200	0.075	53		

Coefficients

D_{85} = 0.1389 mm	D_{30} = N/A
D_{60} = 0.0841 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

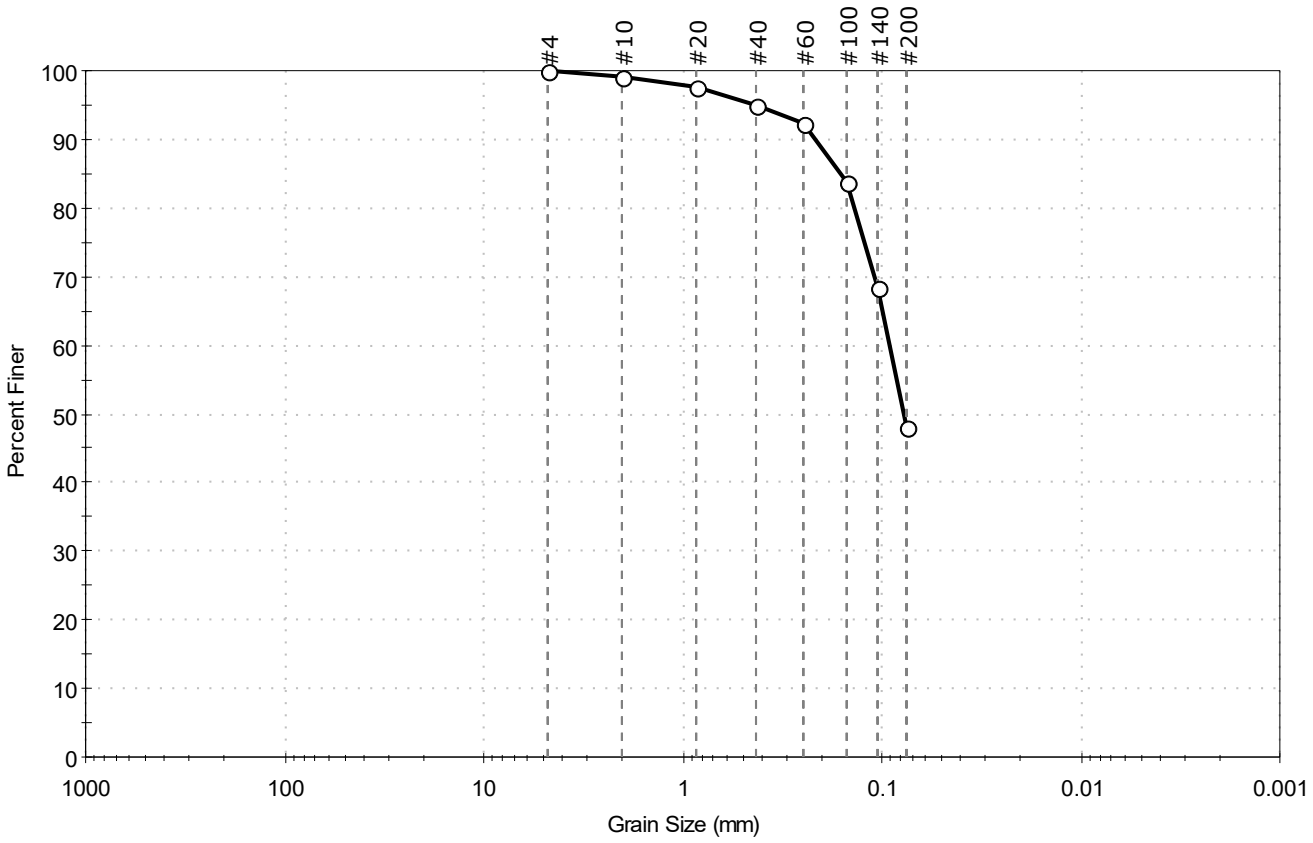
Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:54 PM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24, S-25	Test Date:	10/25/22	Checked By:	bfs
Depth :	72-74, 74-76	Test Id:	690129		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	51.9	48.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	95		
#60	0.25	92		
#100	0.15	84		
#140	0.11	68		
#200	0.075	48		

Coefficients

D_{85} = 0.1622 mm D_{30} = N/A
D_{60} = 0.0919 mm D_{15} = N/A
D_{50} = 0.0775 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Soils (A-4 (0))

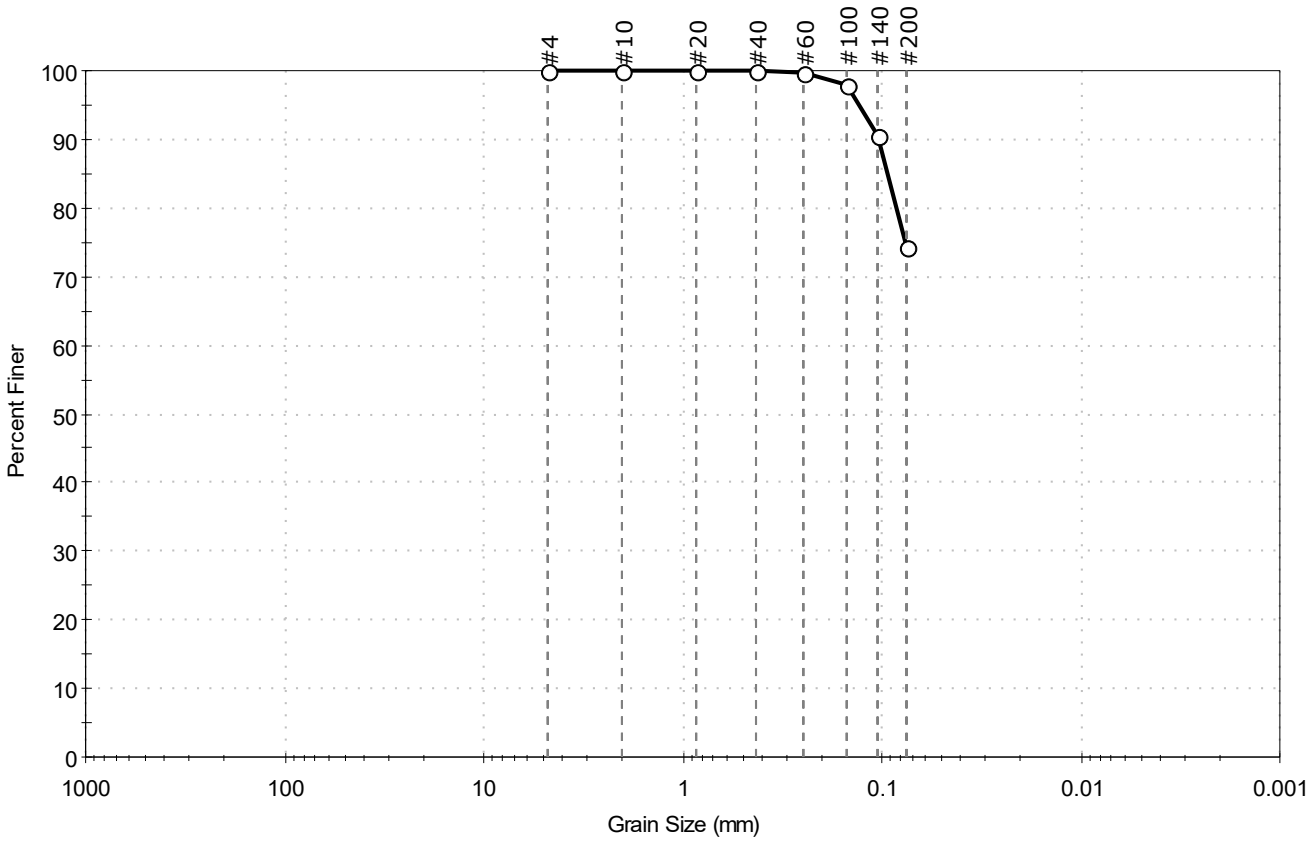
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	05/19/22	Checked By:	bfs
Depth :	4-6', 6-8'	Test Id:	668459		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	25.6	74.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	98		
#140	0.11	91		
#200	0.075	74		

Coefficients

D_{85} = 0.0940 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT with Sand (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

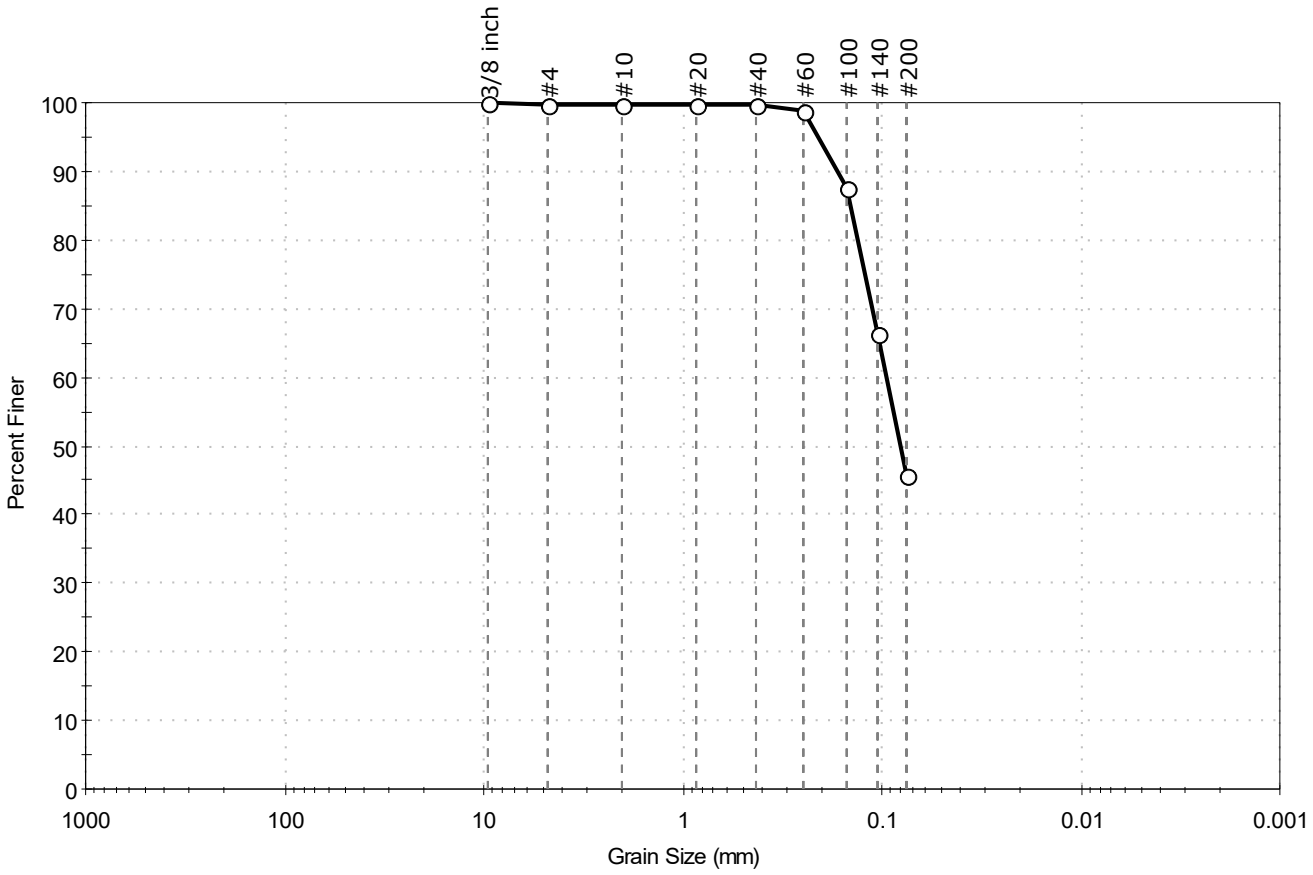
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:40 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-7, S-8	Test Date:	05/19/22	Checked By:	bfs
Depth :	12-14', 14-16'	Test Id:	668460		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.2	54.2	45.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	88		
#140	0.11	66		
#200	0.075	46		

Coefficients

D_{85} = 0.1439 mm D_{30} = N/A
D_{60} = 0.0954 mm D_{15} = N/A
D_{50} = 0.0807 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

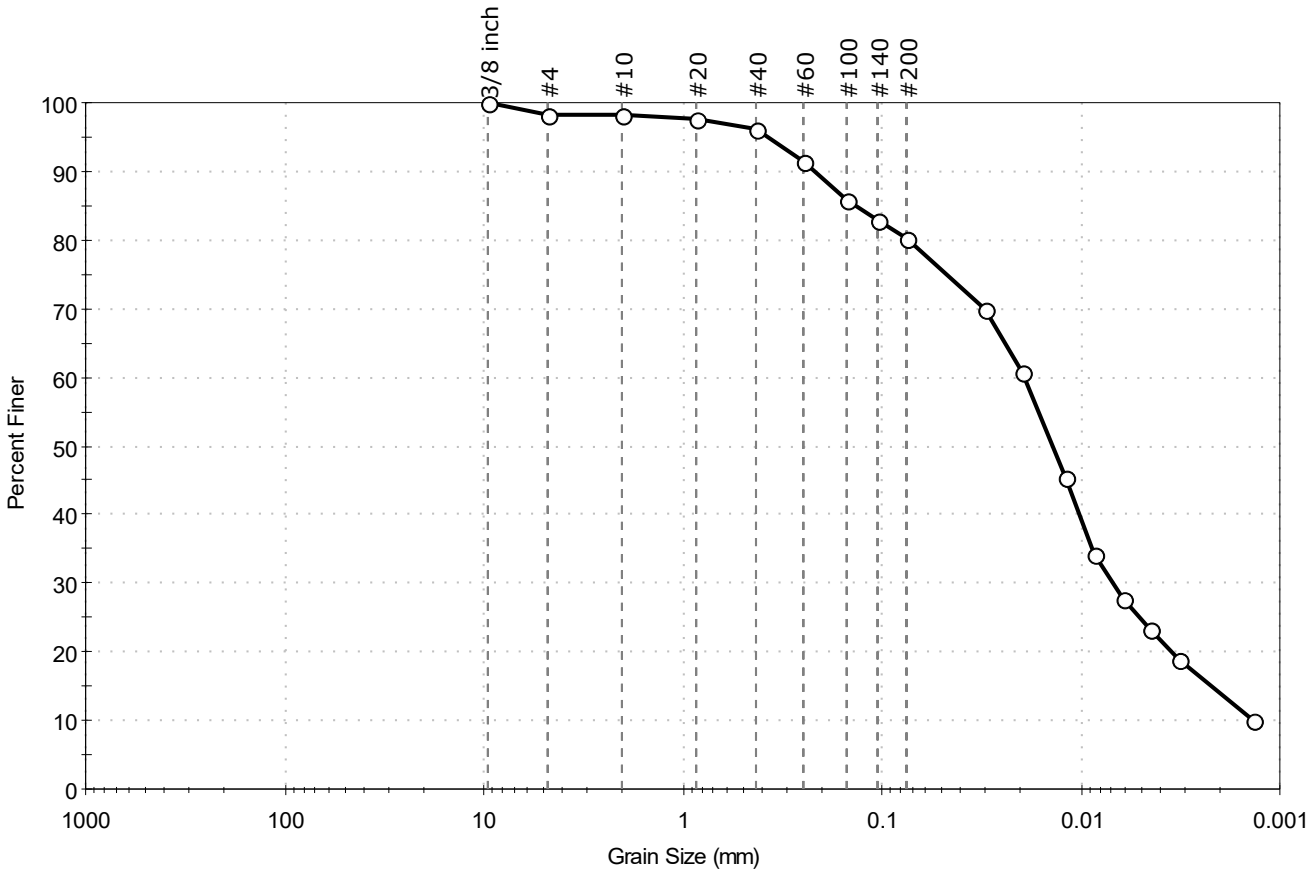
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-9	Test Date:	05/24/22	Checked By:	bfs
Depth :	16-18'	Test Id:	668446		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.7	18.1	80.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/8 inch	9.50	100		
#4	4.75	98		
#10	2.00	98		
#20	0.85	98		
#40	0.42	96		
#60	0.25	91		
#100	0.15	86		
#140	0.11	83		
#200	0.075	80		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0301	70		
---	0.0197	61		
---	0.0119	45		
---	0.0086	34		
---	0.0062	28		
---	0.0045	23		
---	0.0032	19		
---	0.0014	10		

Coefficients

D_{85} =0.1361 mm	D_{30} =0.0070 mm
D_{60} =0.0191 mm	D_{15} =0.0022 mm
D_{50} =0.0138 mm	D_{10} =0.0014 mm
C_u =13.643	C_c =1.832

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

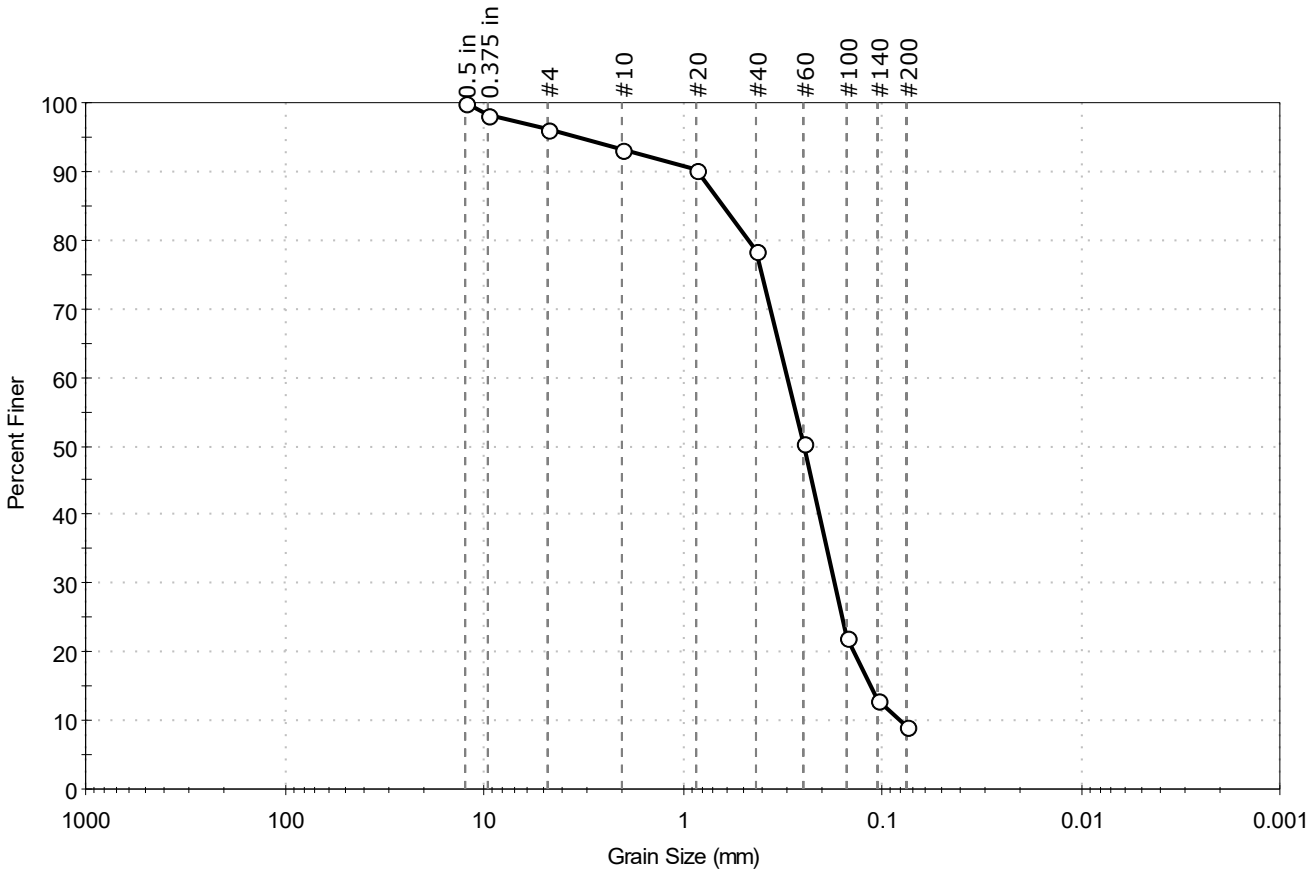
Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 5/24/2022 3:55:42 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-11	Test Date:	05/18/22	Checked By:	bfs
Depth :	20-22'	Test Id:	668461		
Test Comment:	---				
Visual Description:	Moist, pale brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.7	87.2	9.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	98		
#4	4.75	96		
#10	2.00	93		
#20	0.85	90		
#40	0.42	78		
#60	0.25	50		
#100	0.15	22		
#140	0.11	13		
#200	0.075	9.1		

Coefficients

D_{85} = 0.6250 mm	D_{30} = 0.1732 mm
D_{60} = 0.2998 mm	D_{15} = 0.1141 mm
D_{50} = 0.2481 mm	D_{10} = 0.0812 mm
C_u = 3.692	C_c = 1.232

Classification

ASTM — Poorly graded SAND with Silt (SP-SM)

AASHTO — Fine Sand (A-3 (1))

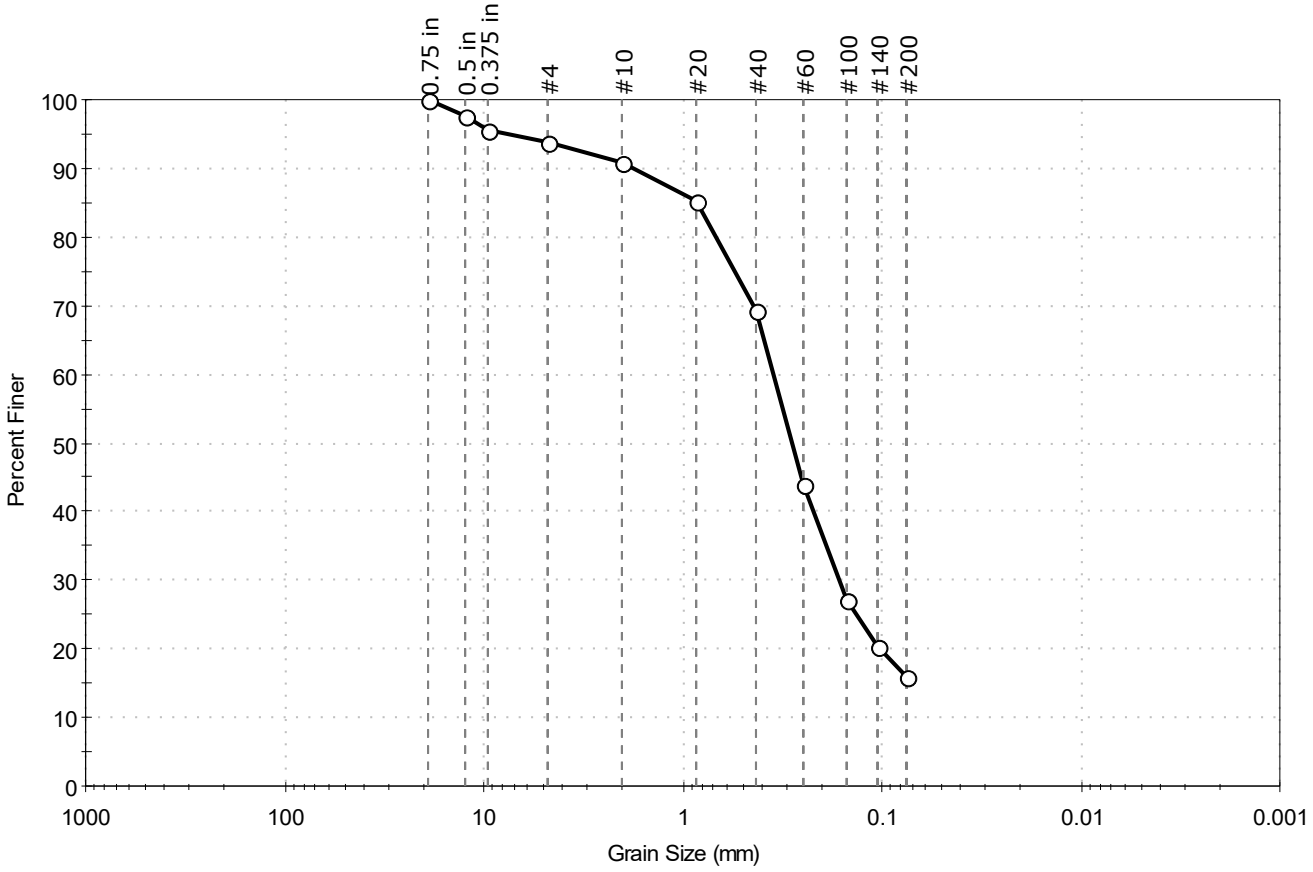
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-17	Test Date:	05/18/22	Checked By:	bfs
Depth :	40-42'	Test Id:	668462		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	6.1	78.0	15.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	98		
0.375 in	9.50	95		
#4	4.75	94		
#10	2.00	91		
#20	0.85	85		
#40	0.42	69		
#60	0.25	44		
#100	0.15	27		
#140	0.11	20		
#200	0.075	16		

Coefficients

D_{85} = 0.8359 mm D_{30} = 0.1636 mm

D_{60} = 0.3498 mm D_{15} = N/A

D_{50} = 0.2833 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

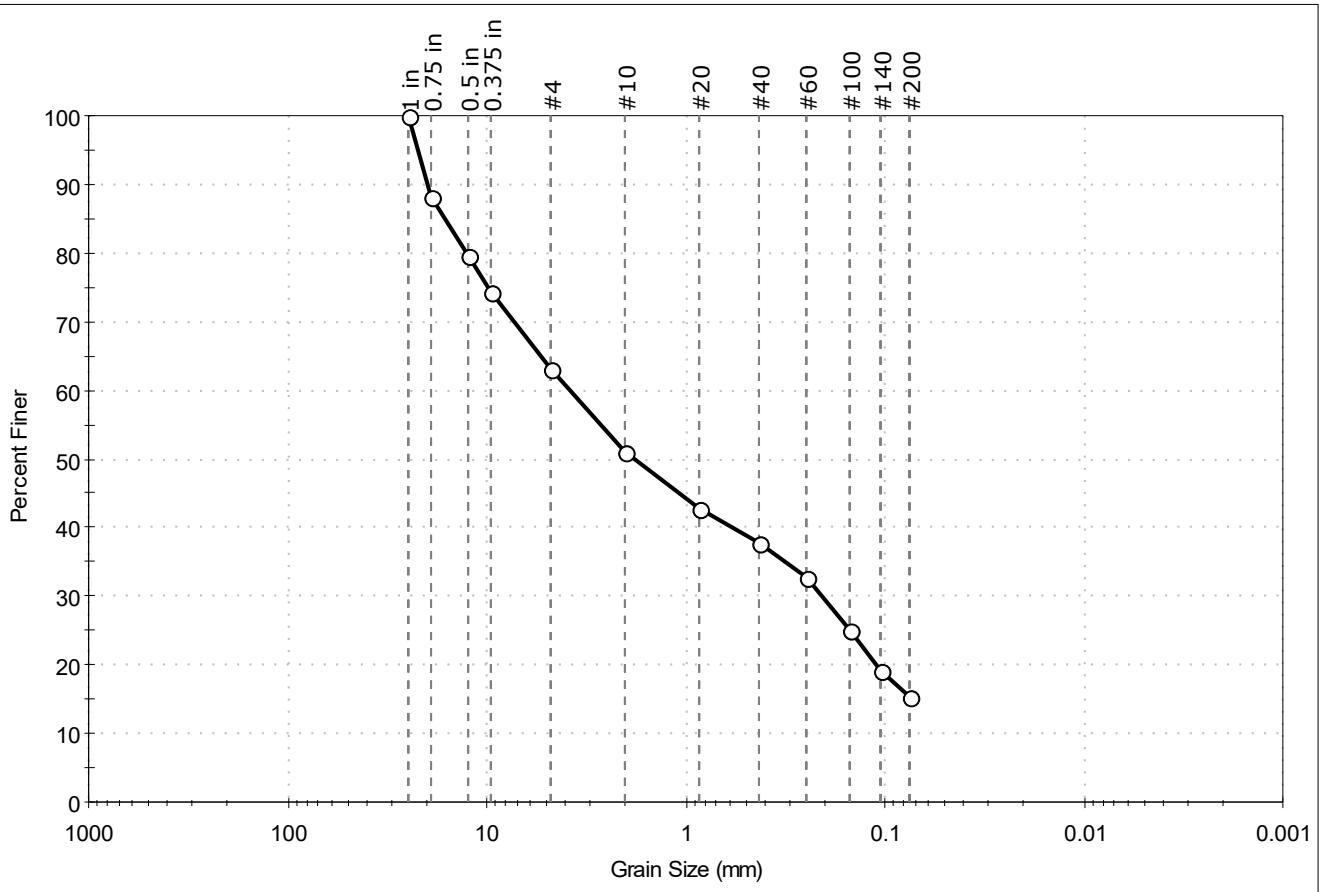
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 5/24/2022 3:55:45 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	10/26/22	Checked By:	ank
Depth :	64-66	Test Id:	690126		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	36.7	47.9	15.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	88		
0.5 in	12.50	80		
0.375 in	9.50	74		
#4	4.75	63		
#10	2.00	51		
#20	0.85	43		
#40	0.42	38		
#60	0.25	33		
#100	0.15	25		
#140	0.11	19		
#200	0.075	15		

Coefficients

D_{85} = 16.3018 mm	D_{30} = 0.2077 mm
D_{60} = 3.7660 mm	D_{15} = N/A
D_{50} = 1.7730 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM — Silty SAND with Gravel (SM)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (0))

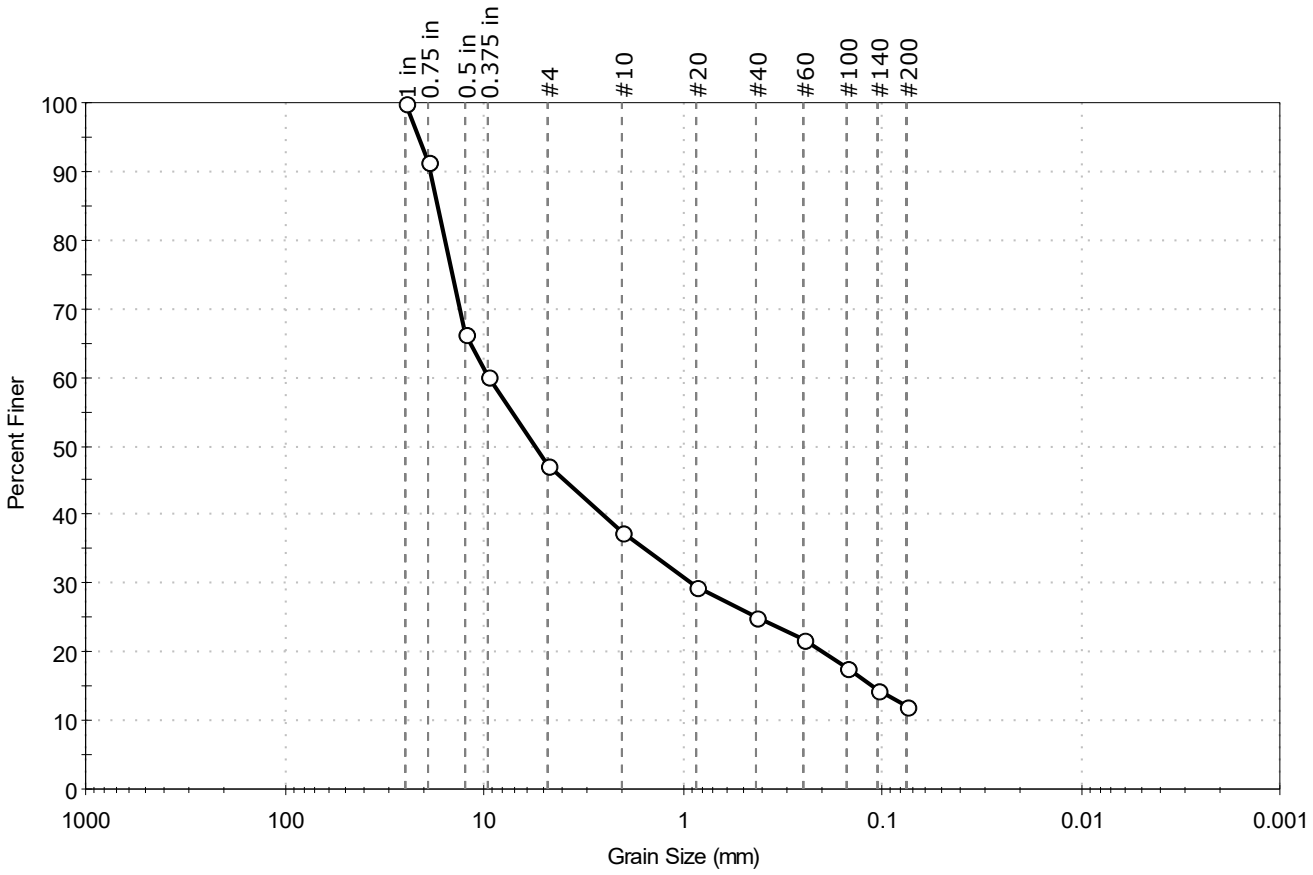
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-24, S-25	Test Date:	05/18/22	Checked By:	bfs
Depth :	66-68', 68-70'	Test Id:	668463		
Test Comment:	---				
Visual Description:	Moist, light olive brown gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	52.9	35.2	11.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	91		
0.5 in	12.50	66		
0.375 in	9.50	60		
#4	4.75	47		
#10	2.00	37		
#20	0.85	30		
#40	0.42	25		
#60	0.25	22		
#100	0.15	18		
#140	0.11	15		
#200	0.075	12		

Coefficients

D_{85} = 17.0542 mm	D_{30} = 0.8874 mm
D_{60} = 9.4740 mm	D_{15} = 0.1109 mm
D_{50} = 5.5320 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (0))

Sample/Test Description

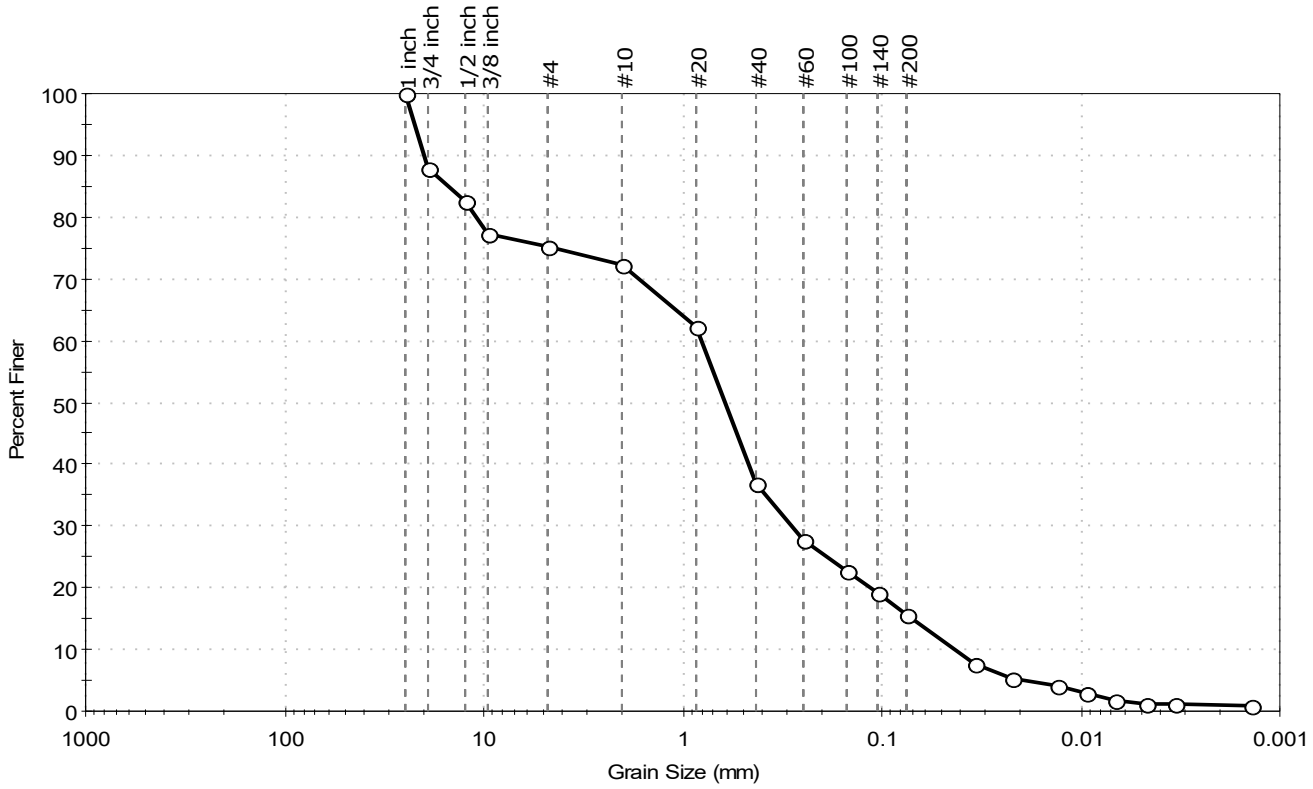
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-27	Test Date:	05/24/22	Checked By:	bfs
Depth :	72-74'	Test Id:	668447		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	24.7	59.6	15.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 inch	25.00	100		
3/4 inch	19.00	88		
1/2 inch	12.50	83		
3/8 inch	9.50	77		
#4	4.75	75		
#10	2.00	72		
#20	0.85	62		
#40	0.42	37		
#60	0.25	28		
#100	0.15	23		
#140	0.11	19		
#200	0.075	16		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0339	8		
---	0.0224	5		
---	0.0132	4		
---	0.0094	3		
---	0.0067	2		
---	0.0047	1		
---	0.0033	1		
---	0.0014	1		

Coefficients

D_{85} = 15.1897 mm D_{30} = 0.2844 mm
D_{60} = 0.7972 mm D_{15} = 0.0702 mm
D_{50} = 0.6078 mm D_{10} = 0.0430 mm
C_u = 18.540 C_c = 2.360

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

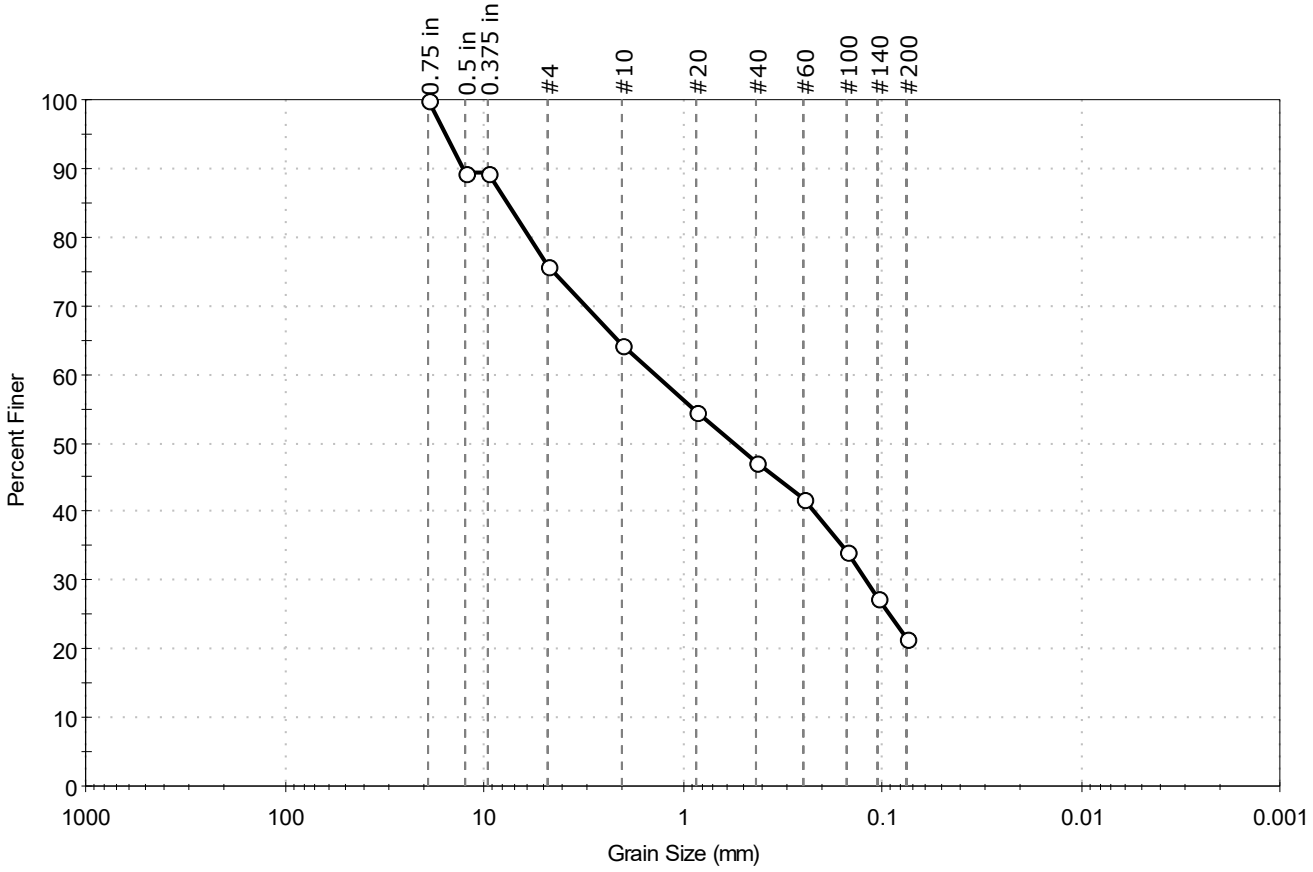
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-31, S-32	Test Date:	05/18/22	Checked By:	bfs
Depth :	80-82', 82-84'	Test Id:	668464		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	24.0	54.4	21.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	89		
0.375 in	9.50	89		
#4	4.75	76		
#10	2.00	64		
#20	0.85	55		
#40	0.42	47		
#60	0.25	42		
#100	0.15	34		
#140	0.11	27		
#200	0.075	22		

Coefficients

D_{85} = 7.6177 mm
D_{30} = 0.1206 mm
D_{60} = 1.3659 mm
D_{15} = N/A
D_{50} = 0.5537 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM: Silty SAND with Gravel (SM)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

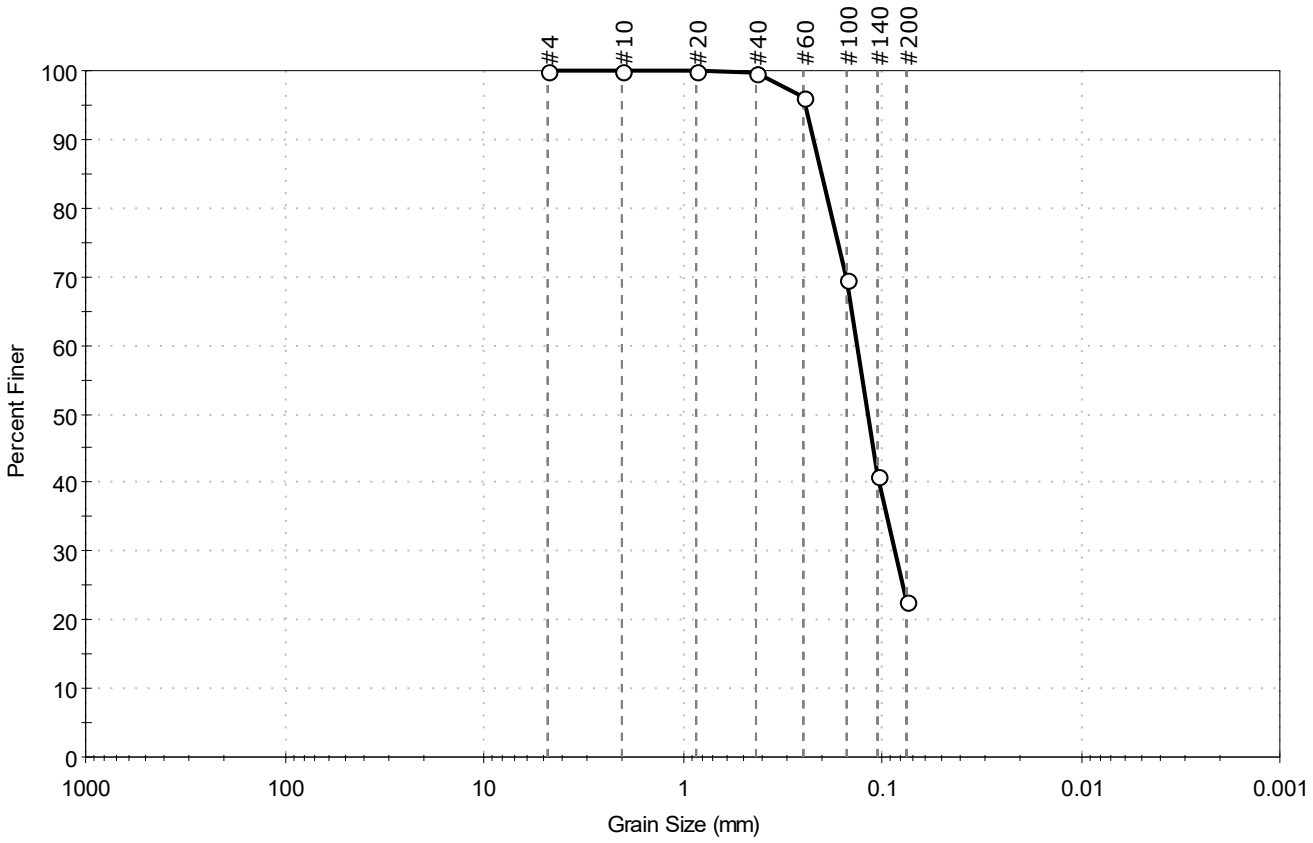
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-3, S-4	Test Date:	05/19/22	Checked By:	bfs
Depth :	4-6', 6-8'	Test Id:	668451		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.1	77.1	22.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	96		
#100	0.15	70		
#140	0.11	41		
#200	0.075	23		

Coefficients

D_{85} = 0.2012 mm	D_{30} = 0.0860 mm
D_{60} = 0.1334 mm	D_{15} = N/A
D_{50} = 0.1182 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM Silty SAND (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

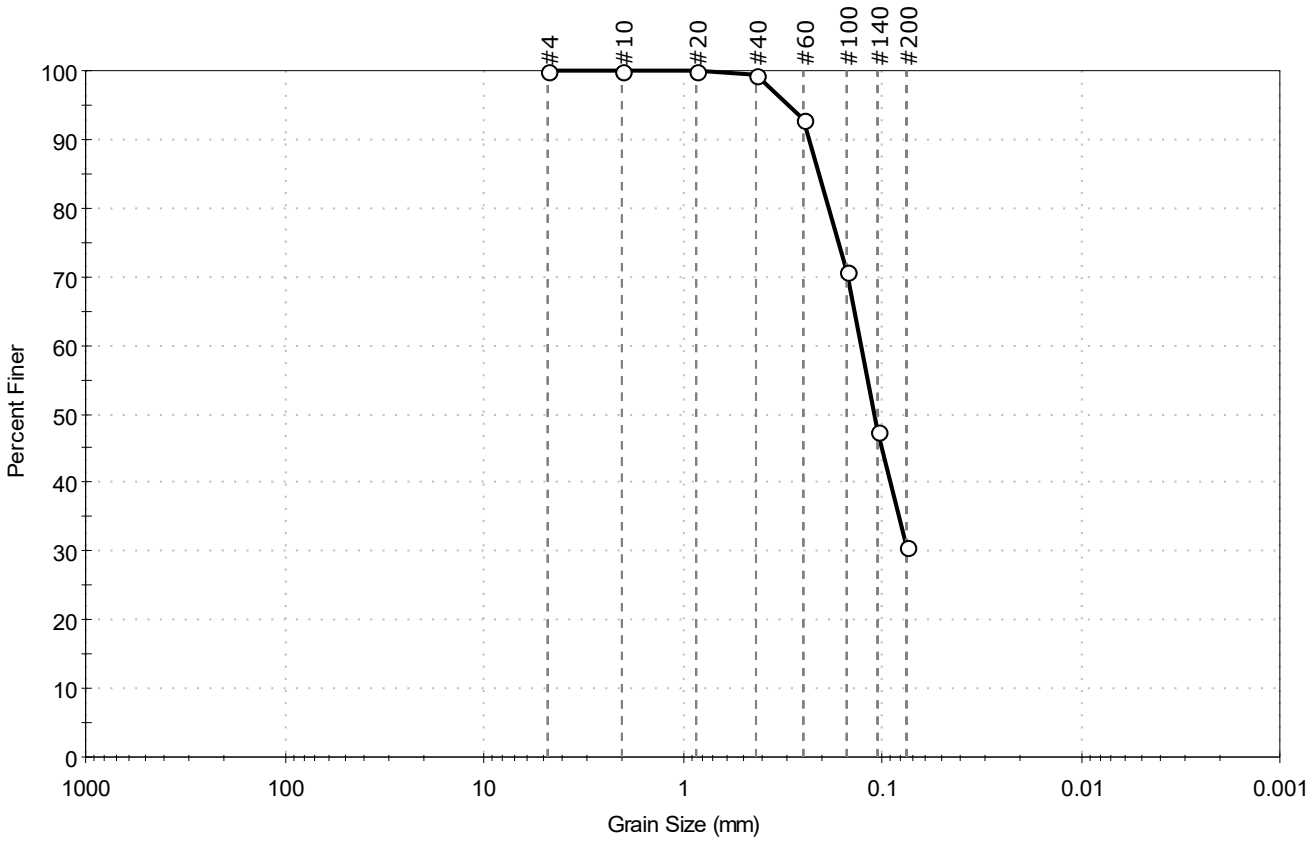
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:56 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-9	Test Date:	05/19/22	Checked By:	bfs
Depth :	16-18'	Test Id:	668452		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	69.3	30.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	93		
#100	0.15	71		
#140	0.11	48		
#200	0.075	31		

Coefficients

D_{85} = 0.2086 mm	D_{30} = N/A
D_{60} = 0.1277 mm	D_{15} = N/A
D_{50} = 0.1100 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

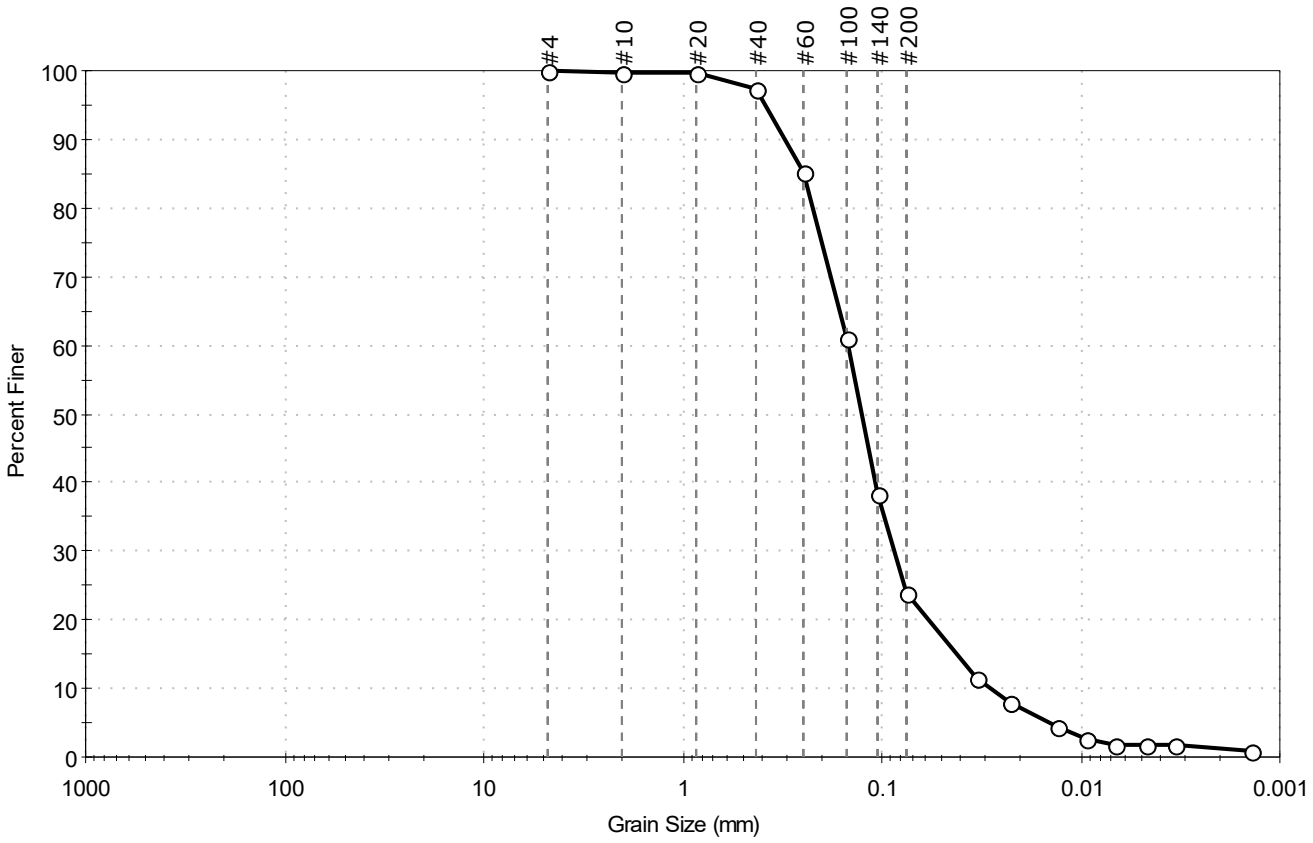
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-13, S14	Test Date:	05/24/22	Checked By:	bfs
Depth :	24-26', 26-28'	Test Id:	668444		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	76.1	23.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	97		
#60	0.25	85		
#100	0.15	61		
#140	0.11	38		
#200	0.075	24		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0337	11		
---	0.0229	8		
---	0.0133	4		
---	0.0094	3		
---	0.0067	2		
---	0.0047	2		
---	0.0033	2		
---	0.0014	1		

Coefficients

D_{85} =0.2482 mm	D_{30} =0.0868 mm
D_{60} =0.1476 mm	D_{15} =0.0424 mm
D_{50} =0.1266 mm	D_{10} =0.0287 mm
C_u =5.143	C_c =1.779

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

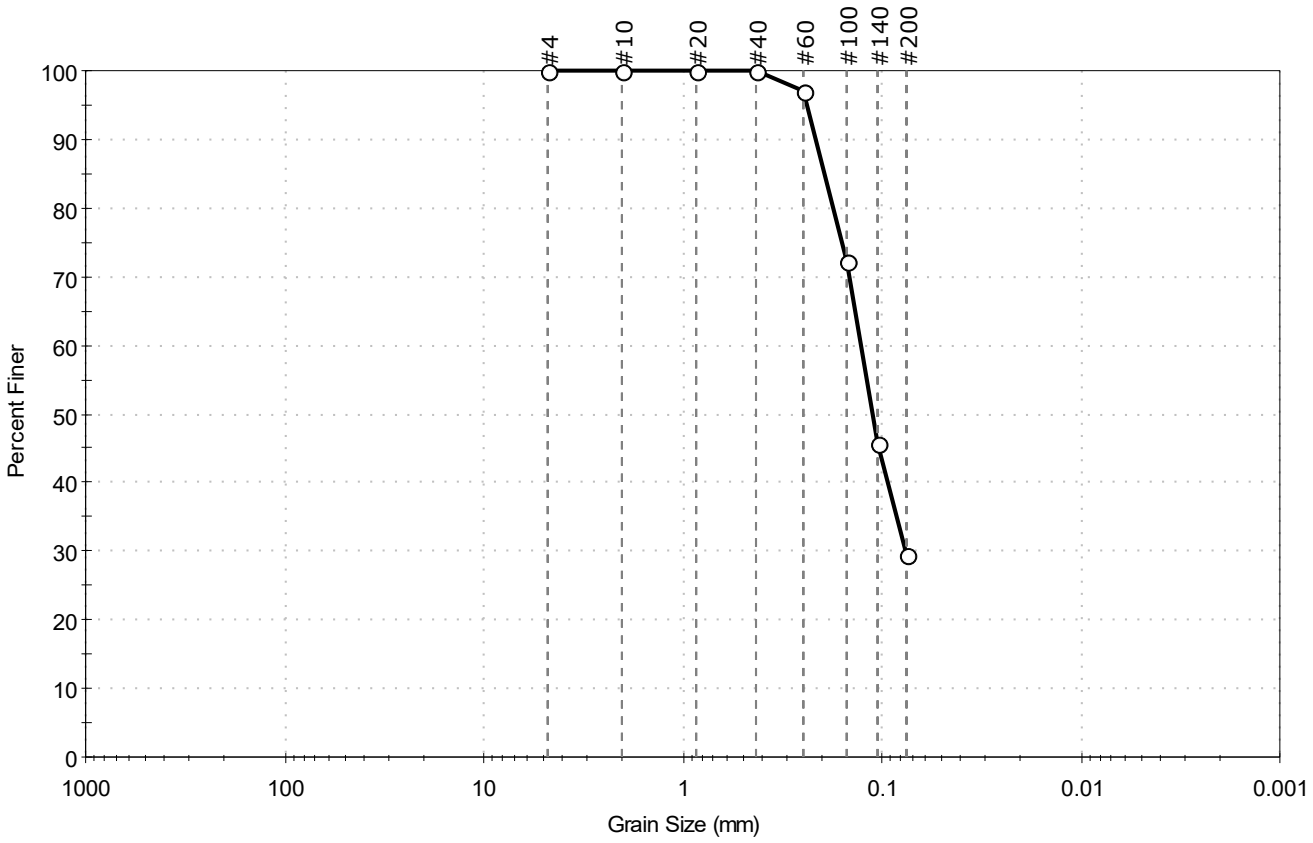
Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-16	Test Date:	05/18/22	Checked By:	bfs
Depth :	35-37'	Test Id:	668454		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	70.6	29.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	97		
#100	0.15	72		
#140	0.11	46		
#200	0.075	29		

Coefficients

D_{85} = 0.1946 mm	D_{30} = 0.0760 mm
D_{60} = 0.1275 mm	D_{15} = N/A
D_{50} = 0.1119 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

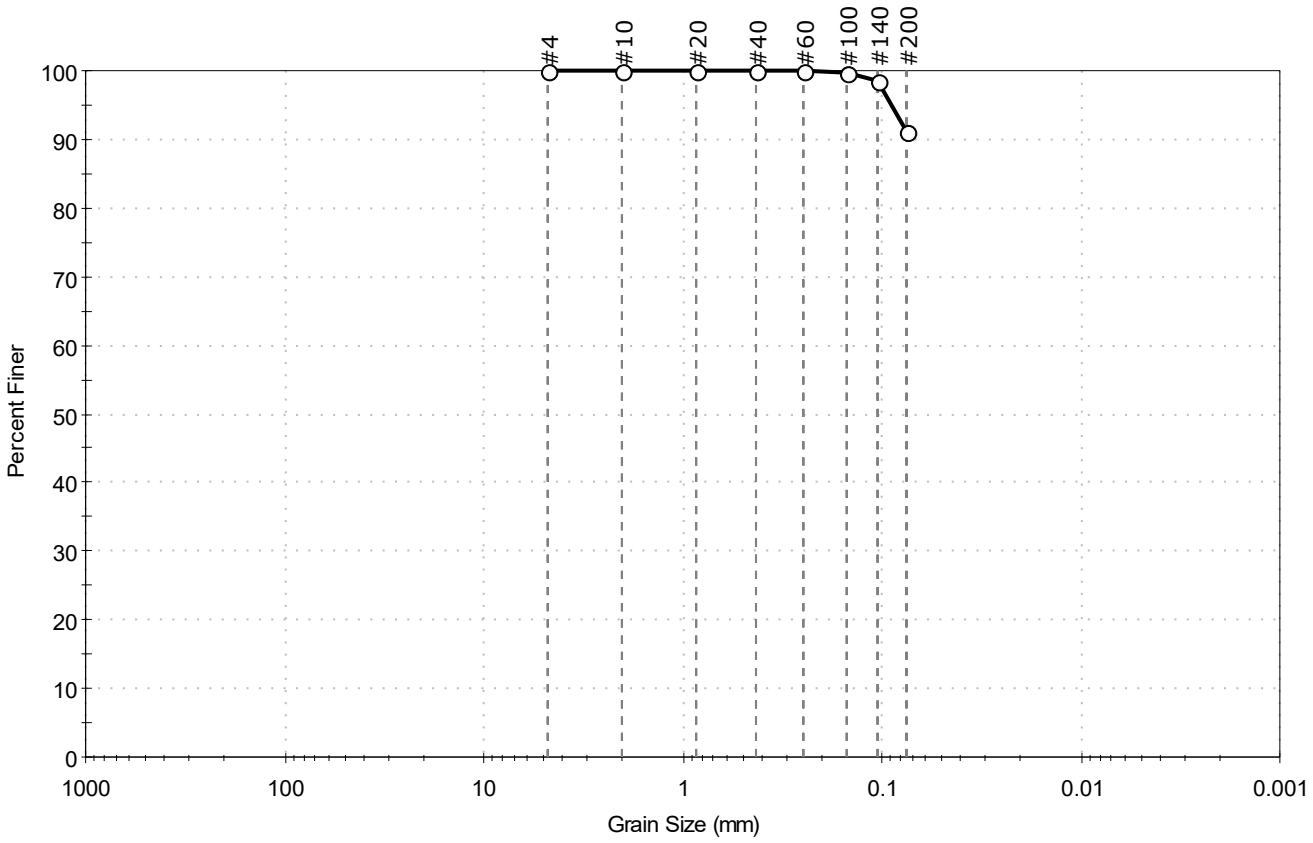
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:55:59 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-20	Test Date:	05/18/22	Checked By:	bfs
Depth :	55-57'	Test Id:	668455		
Test Comment:	---				
Visual Description:	Moist, pale brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	8.8	91.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	100		
#140	0.11	98		
#200	0.075	91		

Coefficients

D_{85} = N/A	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM SILT (ML)

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

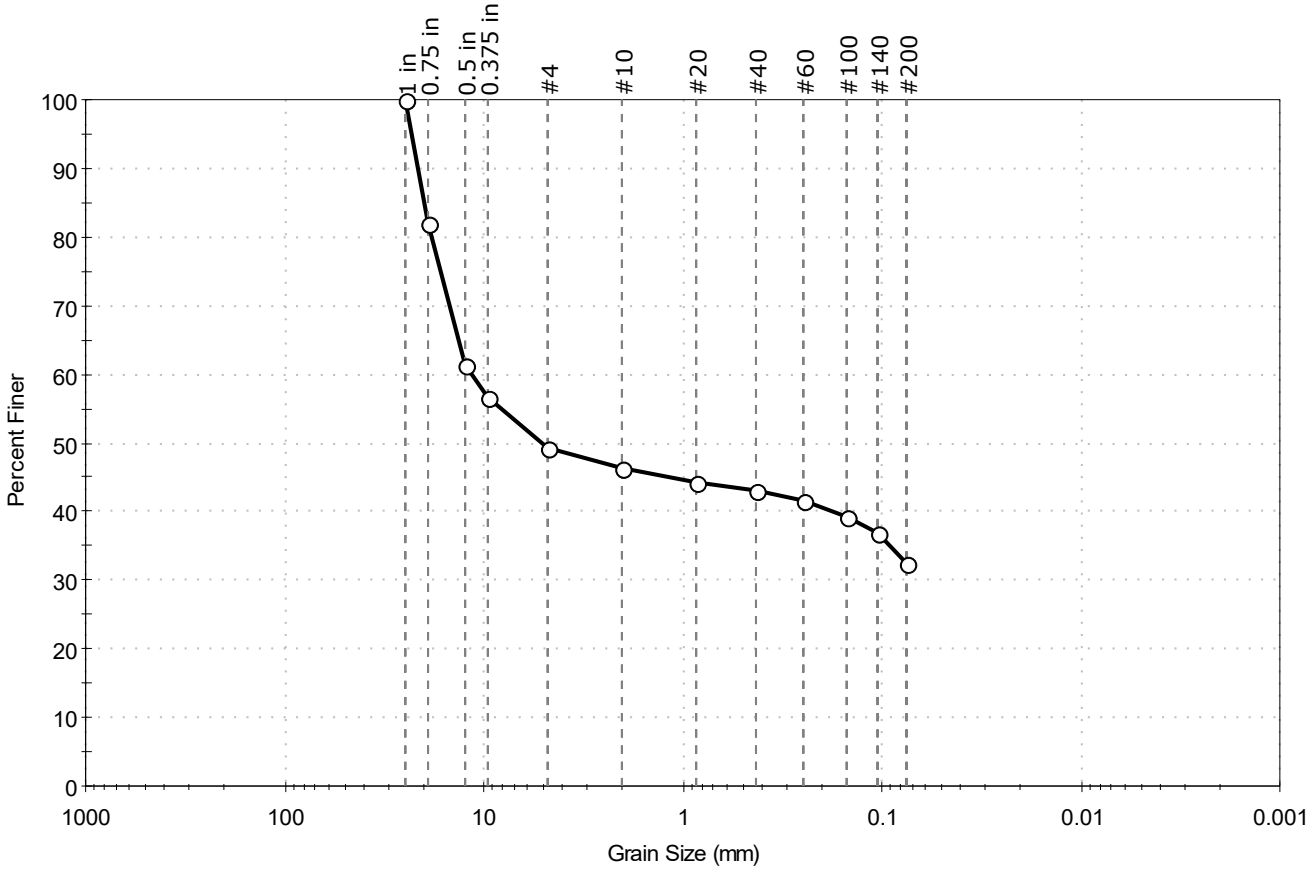
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 5/24/2022 3:56:00 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-23	Test Date:	05/18/22	Checked By:	bfs
Depth :	70-72'	Test Id:	668456		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	50.8	16.8	32.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	82		
0.5 in	12.50	61		
0.375 in	9.50	57		
#4	4.75	49		
#10	2.00	46		
#20	0.85	44		
#40	0.42	43		
#60	0.25	42		
#100	0.15	39		
#140	0.11	37		
#200	0.075	32		

Coefficients

D_{85} = 19.8669 mm D_{30} = N/A

D_{60} = 11.6155 mm D_{15} = N/A

D_{50} = 5.1243 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

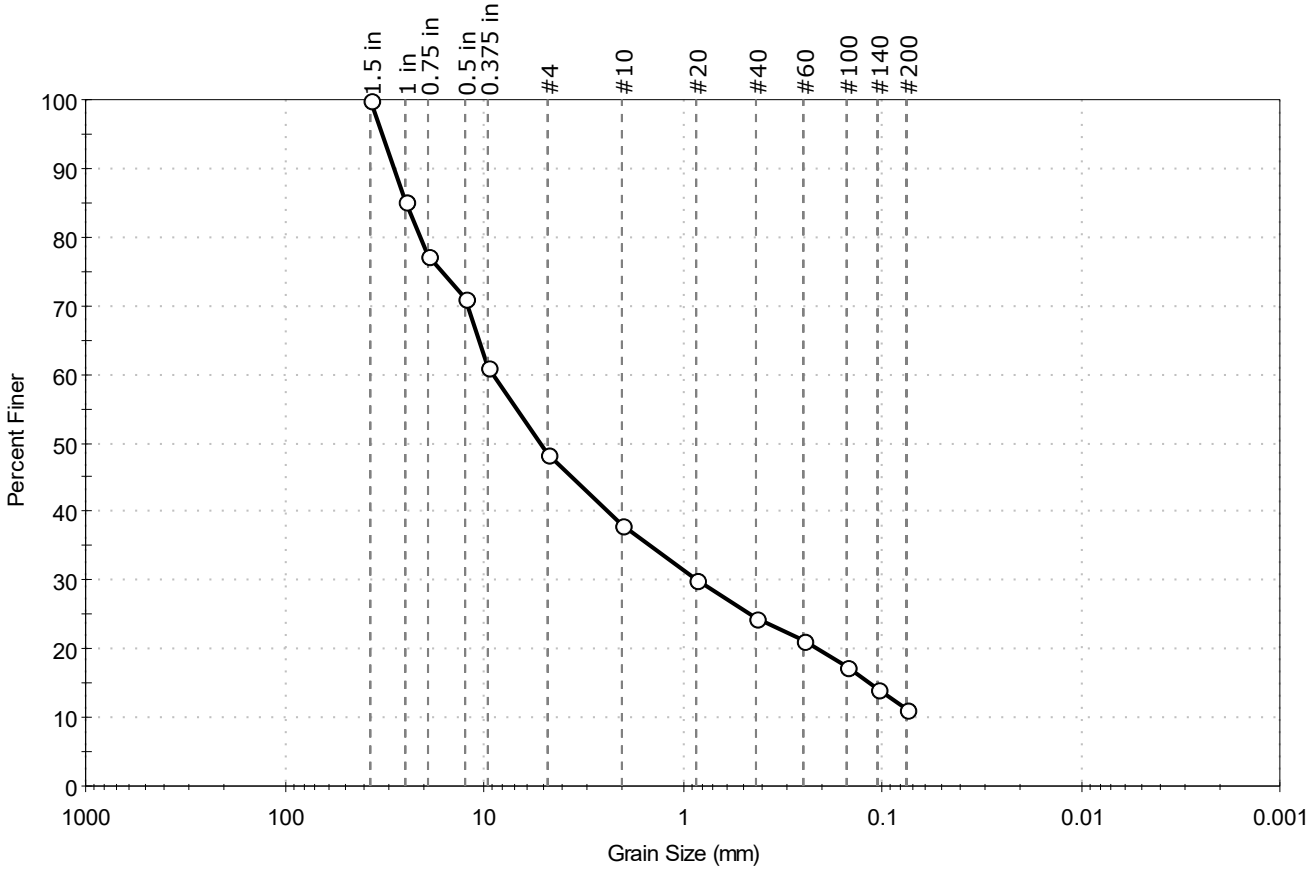
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-25, S-26	Test Date:	05/18/22	Checked By:	bfs
Depth :	74-76', 76-78'	Test Id:	668457		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	51.6	37.2	11.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	85		
0.75 in	19.00	77		
0.5 in	12.50	71		
0.375 in	9.50	61		
#4	4.75	48		
#10	2.00	38		
#20	0.85	30		
#40	0.42	24		
#60	0.25	21		
#100	0.15	17		
#140	0.11	14		
#200	0.075	11		

Coefficients

D_{85} = 24.8030 mm D_{30} = 0.8530 mm

D_{60} = 8.9116 mm D_{15} = 0.1155 mm

D_{50} = 5.1933 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (0))

Sample/Test Description

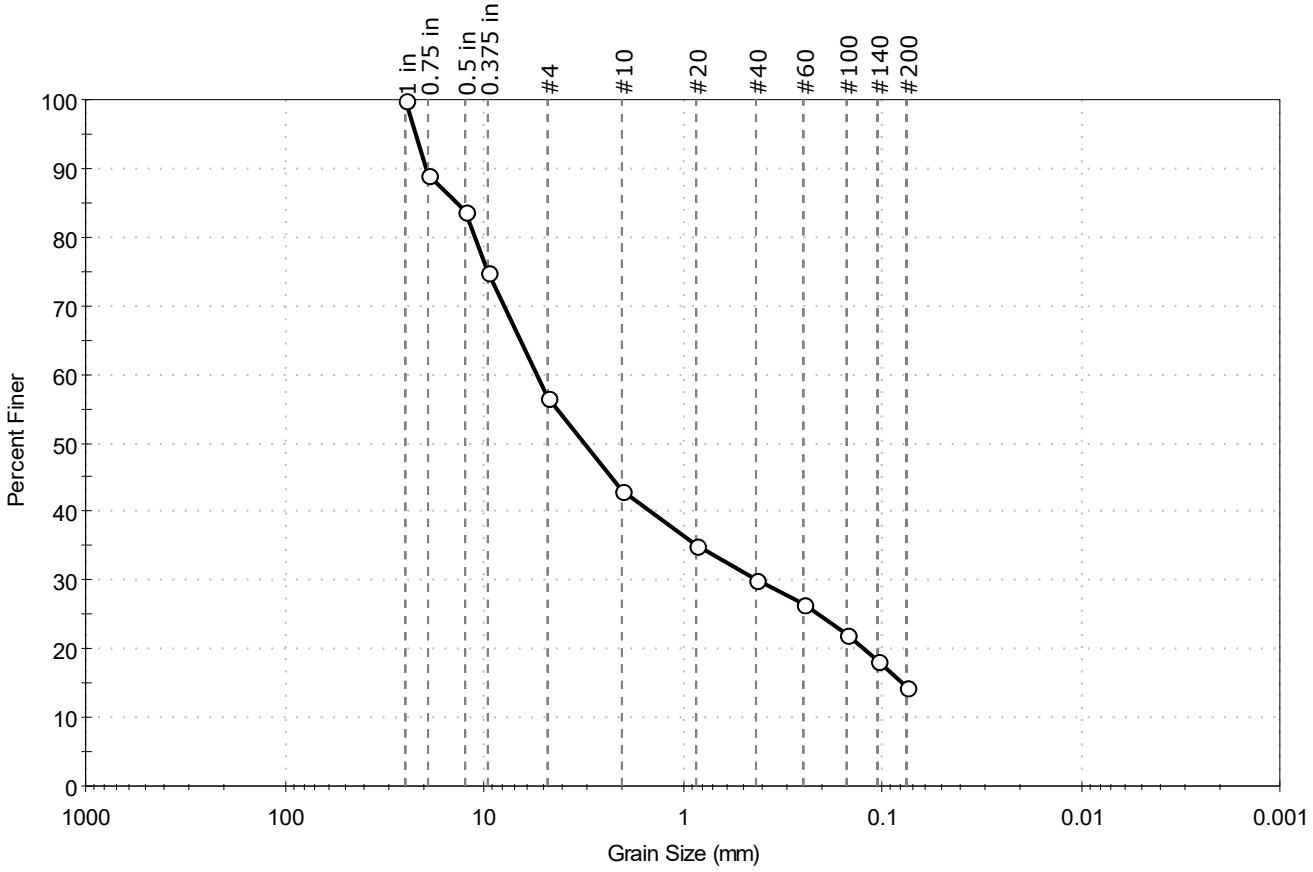
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-30	Test Date:	05/18/22	Checked By:	bfs
Depth :	84-86'	Test Id:	668458		
Test Comment:	---				
Visual Description:	Moist, light brownish gray silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	43.2	42.4	14.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	89		
0.5 in	12.50	84		
0.375 in	9.50	75		
#4	4.75	57		
#10	2.00	43		
#20	0.85	35		
#40	0.42	30		
#60	0.25	27		
#100	0.15	22		
#140	0.11	18		
#200	0.075	14		

Coefficients

D_{85} = 13.8002 mm	D_{30} = 0.4143 mm
D_{60} = 5.3693 mm	D_{15} = 0.0792 mm
D_{50} = 3.1100 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

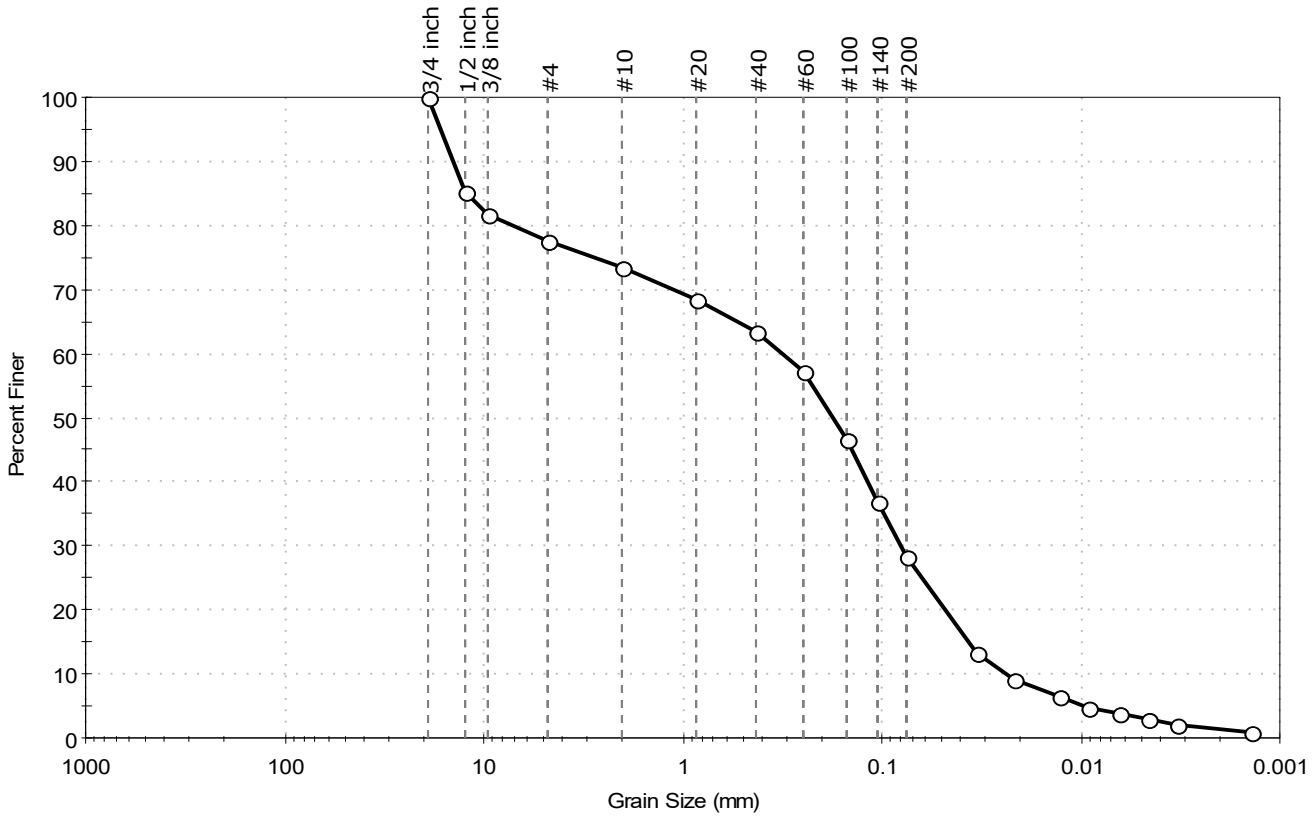
Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	ckg
Sample ID:	S-32, S-33	Test Date:	05/24/22	Checked By:	bfs
Depth :	88-90', 90-92'	Test Id:	668445		

Test Comment: ---
Visual Description: Moist, light olive brown silty sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
–	22.3	49.3	28.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	85		
3/8 inch	9.50	82		
#4	4.75	78		
#10	2.00	73		
#20	0.85	68		
#40	0.42	63		
#60	0.25	57		
#100	0.15	47		
#140	0.11	37		
#200	0.075	28		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0331	13		
---	0.0218	9		
---	0.0129	6		
---	0.0092	5		
---	0.0065	4		
---	0.0046	3		
---	0.0033	2		
---	0.0014	1		

Coefficients

D_{85} = 12.3625 mm	D_{30} = 0.0802 mm
D_{60} = 0.3162 mm	D_{15} = 0.0361 mm
D_{50} = 0.1761 mm	D_{10} = 0.0239 mm
C_u = 13.230	C_c = 0.851

Classification

ASTM Silty SAND with Gravel (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	cam
Sample ID:	S-31	Test Date:	10/25/22	Checked By:	ank
Depth :	80-82	Test Id:	690067		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-31	B-2022-1	80-82	11	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

61% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-1	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2	Test Date:	10/25/22	Checked By:	ank
Depth :	2-4	Test Id:	690066		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2	B-2022-1	2-4	4	n/a	n/a	n/a	n/a	Silty SAND (SM)

3% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-30	Test Date:	10/25/22	Checked By:	ank
Depth :	79-81	Test Id:	690065		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-30	B-2022-2	79-81	18	n/a	n/a	n/a	n/a	Silty SAND (SM)

1% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-6, S-7	Test Date:	07/25/22	Checked By:	bfs
Depth :	10-14'	Test Id:	679634		
Test Comment:	---				
Visual Description:	Moist, light gray silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-6, S-7	B-2022-3	10-14'	4	n/a	n/a	n/a	n/a	Silty SAND (SM)

26% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-21	Test Date:	07/25/22	Checked By:	bfs
Depth :	46-48'	Test Id:	679635		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-21	B-2022-3	46-48'	26	n/a	n/a	n/a	n/a	SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-22	Test Date:	07/25/22	Checked By:	bfs
Depth :	48-50'	Test Id:	679636		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-22	B-2022-3	48-50'	24	n/a	n/a	n/a	n/a	SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-26	Test Date:	07/25/22	Checked By:	bfs
Depth :	56-58'	Test Id:	679637		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-26	B-2022-3	56-58'	25	n/a	n/a	n/a	n/a	SILT with Sand (ML)

2% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-28, S-29	Test Date:	10/24/22	Checked By:	bfs
Depth :	69-71, 71-73	Test Id:	690064		
Test Comment:	---				
Visual Description:	Moist, brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-28, S-29	B-2022-5	69-71, 71-73	20	n/a	n/a	n/a	n/a	Sandy SILT (ML)

0% Retained on #40 Sieve

Dry Strength: LOW

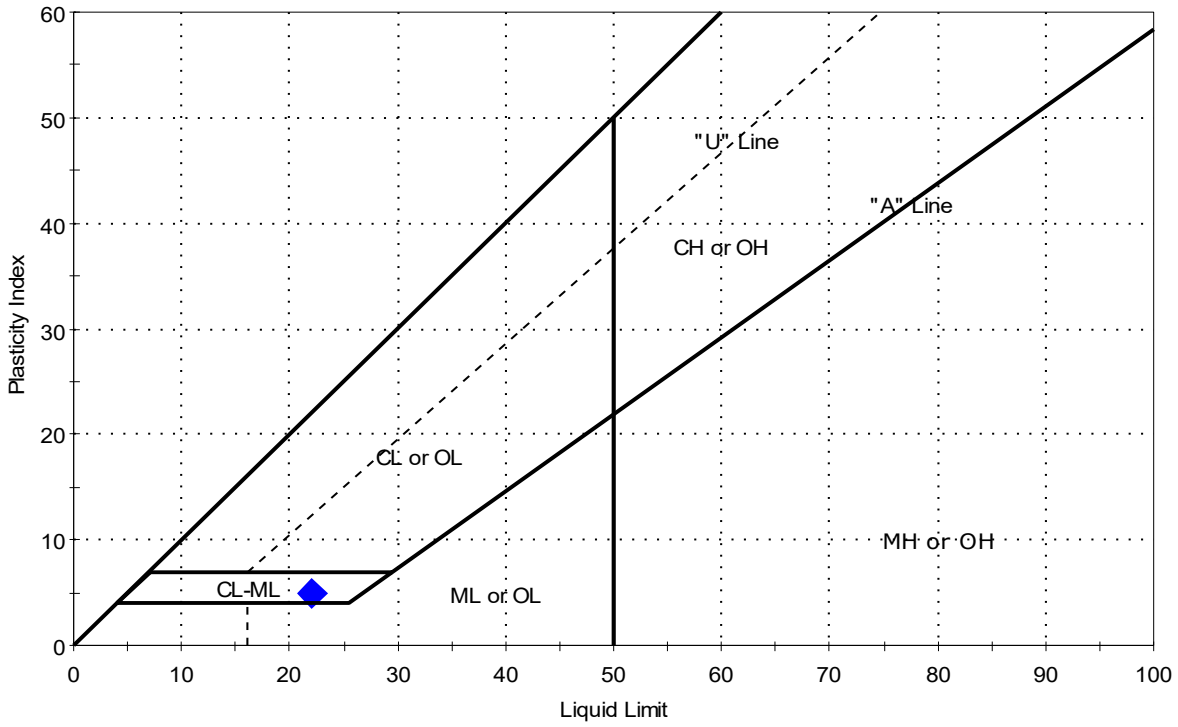
Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-21	Test Date:	10/28/22	Checked By:	ank
Depth :	55-57	Test Id:	690063		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty clay with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

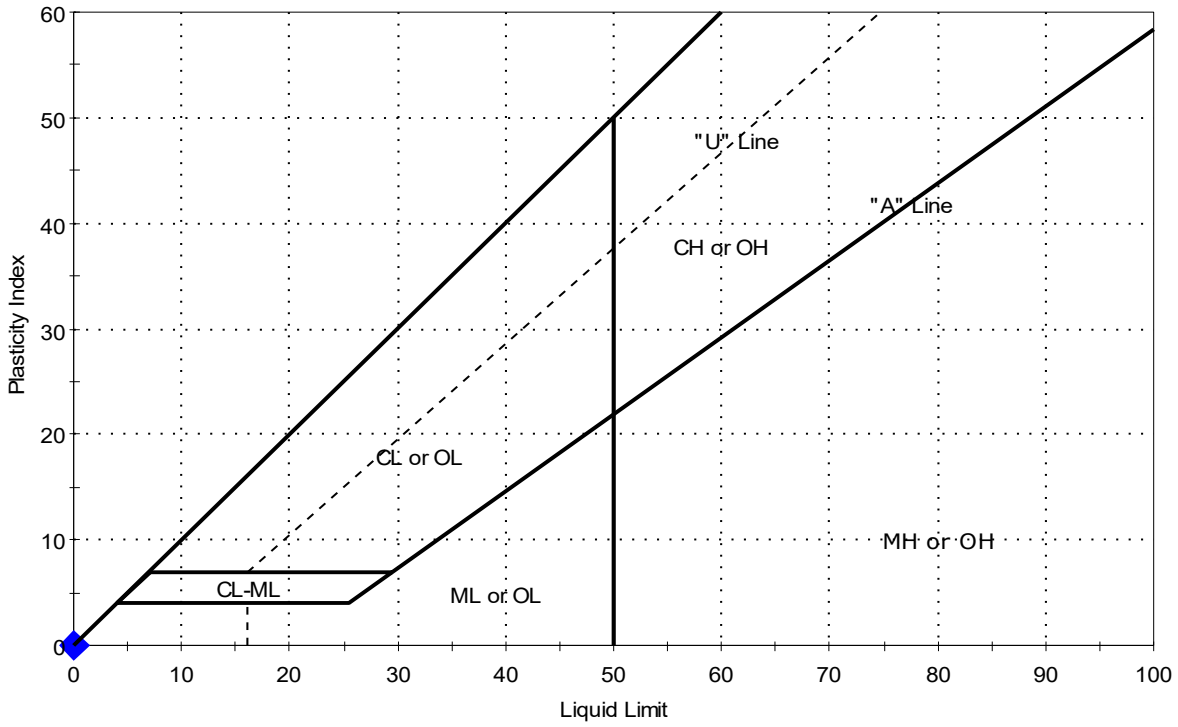


Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-21	B-2022-5	55-57	23	22	17	5	1.2	Silty CLAY with Sand (CL-ML)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	10/24/22	Checked By:	ank
Depth :	4-6, 6-8	Test Id:	690062		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	B-2022-5	4-6, 6-8	7	n/a	n/a	n/a	n/a	

Sample Prepared using the WET method
1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	cam
Sample ID:	S-23	Test Date:	10/25/22	Checked By:	ank
Depth :	44-46	Test Id:	690070		
Test Comment:	---				
Visual Description:	Moist, pale brown silty gravel with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-23	B-2022-6	44-46	0	n/a	n/a	n/a	n/a	Silty GRAVEL with Sand (GM)

75% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	cam
Sample ID:	S-7, S-8	Test Date:	10/24/22	Checked By:	ank
Depth :	12-14, 14-16	Test Id:	690069		
Test Comment:	---				
Visual Description:	Moist, light brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-7, S-8	B-2022-6	12-14, 14-16	17	n/a	n/a	n/a	n/a	Sandy SILT (ML)

0% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-6	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2, S-3	Test Date:	10/24/22	Checked By:	ank
Depth :	2-4, 4-6	Test Id:	690068		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2, S-3	B-2022-6	2-4, 4-6	12	n/a	n/a	n/a	n/a	Sandy SILT (ML)

14% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2, S-3	Test Date:	07/25/22	Checked By:	bfs
Depth :	2-6'	Test Id:	679631		
Test Comment:	---				
Visual Description:	Moist, dark brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2, S-3	B-2022-7	2-6'	13	n/a	n/a	n/a	n/a	Silty SAND (SM)

26% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 8/10/2022 10:47:25 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-5	Test Date:	07/25/22	Checked By:	bfs
Depth :	8-10'	Test Id:	679632		
Test Comment:	---				
Visual Description:	Moist, brown sand with silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-5	B-2022-7	8-10'	5	n/a	n/a	n/a	n/a	

33% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	B-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-26	Test Date:	07/25/22	Checked By:	bfs
Depth :	50-52'	Test Id:	679633		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-26	B-2022-7	50-52'	25	n/a	n/a	n/a	n/a	Silty SAND (SM)

1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	07/25/22	Checked By:	bfs
Depth :	4-8'	Test Id:	679628		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	B-2022-8	4-8'	12	n/a	n/a	n/a	n/a	SILT with Sand (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 8/10/2022 10:47:20 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-21	Test Date:	07/25/22	Checked By:	bfs
Depth :	55-57'	Test Id:	679629		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-21	B-2022-8	55-57'	20	n/a	n/a	n/a	n/a	Sandy SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 8/10/2022 10:47:21 AM

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MAB			Project No:	GTX-315349
oring ID:	B-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-26	Test Date:	07/25/22	Checked By:	bfs
Depth :	68-70'	Test Id:	679630		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-26	B-2022-8	68-70'	22	n/a	n/a	n/a	n/a	Sandy SILT (ML)

12% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2, S-3	Test Date:	07/25/22	Checked By:	bfs
Depth :	2-6'	Test Id:	679638		
Test Comment:	---				
Visual Description:	Moist, dark brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2, S-3	MW-2022-	2-6'	5	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

58% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	cam
Sample ID:	S-8, S-9	Test Date:	07/25/22	Checked By:	bfs
Depth :	15-19'	Test Id:	679639		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-8, S-9	MW-2022-	15-19'	25	n/a	n/a	n/a	n/a	Sandy SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 8/10/2022 10:47:28 AM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-1	Sample Type:	jar	Tested By:	cam
Sample ID:	S-24	Test Date:	07/25/22	Checked By:	bfs
Depth :	58-60'	Test Id:	679640		
Test Comment:	---				
Visual Description:	Moist, light olive brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-24	MW-2022-	58-60'	27	n/a	n/a	n/a	n/a	Sandy SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2	Test Date:	10/25/22	Checked By:	ank
Depth :	2-4	Test Id:	690071		
Test Comment:	---				
Visual Description:	Moist, dark yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2	MW-2022-	2-4	24	n/a	n/a	n/a	n/a	Silty SAND (SM)

13% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2	Test Date:	10/25/22	Checked By:	ank
Depth :	2-4	Test Id:	690071		
Test Comment:	---				
Visual Description:	Moist, dark yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2	MW-2022-	2-4	24	n/a	n/a	n/a	n/a	Silty SAND (SM)

13% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-16	Test Date:	10/25/22	Checked By:	ank
Depth :	30-32	Test Id:	690072		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-16	MW-2022-	30-32	12	n/a	n/a	n/a	n/a	Silty SAND (SM)

3% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-16	Test Date:	10/25/22	Checked By:	ank
Depth :	30-32	Test Id:	690072		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-16	MW-2022-	30-32	12	n/a	n/a	n/a	n/a	Silty SAND (SM)

3% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-5	Test Date:	07/25/22	Checked By:	bfs
Depth :	8-10'	Test Id:	679625		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand and gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-5	MW-2022-	8-10'	10	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

48% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S8, S9	Test Date:	07/25/22	Checked By:	bfs
Depth :	14-16'	Test Id:	679626		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S8, S9	MW-2022-	14-16'	22	n/a	n/a	n/a	n/a	

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-12, S-13	Test Date:	07/25/22	Checked By:	bfs
Depth :	24-26'	Test Id:	679627		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-12, S-13	MW-2022-	24-26'	9	n/a	n/a	n/a	n/a	

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	12/19/22	Checked By:	ank
Depth :	4-8	Test Id:	698382		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	MW-2022-	4-8	0	n/a	n/a	n/a	n/a	Silty SAND (SM)

0% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	cam
Sample ID:	S-23, S-24	Test Date:	12/13/22	Checked By:	ank
Depth :	64-68	Test Id:	698384		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-23, S-24	MW-2022-	64-68	6	n/a	n/a	n/a	n/a	Silty SAND (SM)

31% Retained on #40 Sieve

Dry Strength: NONE

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	cam
Sample ID:	S-19, S-20	Test Date:	12/13/22	Checked By:	ank
Depth :	50-57	Test Id:	698383		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-19, S-20	MW-2022-	50-57	13	n/a	n/a	n/a	n/a	Silty SAND (SM)

6% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	jar	Tested By:	cam
Sample ID:	S-34, S-35	Test Date:	12/13/22	Checked By:	ank
Depth :	100-107	Test Id:	698385		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-34, S-35	MW-2022-	100-107	13	n/a	n/a	n/a	n/a	Silty SAND (SM)

40% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 12/19/2022 1:26:53 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-4	Sample Type:	tube	Tested By:	cam
Sample ID:	S-28, S-29	Test Date:	12/30/22	Checked By:	ank
Depth :	74-78'	Test Id:	700438		
Test Comment:	---				
Visual Description:	Moist, pale brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-28, S-29	MW-2022-	74-78'	20	n/a	n/a	n/a	n/a	SILT with Sand (ML)

1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	06/12/22	Checked By:	jsc
Depth :	4-6', 6-8'	Test Id:	672384		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	MW-2022-5	4-6', 6-8'	6	n/a	n/a	n/a	n/a	Silty SAND (SM)

16% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-16	Test Date:	06/12/22	Checked By:	jsc
Depth :	35-37'	Test Id:	672385		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-16	MW-2022-	35-37'	28	n/a	n/a	n/a	n/a	SILT with Sand (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-24	Test Date:	10/25/22	Checked By:	ank
Depth :	62-64	Test Id:	690080		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-24	MW-2022-	62-64	11	n/a	n/a	n/a	n/a	Silty SAND (SM)

1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	cam
Sample ID:	S-22	Test Date:	10/25/22	Checked By:	ank
Depth :	42-44	Test Id:	690081		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-22	MW-2022-	42-44	18	n/a	n/a	n/a	n/a	Silty SAND (SM)

8% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-6	Sample Type:	jar	Tested By:	cam
Sample ID:	S-24	Test Date:	06/16/22	Checked By:	jsc
Depth :	50-52'	Test Id:	672386		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-24	MW-2022-	50-52'	22	n/a	n/a	n/a	n/a	Silty SAND (SM)

14% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-11, S-12	Test Date:	10/24/22	Checked By:	bfs
Depth :	20-22, 22-24	Test Id:	690060		
Test Comment:	---				
Visual Description:	Moist, light brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-11, S-12	MW-2022-	20-22, 22-24	17	n/a	n/a	n/a	n/a	Silty SAND (SM)

0% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-29	Test Date:	10/25/22	Checked By:	bfs
Depth :	80-82	Test Id:	690061		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-29	MW-2022-	80-82	24	n/a	n/a	n/a	n/a	SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-12	Test Date:	05/13/22	Checked By:	bfs
Depth :	22-24'	Test Id:	668420		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-12	MW-2022-	22-24'	21	n/a	n/a	n/a	n/a	SILT with Sand (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-19	Test Date:	05/17/22	Checked By:	bfs
Depth :	45-47'	Test Id:	668421		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-19	MW-2022-	45-47'	11	n/a	n/a	n/a	n/a	Silty SAND (SM)

2% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-23, S-24	Test Date:	05/13/22	Checked By:	bfs
Depth :	56-58', 58-60'	Test Id:	668422		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-23, S-24	MW-2022-	56-58', 58-60'	11	n/a	n/a	n/a	n/a	Sandy SILT (ML)

0% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-28	Test Date:	10/25/22	Checked By:	ank
Depth :	66-68	Test Id:	690075		
Test Comment:	---				
Visual Description:	Moist, pale brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-28	MW-2022-	66-68	18	n/a	n/a	n/a	n/a	Sandy SILT (ML)

1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-31	Test Date:	05/13/22	Checked By:	bfs
Depth :	80-82'	Test Id:	668423		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-31	MW-2022-	80-82'	24	n/a	n/a	n/a	n/a	SILT with Sand (ML)

3% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2	Test Date:	05/13/22	Checked By:	bfs
Depth :	2-4'	Test Id:	668417		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2	MW-2022-	2-4'	27	n/a	n/a	n/a	n/a	SILT with Sand (ML)

5% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	cam
Sample ID:	S-14	Test Date:	05/13/22	Checked By:	bfs
Depth :	26-28'	Test Id:	668418		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-14	MW-2022-	26-28'	8	n/a	n/a	n/a	n/a	Silty SAND (SM)

40% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 5/24/2022 3:57:57 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	cam
Sample ID:	S-18	Test Date:	10/25/22	Checked By:	ank
Depth :	34-36	Test Id:	690074		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty gravel with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-18	MW-2022-	34-36	6	n/a	n/a	n/a	n/a	Silty GRAVEL with Sand (GM)

52% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	MW-2022-9	Sample Type:	jar	Tested By:	cam
Sample ID:	S-23	Test Date:	05/13/22	Checked By:	bfs
Depth :	44-46'	Test Id:	668419		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty gravel with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-23	MW-2022-	44-46'	8	n/a	n/a	n/a	n/a	Silty GRAVEL with Sand (GM)

70% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-1	Sample Type:	jar	Tested By:	cam
Sample ID:	S-4, S-5	Test Date:	06/12/22	Checked By:	jsc
Depth :	6-8', 8-10'	Test Id:	672381		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-4, S-5	PZ-2022-1	6-8', 8-10'	12	n/a	n/a	n/a	n/a	Silty SAND (SM)

10% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	06/12/22	Checked By:	jsc
Depth :	4-6', 6-8'	Test Id:	672382		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	PZ-2022-2	4-6', 6-8'	8	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

42% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-10	Test Date:	06/12/22	Checked By:	jsc
Depth :	18-20'	Test Id:	672383		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-10	PZ-2022-2	18-20'	25	n/a	n/a	n/a	n/a	SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-2	Sample Type:	jar	Tested By:	cam
Sample ID:	S-28	Test Date:	10/25/22	Checked By:	ank
Depth :	76-78	Test Id:	690079		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-28	PZ-2022-2	76-78	23	n/a	n/a	n/a	n/a	Silty SAND (SM)

4% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2, S-3	Test Date:	06/12/22	Checked By:	jsc
Depth :	2-4', 4-6'	Test Id:	672379		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2, S-3	PZ-2022-3	2-4', 4-6'	12	n/a	n/a	n/a	n/a	Silty SAND (SM)

3% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-20	Test Date:	06/12/22	Checked By:	jsc
Depth :	55-57'	Test Id:	672380		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sand with silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-20	PZ-2022-3	55-57'	11	n/a	n/a	n/a	n/a	Poorly graded SAND with Silt (SP-SM)

27% Retained on #40 Sieve

Dry Strength: LOW

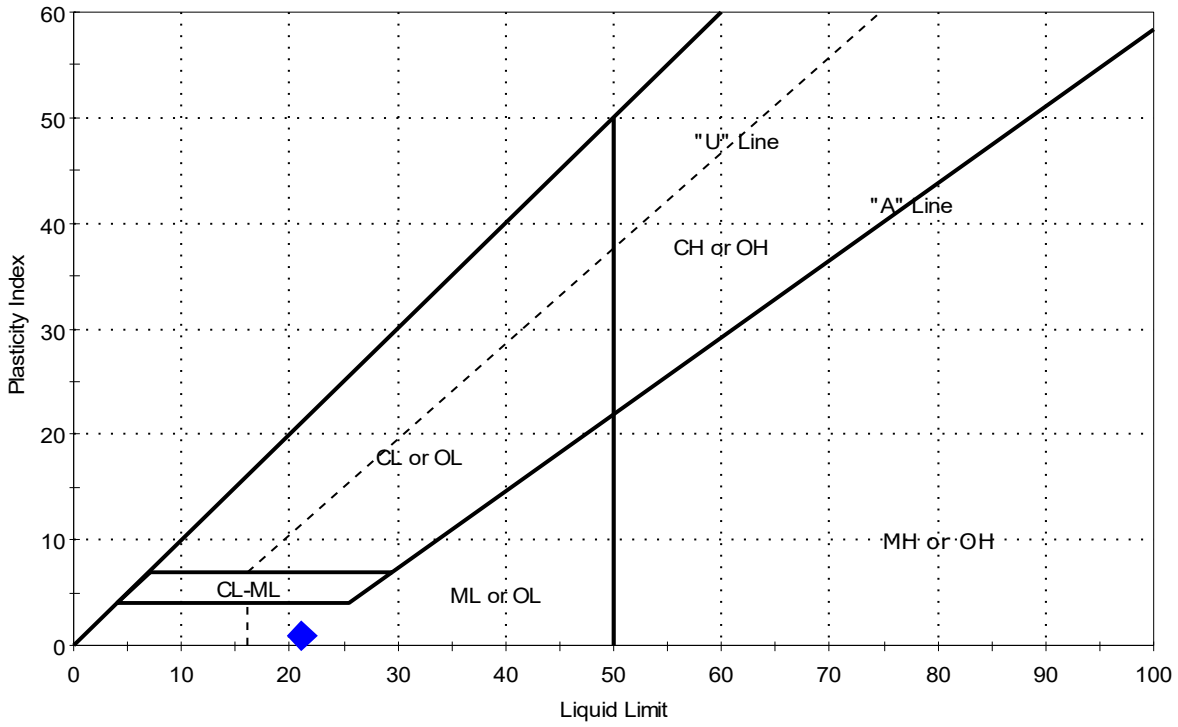
Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-3	Sample Type:	jar	Tested By:	cam
Sample ID:	S-23	Test Date:	10/28/22	Checked By:	ank
Depth :	70-72	Test Id:	690077		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-23	PZ-2022-3	70-72	23	21	20	1	3.3	SILT with Sand (ML)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: MEDIUM
Dilatancy: SLOW
Toughness: LOW

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-24, S-25	Test Date:	10/24/22	Checked By:	ank
Depth :	72-74, 74-76	Test Id:	690076		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-24, S-25	PZ-2022-5	72-74, 74-76	18	n/a	n/a	n/a	n/a	Silty SAND (SM)

5% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-2	Test Date:	05/13/22	Checked By:	bfs
Depth :	2-4'	Test Id:	668424		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-2	PZ-2022-5	2-4'	8	n/a	n/a	n/a	n/a	Silty SAND (SM)

0% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-12	Test Date:	05/13/22	Checked By:	bfs
Depth :	22-24'	Test Id:	668425		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sandy silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-12	PZ-2022-5	22-24'	11	n/a	n/a	n/a	n/a	Sandy SILT (ML)

1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

printed 5/24/2022 3:58:01 PM

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-5	Sample Type:	jar	Tested By:	cam
Sample ID:	S-18	Test Date:	05/17/22	Checked By:	bfs
Depth :	45-47'	Test Id:	668426		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-18	PZ-2022-5	45-47'	13	n/a	n/a	n/a	n/a	Silty SAND (SM)

0% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	05/15/22	Checked By:	bfs
Depth :	4-6', 6-8'	Test Id:	668414		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silt with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	PZ-2022-7	4-6', 6-8'	10	n/a	n/a	n/a	n/a	SILT with Sand (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-11	Test Date:	05/13/22	Checked By:	bfs
Depth :	20-22'	Test Id:	668415		
Test Comment:	---				
Visual Description:	Moist, pale brown sand with silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-11	PZ-2022-7	20-22'	1	n/a	n/a	n/a	n/a	Poorly graded SAND with Silt (SP-SM)

22% Retained on #40 Sieve

Dry Strength: NONE

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-31, S-32	Test Date:	05/15/22	Checked By:	bfs
Depth :	80-82', 82-84'	Test Id:	668416		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-31, S-32	Z-2022-7	80-82', 82-84'	10	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

53% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-7	Sample Type:	jar	Tested By:	cam
Sample ID:	S-23	Test Date:	10/25/22	Checked By:	ank
Depth :	64-66	Test Id:	690073		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-23	PZ-2022-7	64-66	3	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

62% Retained on #40 Sieve
Dry Strength: NONE
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-3, S-4	Test Date:	05/13/22	Checked By:	bfs
Depth :	4-6', 6-8'	Test Id:	668411		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-3, S-4	PZ-2022-8	4-6', 6-8'	9	n/a	n/a	n/a	n/a	Silty SAND (SM)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-20	Test Date:	05/13/22	Checked By:	bfs
Depth :	55-57'	Test Id:	668412		
Test Comment:	---				
Visual Description:	Moist, pale brown silt				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-20	PZ-2022-8	55-57'	15	n/a	n/a	n/a	n/a	SILT (ML)

0% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	ARCADIS U.S., Inc.				
Project:	GE Parcel				
Location:	Lee, MA			Project No:	GTX-315349
Boring ID:	PZ-2022-8	Sample Type:	jar	Tested By:	cam
Sample ID:	S-32, S-33	Test Date:	05/13/22	Checked By:	bfs
Depth :	88-90', 90-92'	Test Id:	668413		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand with gravel				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-32, S-33	PZ-2022-8	88-90', 90-92'	14	n/a	n/a	n/a	n/a	Silty SAND with Gravel (SM)

37% Retained on #40 Sieve

Dry Strength: LOW

Dilatancy: RAPID

Toughness: n/a

The sample was determined to be Non-Plastic

Appendix F

Arcadis Field Guide for USCS Soil Classification

FIELD GUIDE FOR USCS SOIL CLASSIFICATION

SEPTEMBER 1, 2020; REV 1

ARCADIS

Color Examples:

- Medium Bluish Gray (5B 5/1)
- Brownish Gray (5YR 4/1)
- Light Olive Brown (5Y 5/6)
- Light Olive (10Y 5/4)
- Grayish Olive (10Y 4/2)
- Grayish Brown (5YR 3/2)
- Pale Red (5R 6/2)
- Dark Reddish-Brown (10R 3/4)
- Light Brown (5YR 6/4)
- Moderate Red (5R 4/6)
- Moderate Reddish-Brown (10R 4/6)
- Pale Yellowish Orange (10YR 8/6)
- Moderate Yellowish Brown (10YR 5/4)
- Moderate Reddish Orange (10R 6/6)
- Grayish Yellow (5Y 8/4)

Colors may vary slightly due to reproduction

Description Format:

1. USCS Group Name (USCS Group Symbol);	5. minor constituents,
2. density/consistency,	6. moisture,
3. color,	7. additional details,
4. major constituents,	8. [geologic origin] (eg fill, alluvium, etc)

* Major/minor constituent descriptions should include particle size range and angularity for granular soils and plasticity for fine-grained soils.

Example Descriptions:

- Lean Clay with Sand (CL); Very stiff, dark gray, medium plasticity fines, coarse, angular sand, trace gravel, moist [levee fill]
- Well-Graded Sand with Silt (SW-SM); Medium dense, brown, subangular sand, low plasticity fines, moist, slightly organic [holocene terrace deposits]

Coarse-Grained Soil Flow Chart

				Group Symbol		Group Name
% gravel > % sand	≤5% fines	Well-graded		GW	<15% sand	well-graded gravel
					≥15% sand	well-graded gravel with sand
		Poorly graded		GP	<15% sand	poorly-graded gravel
					≥15% sand	poorly-graded gravel with sand
	5%-15% fines	Well-graded	silt fines	GW-GM	<15% sand	well-graded gravel with silt
					≥15% sand	well-graded gravel with silt and sand
			clay fines	GW-GC	<15% sand	well-graded gravel with clay
					≥15% sand	well-graded gravel with clay and sand
		Poorly graded	silt fines	GP-GM	<15% sand	poorly-graded gravel with silt
					≥15% sand	poorly-graded gravel with silt and sand
			clay fines	GP-GC	<15% sand	poorly-graded gravel with clay
					≥15% sand	poorly-graded gravel with clay and sand
	≥15% fines	silt fines		GM	<15% sand	silty gravel
					≥15% sand	silty gravel with sand
		clay fines		GC	<15% sand	clayey gravel
					≥15% sand	clayey gravel with sand
% sand > % gravel	≤5% fines	Well-graded		SW	<15% gravel	well-graded sand
					≥15% gravel	well-graded sand with gravel
		Poorly graded		SP	<15% gravel	poorly-graded sand
					≥15% gravel	poorly-graded sand with gravel
	5%-15% fines	Well-graded	silt fines	SW-SM	<15% gravel	well-graded sand with silt
					≥15% gravel	well-graded sand with silt and gravel
			clay fines	SW-SC	<15% gravel	well-graded sand with clay
					≥15% gravel	well-graded sand with clay and gravel
		Poorly graded	silt fines	SP-SM	<15% gravel	poorly-graded sand with silt
					≥15% gravel	poorly-graded sand with silt and gravel
			clay fines	SP-SC	<15% gravel	poorly-graded sand with clay
					≥15% gravel	poorly-graded sand with clay and gravel
	≥15% fines	silt fines		SM	<15% gravel	silty sand
					≥15% gravel	silty sand with gravel
		clay fines		SC	<15% gravel	clayey sand
					≥15% gravel	clayey sand with gravel

Density of Granular Soils

Density	N-value
Very Loose	< 5
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

Minor Constituent Descriptors

Term	Percent Present
Trace	< 5 %
Little	5 to 15 %
Some	15 to 50 %
Mostly	50 to 100 %

Note: This field guide is intended as a quick-reference guide for basic soil logging information. More detailed information is provided in ASTM D2488.

FIELD GUIDE FOR USCS SOIL CLASSIFICATION

SEPTEMBER 1, 2020; REV 0

ARCADIS

Fine Grained Soil Flow Chart

		Group Symbol				Group Name
LL<50 slightly to moderately sticky when wet	- medium plasticity - none to slow dilatancy - medium to high dry strength	CL	<30% sand & gravel	<15% sand & gravel		lean clay
				15-29% sand & gravel	sand≥gravel	lean clay with sand
					sand<gravel	lean clay with gravel
			≥30% sand & gravel	sand≥gravel	<15% gravel	sandy lean clay
					≥15% gravel	sandy lean clay with gravel
				sand<gravel	<15% sand	gravelly lean clay
					≥15% sand	gravelly lean clay with sand
	- nonplastic to low plasticity - slow to rapid dilatancy - none to low dry strength	ML	<30% sand & gravel	<15% sand & gravel		silt
				15-29% sand & gravel	sand≥gravel	silt with sand
					sand<gravel	silt with gravel
			≥30% sand & gravel	sand≥gravel	<15% gravel	sandy silt
					≥15% gravel	sandy silt with gravel
				sand<gravel	<15% sand	gravelly silt
					≥15% sand	gravelly silt with sand
LL>50 very sticky when wet	- high plasticity - no dilatancy - high to very high dry strength	CH	<30% sand & gravel	<15% sand & gravel		fat clay
				15-29% sand & gravel	sand≥gravel	fat clay with sand
					sand<gravel	fat clay with gravel
			≥30% sand & gravel	sand≥gravel	<15% gravel	sandy fat clay
					≥15% gravel	sandy fat clay with gravel
				sand<gravel	<15% sand	gravelly fat clay
					≥15% sand	gravelly fat clay with sand
	- low to medium plasticity - none to slow dilatancy - low to medium dry strength	MH	Elastic silt soil is uncommon. If encountered, follow group name convention for other fine grained soils. (i.e. elastic silt, elastic silt with sand, elastic silt with gravel, sandy elastic silt, etc.)			

* Record as organic soil (OL/OH) if there is enough organic particles to influence soil properties. Follow group name convention for other fine grained soils.

Plasticity of Cohesive Soils

Nonplastic	A 1⁄8-in. (3-mm) thread cannot be rolled at any water content
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limi

Consistency of Cohesive Soils

Consistency	SPT N-value	Pocket pen (tsf)	Hand Manipulation
Very Soft	<2	<0.25	Easily penetrated >1 in. by thumb
Soft	2 – 4	0.25 - 0.5	Easily penetrated ~1 in. by thumb
Med. Stiff	5 – 8	0.5 - 1.0	Penetrated by thumb with moderate effort
Stiff	9 – 15	1.0 - 2.0	Readily indented by thumb but not penetrated
Very Stiff	16 - 30	2.0 - 4.0	Readily indented but thumbnails, but thumb will not indent
Hard	>30	>4.0	Thumbnail will not indent soil

Note:
Order of priority in determining consistency of cohesive soils:
1. Field Vane Shear Test
2. Torvane
3. Pocket Pen
4. N-value

Particle Size Distribution

Material	Fraction	Sieve Size	Grain Size (mm)	Approximate Scale Size
Boulders		12 in. +	300 +	Basketball
Cobbles		3 - 12 in.	300 - 75	Baseball to basket ball
Gravel	Coarse	3/4 - 3 in.	75 - 19	Thumb to baseball
	Fine	No 4 - 3/4 in.	19 - 4.75	pea to thumb
Sand	Coarse	No 10 - No 4	4.75 - 2	rock salt to pea
	Medium	No 40 - No 10	2 - 0.425	sugar to rock salt
	Fine	No 200 - No 40	0.425 - 0.075	flour to sugar
Fines		Passing No 200	< 0.075	smaller than flour

Moisture Condition of Soils

Dry	Dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water

Appendix G

Soil Infiltration Test Logs

Appendix G

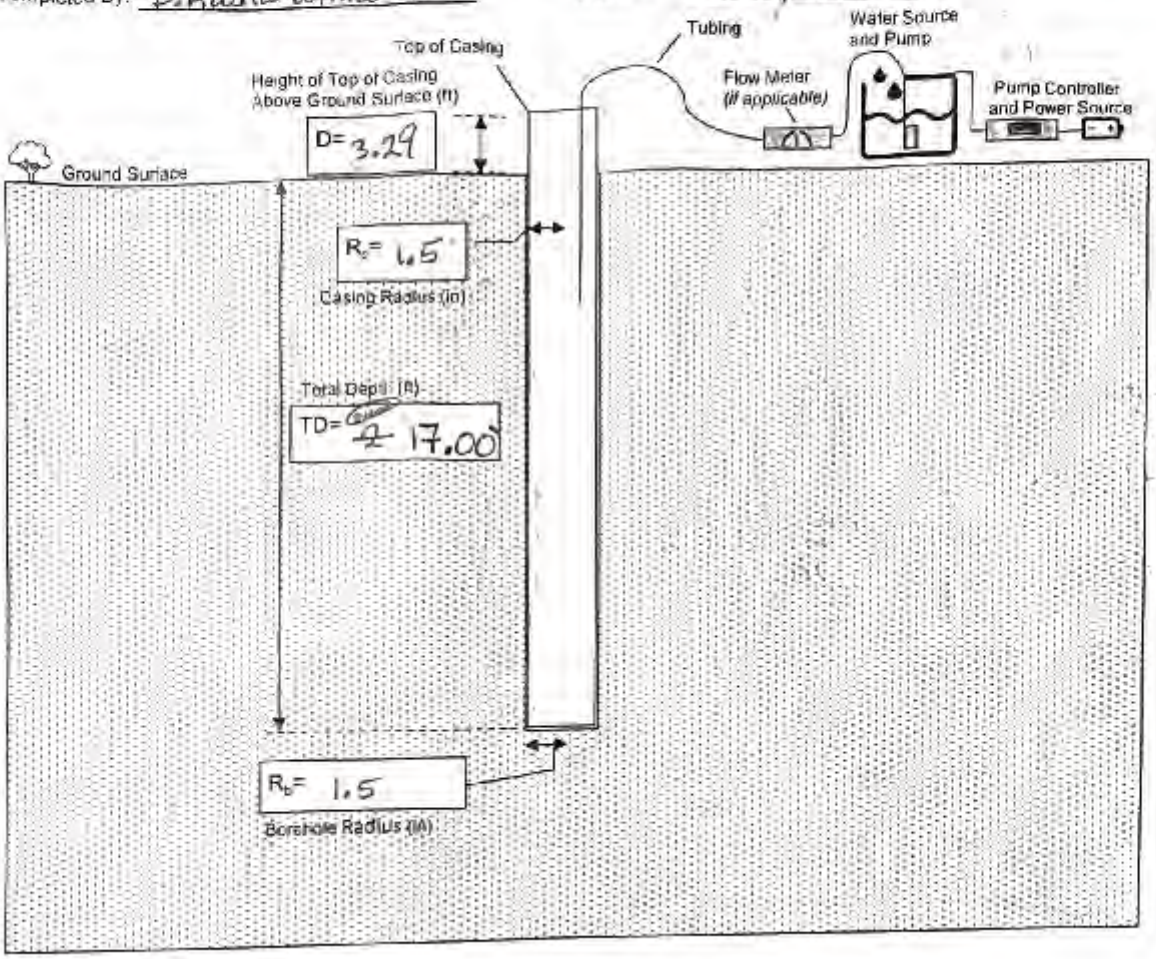
Soil Infiltration Test Logs

ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE-UDF
Test ID: MB-12 (BKW)
Completed By: B. Kudla-Williams

Project No: 30018915
Page: 1 of 1
Date: 6-20-2023
Weather: 70°F, SUN



TOC above gs: 3.70'

Overflow spout from gs: 3.29'

DTB from TOC: 20.70'
- 3.70
17.00'

NB-1

ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE-UDF Project No: 30018915 Page: 1 of 2

Test Number: NB-1 (BKW)	Test Duration: 79 min	Test Number: NB-1 (BKW)	Test Duration: 0:133
Start Test Time: 1030	End Time: ~~1149~~ 1203 (BKW)	Start Test Time: ~~1150~~ 1230 (BKW)	End Time: 1303
Contained Volume: ~~3.95 gal~~ (BKW) 4.1 gal	Time: — (BKW)	Contained Volume: 6.02 gal	Time: —

Pre-wet

Time	Flow Rate (mL/min or gph)
1030	1500 mL/min
1055	1300 mL/min
1100	2040 mL/min
1110	3120 mL/min
1114	3480 mL/min
1139	5100 mL/min
1149	5100 mL/min
1159	5100 mL/min
(BKW) ~~1193~~ 1203	5880 mL/min
1214	3720 mL/min
1224	3780 mL/Min

Pre-wet

Time	Flow Rate (mL/min or gph)	overflow mL/min
~~1150~~ 1228 (BKW)	—	—
1230	3300 mL/min	540 mL/min
1240	3300 mL/min	620 mL/min
1250	3300 mL/min	780 mL/min
1256	3300 mL/min	820 mL/min
1303	3300 mL/min	890 mL/min
—	—	—
1328	3720 mL/min	1260 mL/min
1334	2700 mL/Min	400 mL/min
1340	2580 mL/min	370
1348	2460	330
1400	2520 mL/min	460
1415	2580 mL/min	480
1418	—	420

NOTES: 100% = 8.80 gal 150% = 13.21 gal

Since 1130, ~~out~~ overflow has increased with a steady input.

5 gal of overflow since 1328

NB-1

ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE-UDF

Project No: 300181915 Page: 2 of 2

Test Number: NB-1A (BKW) Test Duration: 168 min

Start Test Time: 1328 End Time: ~~[illegible]~~ 1616

Contained Volume: 16.2 gal Time: —

Test Number: NB-1 Test Duration: 0:46

Start Test Time: 1616 End Time: 1702

Contained Volume: 6.16 gal Time: —

Pre-wet #2

Time	Flow Rate (mL/min or gph)
1433	2580 / 600
1440	2440 / 580
1445	2460 / 570
1456	2460 / 680
1503	2460 / 680
1506	2460 / 740
1513	2460 / 730
1525	2220 / 550
1536	— / 630
1552	2360 / 880
1608	2440 / 930
1615	2160 / 660

TEST

Time	Flow Rate (mL/min or gph)
1616	2160 / 660
1626	2160 / 500
1636	2160 / 500
1646	2160 / 480
1656	2160 / 500
~~16~~ 1702	2120 / 505

in flow, no change on flow meter

NOTES:

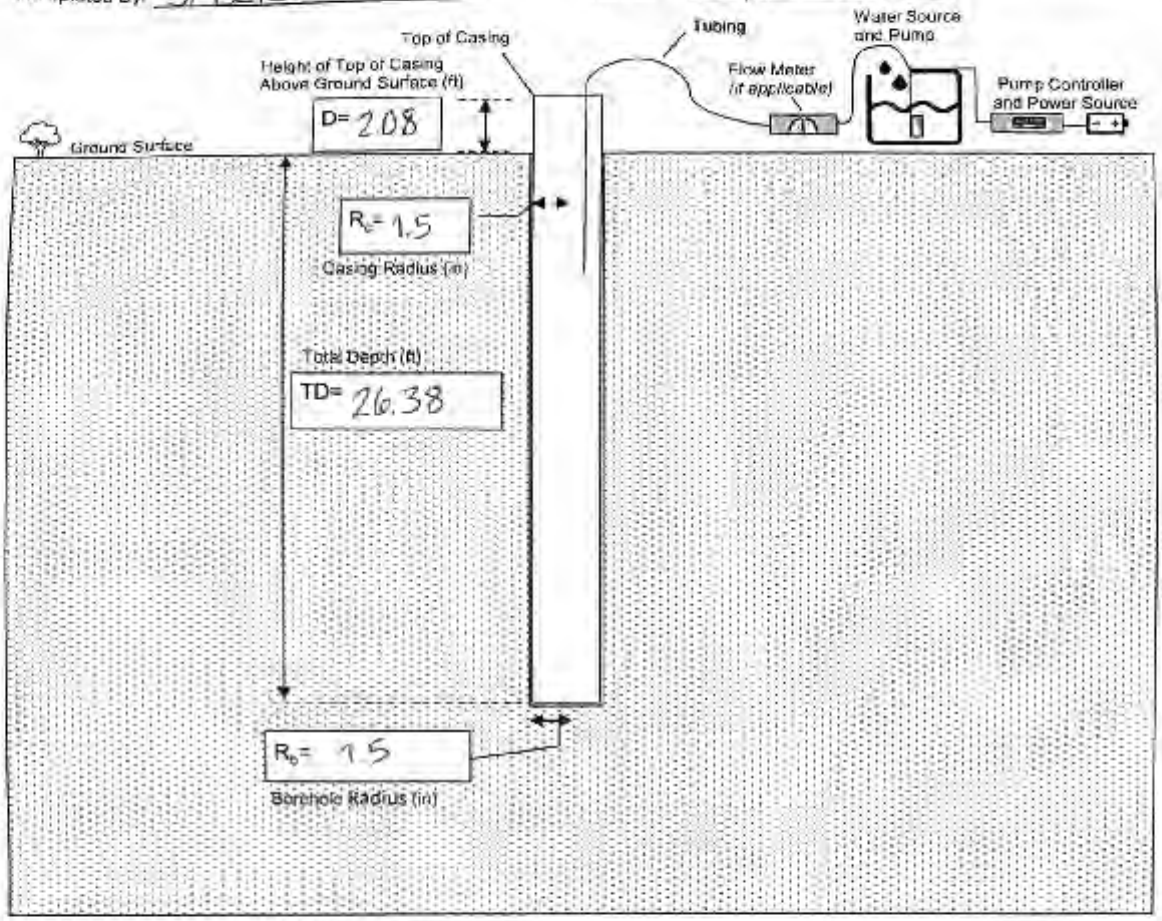
Page 2

ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: Lee GE UDF
Test ID: NB-5
Completed By: J. Baker

Project No: 30161915
Page: 1 of 2
Date: 06/21/2023
Weather: 65°, overcast



ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE UDF | Project No: 30181915 | Page: 1 of 1

Test Number: NB-5	Test Duration: —	Test Number: —	Test Duration: —
Start Test Time: 1024	End Time: —	Start Test Time: —	End Time: —
Contained Volume: 0.0 gal	Time: —	Contained Volume: —	Time: —

depth to water surface from TOC:

Time	Flow Rate (mL/min or gph)	Time	Flow Rate (mL/min or gph)
27.3' 1024	1060 mL/min		
1031	2500 mL/min		
1057	4140 mL/min		
1116	8160 mL/min		
27.3' 1127	9060 mL/min		
27.3' 1137	9060 mL/min		
27.3' 1147	8760 ~~9060~~ (SWB) mL/min		
1230	Pumps ran out of battery power		

NOTES: Vol = 28.46 ft · π · (1.5 in)² = 10.415 gal

150% Vol = 15.608 gal

* Pumps maxed at 1127 using 2 pumps (added second pump at 1115)

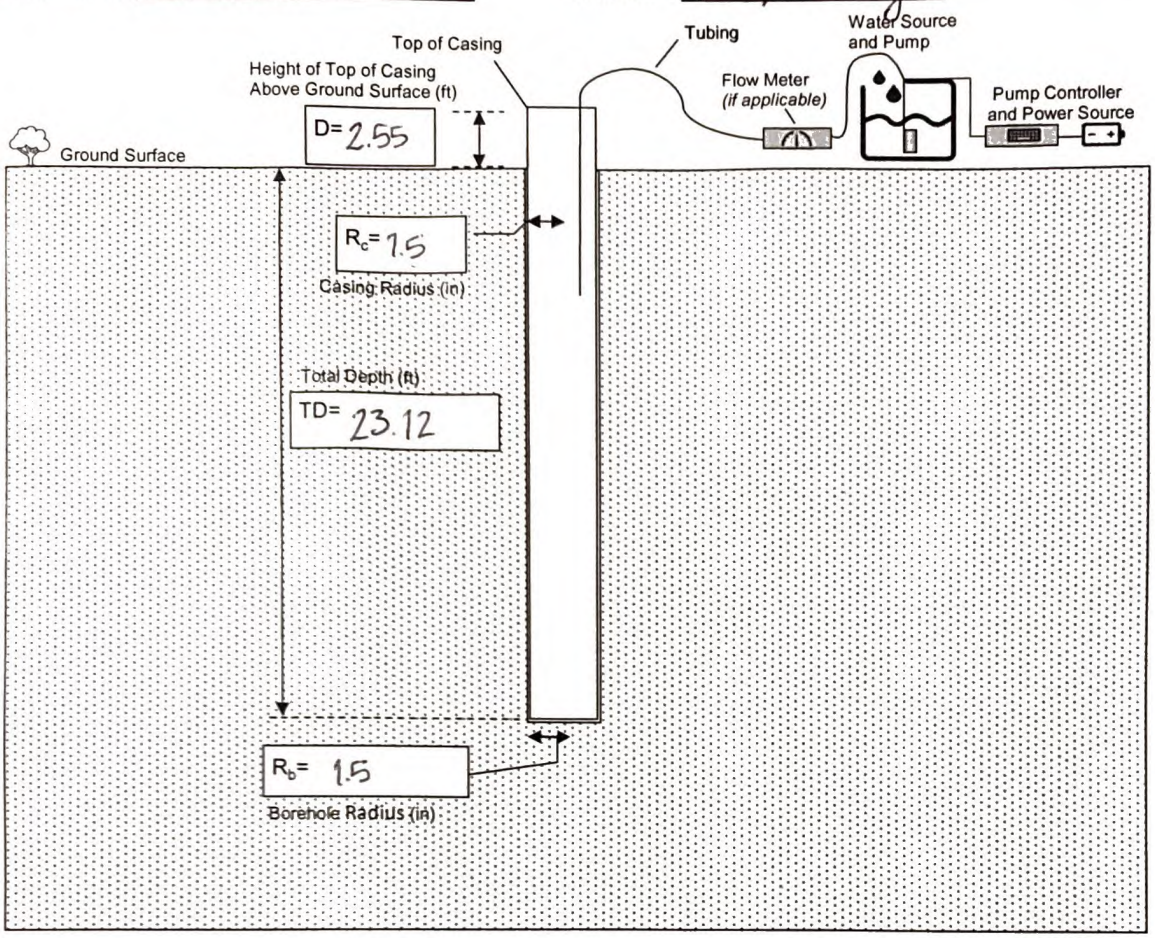
* DTW measured down to the tenths due to influent splashing and causing water level meter to "chirp"

Stable water level for 20 mins before batteries died. Due to time constraints, test not run again.

ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE UDF
Project No: 30181915
Page: 1 of 1
Test ID: NB-7
Date: 06/22/23
Completed By: J. Baker
Weather: 70°F, Sunny



ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE UDF Project No: 30181915 Page: 1 of 1

Test Number:	NB-7	Test Duration:	161 mins	Test Number:	—	Test Duration:	—
Start Test Time:	1620	End Time:	1901	Start Test Time:	—	End Time:	—
Contained Volume:	17.9 gal	Time:	—	Contained Volume:	—	Time:	—

DTW from TOC	Time	Flow Rate (mL/min or gph)	Time	Flow Rate (mL/min or gph)
	1620	3900	1831	4020 / 810
	1630	3900	1841	— / 830
7.41'	1637	—	1851	— / 870
—	1643	4620	1901	4020 / 1120
4.23'	1647	—		
3.37'	1652	—		
overflow	1714	5250 / — outflow mL/min		
	1716	— / 240		
	1719	— / 330		
	1724	— / 420		
	1732	— / 580		
*	1738	4320 / —		
	1740	— / 160		
	1743	— / 320		
(skip)	1752	— / 470		
	1758	— / 590		
	1808	— / 540		
	1811	— / 610		
	1817	4020 / 800		
	1820	— / 790		
	1828	— / 810		

NOTES: 100% = 9.42 gal 150% = 14.13 gal

*Reduced pumping rate

buckets of overflow

4.8 gal
4.5 gal
4.8 gal
4.8 gal
} 17.9 gal

Constant Head Permeameter

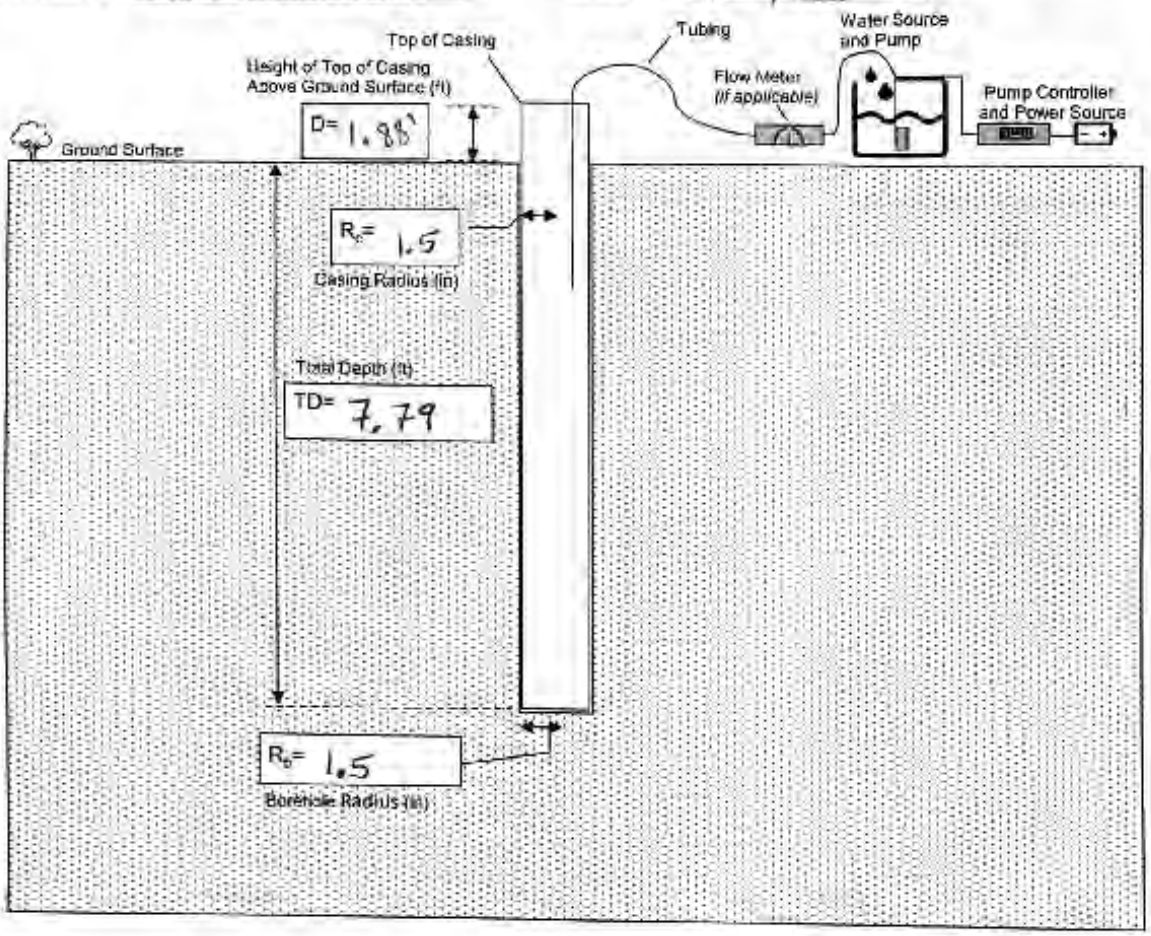
ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE-UDF Project No: 300181915 Page: 1 of 1

Test ID: NB-11 Date: 6/21/2023

Completed By: B. Kudla-Williams Weather: 70°F, Sun



DTB from TOC: 10.00'

TOC from gs: 2.21'

Top of overflow from gs: ~~2.88'~~ 1.88'

~~10.00~~
~~- 2.88~~

10.00
- 0.67

9.33' x 0.367 = 3.42 gal ~~in~~

ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE-UDF Project No: 30018915 Page: 1 of 1

Test Number: NB-11	Test Duration: 172min	Test Number: NB-11	Test Duration: 32min
Start Test Time: 1504	End Time: ~~1638~~ 1752 (JNB)	Start Test Time: 1720	End Time: 1752
Contained Volume: ~~1.0 gal~~ (JNB)	Time: —	Contained Volume: 2.75 gal	Time: —

PTW from TOC	Time	Flow Rate (mL/min or gph)	Time	Flow Rate (mL/min or gph)	out mL/min
	1504	1120 ~~gal~~ mL/min	1640	1140	220
5.60'	1514	1120 mL/min	1650	—	260
3.89'	1518	1120 mL/min	1658	—	280
2.90'	1523	1120 mL/min	1707	—	370
overflow	1610	in / out(mL/min)	1712	—	370
	1610	1140 / 150	1717	1140	370
	1621	— / 190	BEGIN TEST		
	1627	1140 / 230	(JNB) ~~1520~~ 1720	1140	370
	1632	— / 220	1730	—	370
	1638	1140 / 220	1740	—	370
			1752	1120	380

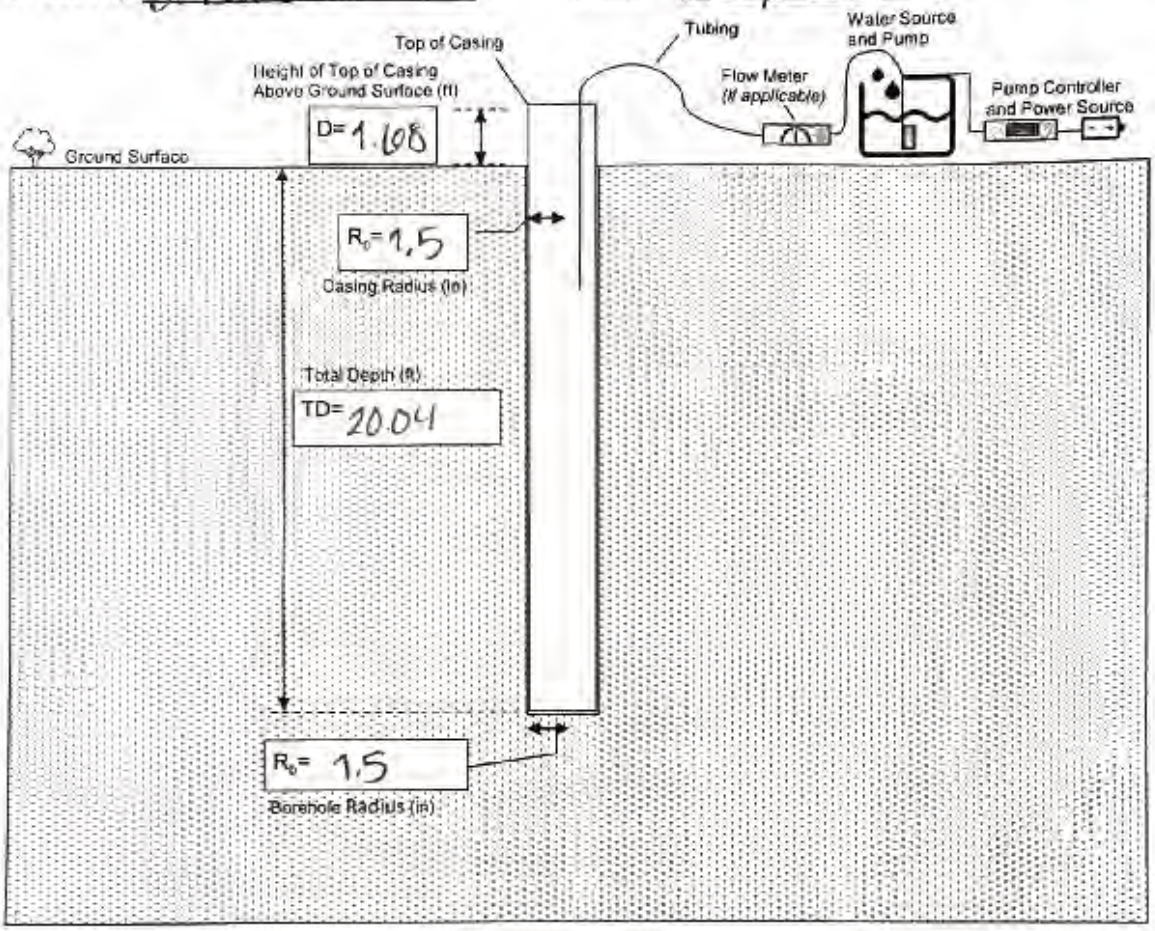
NOTES: 100% = 3.42 gal 150% = 5.14 gal

Started a test at 1640 but due to change in outflow, test was restarted at 1720 when outflow stabilized. Total volume contained during pre-wetting (1504 – 1717) was 4.25 gal

ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE VDF
Project No: 30181915
Page: 1 of 1
Test ID: NB-12
Date: 06/22/23
Completed By: J. Baker
Weather: 65F, Sun



ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE UDF Project No: 30151915 Page: 1 of 1

Test Number: NB-12	Test Duration: 0.45		Test Number: —	Test Duration: —	
Start Test Time: 1030	End Time: 1115		Start Test Time: —	End Time: —	
Contained Volume: 0	Time: —		Contained Volume: —	Time: —	

Elapsed Time	Time	Flow Rate (mL/min or gph)	Time	Flow Rate (mL/min or gph)
	1030	3060 mL/min		
20.30'	1036	—		
20.30'	1041	—		
20.30'	1045	8400 mL/min		
20.30'	1059 (JWB)	~~8400 mL/min~~		
20.30'	1104	—		
20.30'	1110	—		
20.30'	1115	8400 mL/min		

NOTES:

Water level not rising with 3060 mL/min, added second pump & set both to maximum flow @ 8400 mL/min. Water level stayed for 30 min.

ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE-UDF Project No: 30181915 Page: 1 of 1

Test Number: NB-15	Test Duration: 54 min	Test Number: NB-15	Test Duration: 35
Start Test Time: 0936	End Time: 1030	Start Test Time: 1038	End Time: 1113
Contained Volume: not measured	Time: 1030	Contained Volume: 3.45 gal	Time: 1113

Time	Flow Rate (mL/min or gph)	Time	Flow Rate in (mL/min or gph)	Flow Rate out (mL/min)
0936	1.75 gal/min	1038	6530 mL/min	220
0943	1.75 gal/min	1050	6530 mL/min	380
0946	Water level dropped	1055	6530 mL/min	340
0954	water level steady	1100	6530 mL/min	495
1010	2.15 gal/min	1105	6530 mL/min	490
1020	~~15 mL/min~~ 2.15 gal/min	1110	6530 mL/min	520
1026	6530 mL/min	1113	6530 mL/min	—
1030	6530 mL/min	1113 OFF	—	—

Prewet period

3.45 gal captured
60.55 gal pumped into hole

NOTES: 3" Casing 23.28' - 100% = 8.54 gal 150% = 12.82 gal
2/3 depth: 15.52
1/3 depth: 7.76

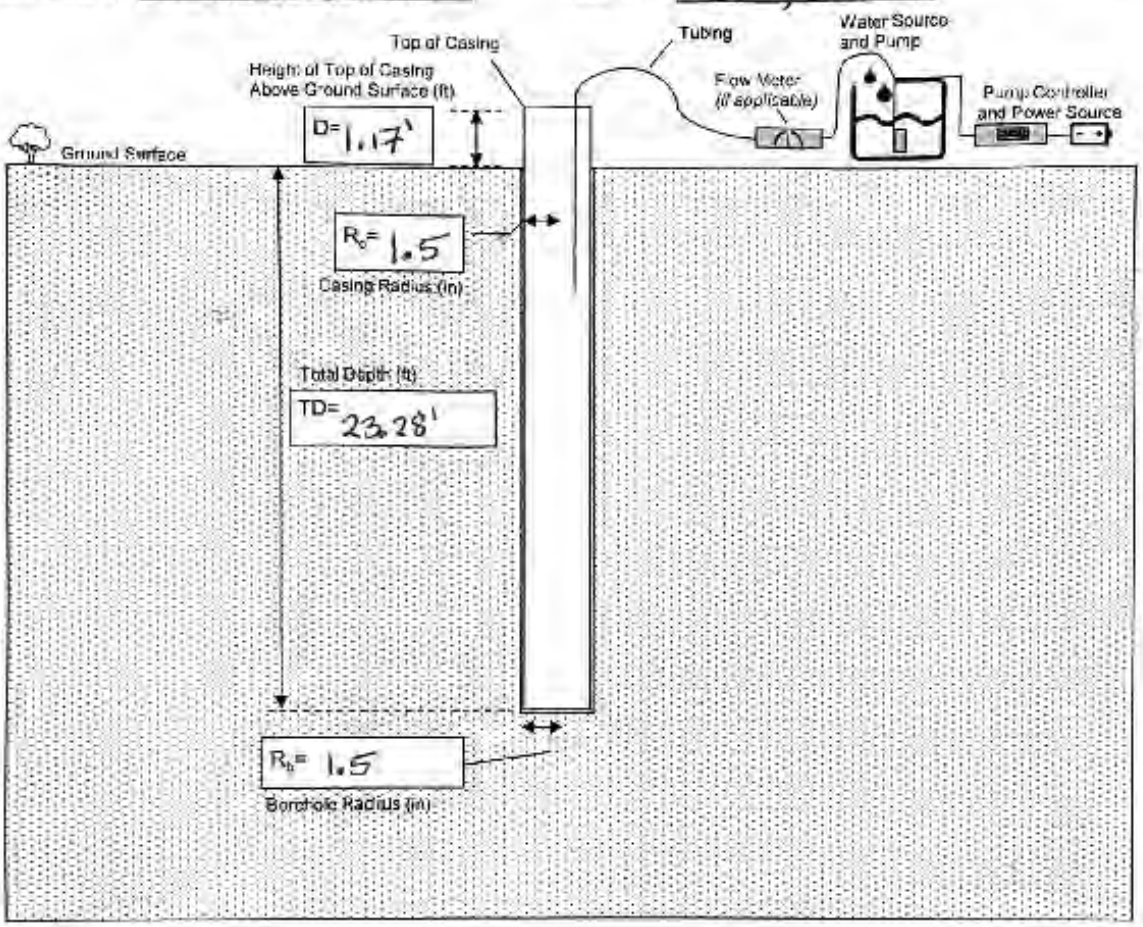
ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE-UDF Project No: 30181915 Page: 1 of 1

Test ID: NB-15 Date: 6/15/23

Completed By: B. Kudla-Williams Weather: 60°F, Overcast



DTB from TOC: 24.45'
- 1.17'
23.28' DTB bgs

80% - 95%

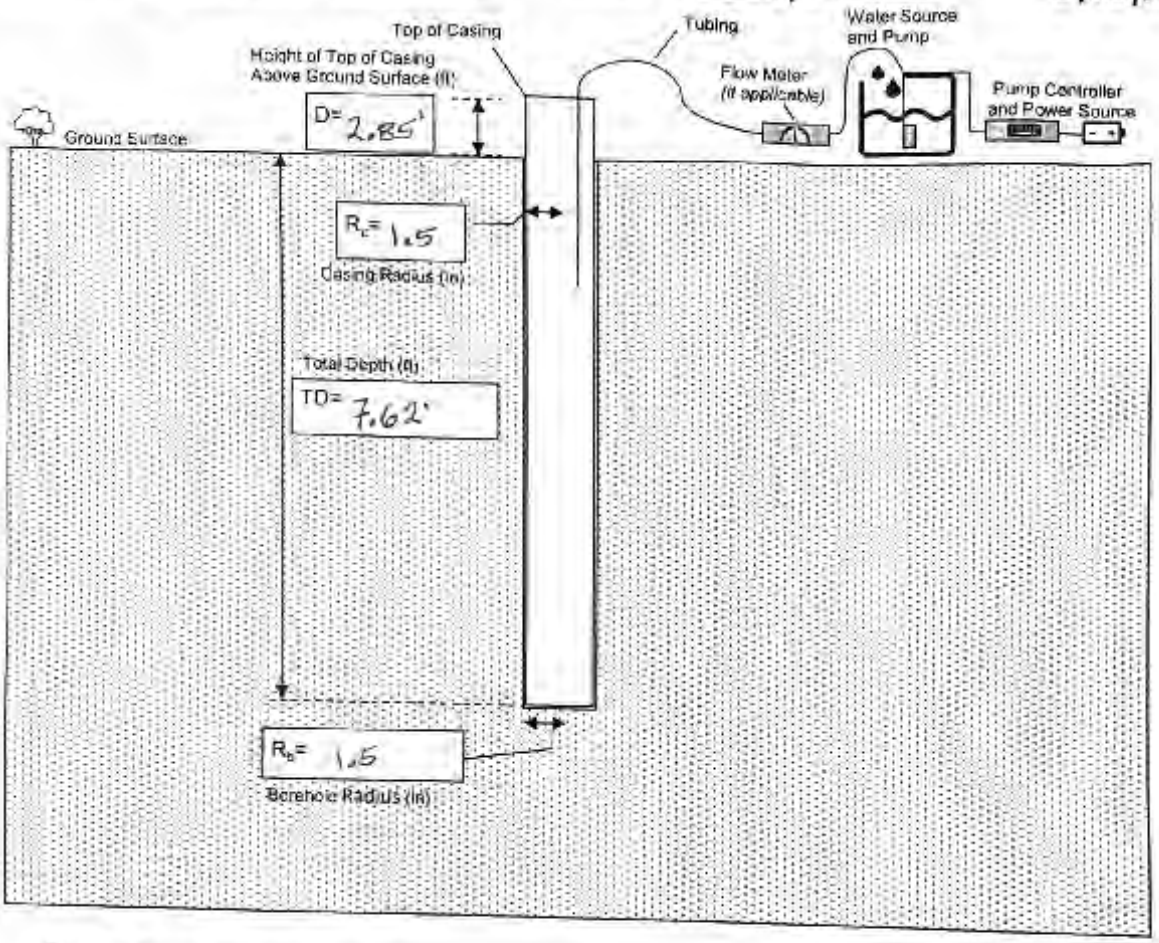
ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE-UDF
Test ID: SB-2B
Completed By: B. Kudla-Williams

Project No: 30181915
Weather: ~68°F, Overcast

Page: 1 of 1
Date: ~~6/19/2023~~ (BKW) 6/16/2023



DTB from TOC: 10.47
-2.85'
DTB from Bgs: 7.62'

ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE-UDF Project No: 30181915 Page: 1 of 1

Test Number: SB-2B	Test Duration: 44min	Test Number: SB-2B	Test Duration: 35 min
Start Test Time: 0859	End Time: 0943	Start Test Time: 0945	End Time: 1020
Contained Volume: 3.0gal	Time: 0943	Contained Volume: 4.16 gal	Time: 1020

Pre-wet

Time	Flow Rate (mL/min or gph)
0859	0.399 gal/min
0914 - begin overflowing	0.399 gal/min
0924	0.372 gal/min
0928	0.359 gal/min
0933	0.296 gal/min
0936	0.296 gal/min
0940	0.296 gal/min
0943	0.296 gal/min

Test

Time	Flow Rate (mL/min or gph)	overflow mL/min
0945	0.296 gal/min	
0950	0.296 gal/min	450
0955	0.296 gal/min	455
1000	0.296 gal/min	490
1008	0.296 gal/min	500
1015	0.296 gal/min	480
1020	0.343 gal/min	-

NOTES: $100^{gpd} = 3.84$ $150^{gpd} = 5.76$

@0915 - overflowing at 370mL/min

Did not change pump settings during pre-wet, Pump was fluctuating rate

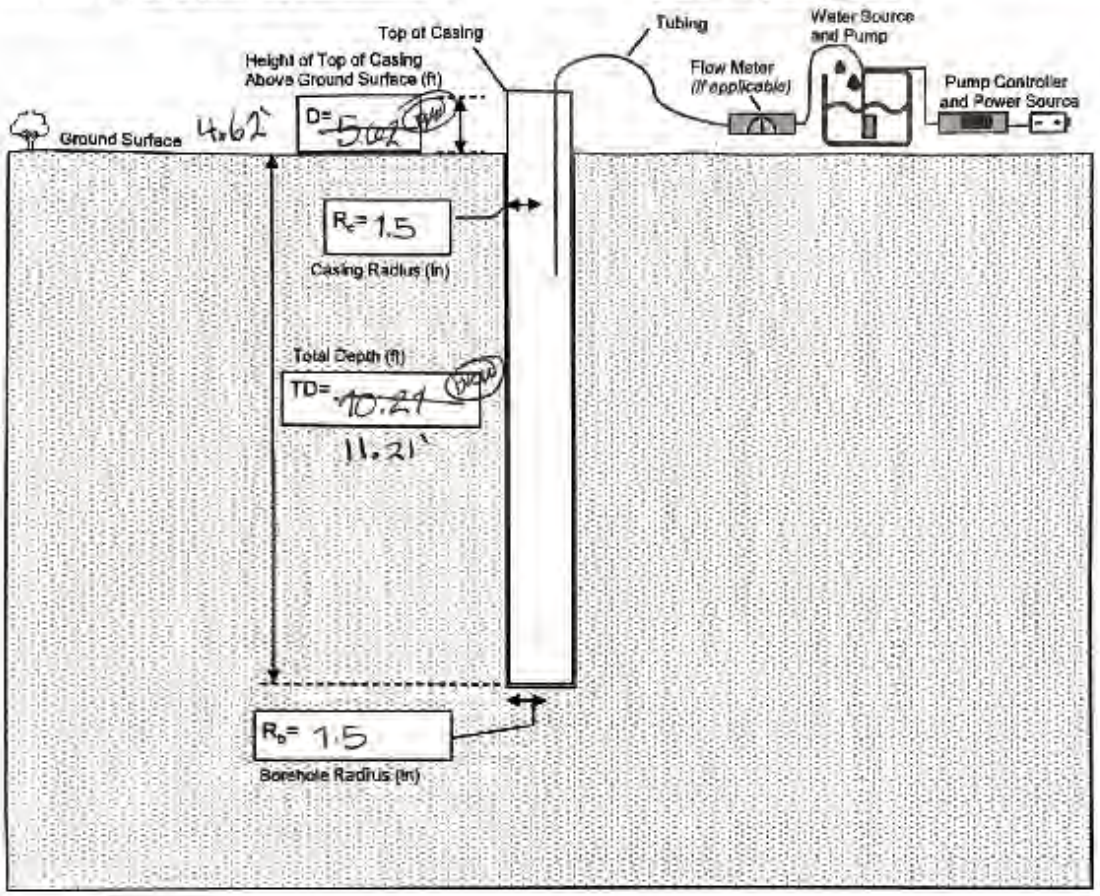
ARCADIS

Constant Head Permeameter Test - Parameters

Site Name: GE-UDF
Test ID: SB-3C
Completed By: B. Kudla-Williams

Project No: 30181915
Weather: 75°F, Sun

Page: 1 of 1
Date: 6/19/2023



ARCADIS

Constant Head Permeameter Test - Data

Site Name: GE-UDF Project No: 30181915 Page: 1 of 1

Test Number: SB-3C Test Duration: 1:18
Start Test Time: 12:42 End Time: 14:00
Contained Volume: 2.13 gal Time: —

Pre-wetting

Time	Flow Rate (mL/min or gph)
12:42	1700 mL/min in & out
13:20	1600 & 200
13:32	1600 & 240
13:36	1750 & 260
13:41	1640 & 300
13:45	1650 & 320
13:51	1660 & 340
13:58	1660 & 350

Test Number: SB-3C Test Duration: 0:30
Start Test Time: 14:01 End Time: 14:31
Contained Volume: 3.49 gal Time: —

TEST

Time	Flow Rate (mL/min or gph)
(BMW) ~~14:01~~ 1401	1660 mL/min 350 mL/min
(BMW) ~~14:11~~ 1411	— 360 mL/min
(BMW) ~~14:31~~ 1431	1660 mL/min 355 mL/min

NOTES:
Outflow steadily increased then evened out

Appendix H

Soil Environmental Quality Validation Reports

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOC), Semivolatile Organic Compounds (SVOC), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses

SDGs # 480-196069-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47024R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 1
1.1 Analytical Data Package Documentation 2
1.2 Data Validation Procedures 3
2 Volatile Organic Compound Analyses 5
2.1 Holding Times 5
2.2 Blank Contamination 5
2.3 Mass Spectrometer Tuning 5
2.4 Calibration 6
2.4.1 Initial Calibration 6
2.4.2 Continuing Calibration 6
2.5 Surrogates/System Monitoring Compounds 7
2.6 Internal Standard Performance 7
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 8
2.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 8
2.9 Field Duplicate Analysis 8
2.10 Compound Identification 8
2.11 System Performance and Overall Assessment 8
2.12 Data Validation Checklist 9
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Blank Contamination 11
3.3 Mass Spectrometer Tuning 11
3.4 Calibration 11
3.4.1 Initial Calibration 11
3.4.2 Continuing Calibration 11
3.5 Surrogates/System Monitoring Compounds 13
3.6 Internal Standard Performance 13
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 14
3.9 Field Duplicate Analysis 15
3.10 Compound Identification 15
3.11 System Performance and Overall Assessment 15

3.12 Data Validation Checklist 16
4 Polychlorinated Biphenyl Analyses 17
4.1 Holding Times 17
4.2 Blank Contamination 18
4.3 System Performance 18
4.4 Calibration 18
4.4.1 Initial Calibration 18
4.4.2 Continuing Calibration 18
4.5 Surrogates/System Monitoring Compounds 18
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 19
4.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 19
4.8 Field Duplicate Analysis 19
4.9 Compound Identification 19
4.10 System Performance and Overall Assessment 19
4.11 Data Validation Checklist 20
5 Pesticide/Herbicide Analyses 21
5.1 Holding Times 21
5.2 Blank Contamination 21
5.3 System Performance 22
5.4 Calibration 22
5.4.1 Initial Calibration 22
5.4.2 Continuing Calibration 22
5.5 Surrogates/System Monitoring Compounds 22
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 22
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 23
5.8 Field Duplicate Analysis 23
5.9 Compound Identification 23
5.10 System Performance and Overall Assessment 24
5.11 Data Validation Checklist 24
6 Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans Analysis 25
6.1 Holding Times 25
6.2 Blank Contamination 26
6.3 Mass Spectrometer Tuning 28

6.4 Calibration 28
6.4.1 Initial Calibration 29
6.4.2 Continuing Calibration 29
6.5 Labeled Standard Performance 29
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 29
6.7 Ongoing Precision Result /Laboratory Control Sample Analysis 29
6.8 Field Duplicate Analysis 29
6.9 Compound Identification 30
6.10 System Performance and Overall Assessment 30
6.11 Data Validation Checklist 31
7 Metals Analyses 32
7.1 Holding Times 32
7.2 Blank Contamination 33
7.3 Calibration 33
7.3.1 Initial Calibration and Continuing Calibration 33
7.3.2 Lower Limit of Quantitation Check Standard 33
7.3.3 Inductively Coupled Plasma Interference Control Sample 33
7.4 Matrix Spike/Laboratory Duplicate Analysis 34
7.4.1 Matrix Spike Analysis 34
7.4.2 Laboratory Duplicate Analysis 34
7.5 Field Duplicate Analysis 35
7.6 Laboratory Control Sample Analysis 35
7.7 Serial Dilution 35
7.8 System Performance and Overall Assessment 35
7.9 Data Validation Checklist 36
8 General Chemistry Analyses 37
8.1 Holding Times 37
8.2 Blank Contamination 37
8.3 Calibration 38
8.3.1 Initial Calibration and Continuing Calibration 38
8.4 Matrix Spike/Matrix Spike Duplicate /Laboratory Duplicate Analysis 38
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 38
8.4.2 Laboratory Duplicate Analysis 38

8.5 Field Duplicate Analysis 38
8.6 Laboratory Control Sample (LCS) Analysis 39
8.7 System Performance and Overall Assessment 39
8.8 Data Validation Checklist for General Chemistry 39
9 Overall Data Usability 40

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 1
Table 2. Evaluation of Data Package Completeness 2
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 4
Table 4. Specified Holding Times 5
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 6
Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications 6
Table 7. Specified Holding Times 10
Table 8. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 9. Initial and Continuing Calibration Evaluation Criteria and Qualifications 12
Table 10. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 13
Table 11. Evaluation Criteria for Matrix Spike / Matrix Spike Duplicate Recoveries 13
Table 12. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 14
Table 13. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 14
Table 14. Holding Time for Method SW-846 8082A 17
Table 15. Data Validation Checklist for Polychlorinated Biphenyls 20
Table 16. Holding Time for Method SW-846 8081B/8141B/8151A 21
Table 17. Dual Column Analysis Exhibiting RPD Outside the Control Limit 23
Table 18. Evaluation Criteria for Dual Column Analysis RPD 23
Table 19. Data Validation Checklist 24
Table 20. Holding Time for Method SW-846 8290A 25
Table 21. Summary of Blank Contamination Qualifications 26
Table 22. Holding Time for Method SW-846 6010C/7470/7471 32
Table 23. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 34
Table 24. Evaluation Criteria for Matrix Spike / Matrix Spike Duplicate Recoveries 34

Table 25. Specified Holding Times 37

Table 26. Overall Summary of Data Usability 40

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196069-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
PZ-2022-8 (12-16)_20220322	480-196069-1	Soil	3/22/2022			X	X	X		X	X
PZ-2022-8 (15)_20220322	480-196069-2	Soil	3/22/2022		X						
PZ-2022-8 (26-30)_20220322	480-196069-3	Soil	3/22/2022			X	X	X		X	X
PZ-2022-8 (29)_20220322	480-196069-4	Soil	3/22/2022		X						
PZ-2022-8 (40-44)_20220322	480-196069-5	Soil	3/22/2022			X	X	X		X	X
PZ-2022-8 (43)_20220322	480-196069-6	Soil	3/22/2022		X						
PZ-2022-8 (0-1)_20220322	480-196069-7	Soil	3/22/2022			X	X	X		X	X
PZ-2022-8 (0-0.5)_20220322	480-196069-8	Soil	3/22/2022		X						
PZ-2022-8 (60-64)_20220322	480-196069-9	Soil	3/22/2022			X	X	X		X	X

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
PZ-2022-8 (63)_20220322	480-196069-10	Soil	3/22/2022		X						

Notes:
HERB = herbicides
MET = metals
MISC = miscellaneous analyses (cyanide, sulfide)
PEST = pesticides

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make

a tentative identification.

R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	10	0	0	10
SVOCs	0	0	0	10	0	0	10
PCBs	0	0	0	10	0	0	10
PEST	0	0	0	10	0	0	10
HERB	0	0	0	10	0	0	10
PCDD/PCDF	0	0	0	10	0	0	10
PFAS	0	0	0	10	0	0	10
Metals	0	0	0	10	0	0	10
MISC	0	0	0	10	0	0	10

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies

was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Specified Holding Times

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No qualification of the sample results was required.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample Locations	Initial/Continuing	Compound	Criteria
PZ-2022-8 (15)_20220322 PZ-2022-8 (43)_20220322 PZ-2022-8 (0-0.5)_20220322 PZ-2022-8 (63)_20220322	CCV %D	Trichlorofluoromethane	+29.5%
		Carbon tetrachloride	+27.3%
PZ-2022-8 (29)_20220322	CCV %D	Trichlorofluoromethane	+32.6%
		Carbon tetrachloride	+29.6%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J

Initial/Continuing	Criteria	Sample Result	Qualification
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on a sample within this SDG.

2.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits. LCSD analysis was not performed.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS or MS/MSD. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
C. Trip blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS)	X				X
Matrix Spike Duplicate(MSD)	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 7. Specified Holding Times

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 8. Summary of Compounds Outside Specified Calibration Control Limits

Sample Locations	Initial/Continuing	Compound	Criteria
PZ-2022-8 (12-16)_20220322	ICV %RSD	Benzidine	-29.0%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 9. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Table 10. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample Locations	Compound	MS Recovery	MSD Recovery
PZ-2022-8 (26-30)_20220322	Benzidine	<10%	<10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 11. Evaluation Criteria for Matrix Spike / Matrix Spike Duplicate Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J

Control Limit	Sample Result	Qualification
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 12. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample Locations	Compound	LCS Recovery	LCSD Recovery
PZ-2022-8 (12-16)_20220322 PZ-2022-8 (26-30)_20220322 PZ-2022-8 (40-44)_20220322 PZ-2022-8 (0-1)_20220322 PZ-2022-8 (60-64)_20220322	Pyrene	>UL	--

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 13. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ

Control Limit	Sample Result	Qualification
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

VOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Initial/Continuing calibration verification %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	

VOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that one of the two PCB surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis exhibited recoveries within the control limits.

4.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Column RPD values were within control limits.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

Table 15. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
A. Quantitation Reports		X		X	
B. RT of sample compounds within the established RT windows		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
C. Pattern identification		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8141B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All reported compounds associated with the calibrations were within the specified control limits.

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide/herbicide analysis requires that one of the two surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis exhibited recoveries within control limits.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries and RPDs within the control limits. LCSD was not analyzed in this SDG.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Table 17. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Compound	RPD
PZ-2022-8 (60-64')	4,4'-DDT	26.9%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 18. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (PCB sample results less than the RL)	U

When the sample results are less than the RL and the RPD greater than 50% the sample result are raised to the

RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide/herbicide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

Table 19. Data Validation Checklist

SW 846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
C. Method blanks		X		X	
D. Equipment blanks		X		X	
LCS %R		X		X	
LCS Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		

Dilution Factor		X		X	
Moisture Content		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
F. Quantitation Reports		X		X	
G. RT of sample compounds within the established RT windows		X		X	
H. Pattern identification		X		X	
I. Transcription/calculation errors present		X		X	
J. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 20. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 21. Summary of Blank Contamination Qualifications

Sample Locations	Analytes	Sample Result	Qualification
PZ-2022-8 (12-16')	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD Total PeCDF Total TCDF	Detected sample results <RL and <BAL	““U” at the RL

Sample Locations	Analytes	Sample Result	Qualification
PZ-2022-8 (26-30')	1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF Total HpCDD Total HxCDD Total HxCDF Total PeCDD Total PeCDF Total TCDF		
PZ-2022-8 (40-44')	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD		

Sample Locations	Analytes	Sample Result	Qualification
	Total PeCDF Total TCDD Total TCDF		
PZ-2022-8 (0-1')	1,2,3,7,8-PeCDF 2,3,7,8-TCDF		
PZ-2022-8 (60-64')	1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDF Total HpCDD Total HpCDF Total HxCDF Total PeCDD Total PeCDF		

RL = reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on a sample within this SDG.

6.7 Ongoing Precision Result /Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrices is applied to the RPD between the parent sample and the field

duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
D. Method blanks		X	X		
E. Equipment blanks	X				X
F. Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS)	X				X
Matrix Spike Duplicate(MSD)	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Holding times/Preservation		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X	X		
Signal-to-noise ratio $\geq$ 10:1		X		X	

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
F. Reconstructed ion chromatograms		X		X	
G. Quantitation Reports		X		X	
H. RT of sample compounds within the established RT windows		X		X	
I. Transcription/calculation errors present		X		X	
J. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Holding Time for Method SW-846 6010C/7470/7471

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7470	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

7.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

7.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-Inductively Coupled Plasma (ICP) analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

7.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

7.3.3 Inductively Coupled Plasma Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories' interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

7.4 Matrix Spike/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

7.4.1 Matrix Spike Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

All analytes associated with MS/MSD recoveries were within control limits with the exception of the following analyte present in the table below.

Table 23. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample Location	Analyte	MS Recovery	MSD Recovery
PZ-2022-8 (26-30')	Zinc	75% (Acceptable)	74%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Table 24. Evaluation Criteria for Matrix Spike / Matrix Spike Duplicate Recoveries

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

7.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

7.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample location within this SDG.

7.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

7.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution performed on sample location PZ-2022-8 (26-30') exhibited %D within the control limit.

7.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.9 Data Validation Checklist

METALS; SW-846 6010/7470/7471	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
ICP Serial Dilution %D		X		X	
Total vs. Dissolved	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
ICP-MS Internal Standards		X		X	
Transcription/calculations acceptable		X		X	

METALS; SW-846 6010/7470/7471	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 25. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.4 Matrix Spike/Matrix Spike Duplicate /Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on a sample within this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less

than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

8.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and the laboratory established control limits for soil.

The LCS analysis exhibited recoveries within the control limits.

8.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.8 Data Validation Checklist for General Chemistry

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 26. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	99.9%	1
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC)

parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: October 17, 2022

PEER REVIEW: Dennis Capria

DATE: October 24, 2022

Appendix A

Chain of Custody

Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: D. Meandro	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 315-992-0568	E-Mail: John.Schove@Eurofinset.com	State of Origin: MA	Page: Page 1 of 6
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-992-0568(Tel)	PO #: Purchase Order not required			
Email: daniel.meandro@arcadis.com	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

480-196069 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	N	A	N	D	B	N	N	N	CB	X	
PZ-2022-8 (12-16')	3-22-22	1340	C	S			X	X	X	X										4	
PZ-2022-8 (15')	3-22-22	1341	G	S							X									4	
PZ-2022-8 (26-30')	3-22-22	1430	C	S			X	X	X	X										4	
PZ-2022-8 (29')	3-22-22	1431	G	S							X									4	
PZ-2022-8 (40-44')	3-22-22	1515	C	S			X	X	X	X										4	
PZ-2022-8 (43')	3-22-22	1516	G	S							X									4	
PZ-2022-8 (0-1)	3-22-22	1525	C	S			X	X	X	X										4	
PZ-2022-8 (0.5)	3-22-22	1526	G	S							X									4	
PZ-2022-8 (60-64')	3-22-22	~~1405~~ DM	C	S			X	X	X	X										4	1605 DM
PZ-2022-8 (63')	3-22-22	~~1406~~ DM	G	S							X									4	1606 DM

Preservation Codes: A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify); Other:

5hoA Hold on VOC Freeze ASAP

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 3-22-22 1726	Company ANA	Received by:	Date/Time: 3-23-22 1000	Company ANA
Relinquished by:	Date/Time: 3-23-22 1120	Company ANA	Received by:	Date/Time: 3/24/22 1000	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 3.2

Ver: 06/08/2021

4/7/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-70653.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@Eurofinset.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Env, LLC		Accreditations Required (See note): State - Massachusetts		Job #: 480-196069-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 4/6/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-8 (12-16) (480-196069-1)	3/22/22	13:40 Eastern		Solid			X	1	
PZ-2022-8 (26-30) (480-196069-3)	3/22/22	14:30 Eastern		Solid			X	1	
PZ-2022-8 (40-44) (480-196069-5)	3/22/22	15:15 Eastern		Solid			X	1	
PZ-2022-8 (0-1) (480-196069-7)	3/22/22	15:25 Eastern		Solid			X	1	
PZ-2022-8 (60-64) (480-196069-9)	3/22/22	16:05 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		3-24-22 1700	TAB			
2						
3					3/25/22 1049	EAL

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
☑ Yes ☐ No		4.4

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: PZ-2022-8 (12-16')
Date Collected: 03/22/22 13:40
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-1
Matrix: Solid
Percent Solids: 96.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		170	30	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,2,4-Trichlorobenzene	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,2-Dichlorobenzene	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,2-Diphenylhydrazine	ND		340	19	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,3-Dichlorobenzene	ND		340	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,3-Dinitrobenzene	ND		340	41	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,4-Dichlorobenzene	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,4-Dioxane	ND		100	56	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1,4-Naphthoquinone	ND		340	64	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
1-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,3,4,6-Tetrachlorophenol	ND		170	36	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,4,5-Trichlorophenol	ND		170	47	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,4,6-Trichlorophenol	ND		170	35	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,4-Dichlorophenol	ND		170	18	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,4-Dimethylphenol	ND		170	42	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,4-Dinitrophenol	ND		1700	800	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,4-Dinitrotoluene	ND		170	36	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,6-Dichlorophenol	ND		340	64	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2,6-Dinitrotoluene	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Acetylaminofluorene	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Chloronaphthalene	ND		170	29	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Methylnaphthalene	ND		170	35	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Methylphenol	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Nitroaniline	ND		340	26	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Nitrophenol	ND		170	49	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Picoline	ND		340	39	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
2-Toluidine	ND		340	83	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
3 & 4 Methylphenol	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
3,3'-Dichlorobenzidine	ND		340	200	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
3,3'-Dimethylbenzidine	ND		680	340	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
3-Methylcholanthrene	ND		340	56	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
3-Methylphenol	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
3-Nitroaniline	ND		340	48	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4,6-Dinitro-2-methylphenol	ND		340	170	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Aminobiphenyl	ND		340	71	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Bromophenyl phenyl ether	ND		170	25	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Chloro-3-methylphenol	ND		170	43	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Chloroaniline	ND		170	43	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Chlorophenyl phenyl ether	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Methylphenol	ND		340	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Nitroaniline	ND		340	91	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
4-Nitroquinoline-1-oxide	ND		680	340	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
7,12-Dimethylbenz(a)anthracene	ND		340	50	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
a,a-Dimethylphenethylamine	ND		340	340	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Acenaphthene	ND		170	26	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1

Client Sample ID: PZ-2022-8 (12-16')
Date Collected: 03/22/22 13:40
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-1
Matrix: Solid
Percent Solids: 96.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Acetophenone	ND		170	24	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Aniline	ND		340	42	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Anthracene	ND		170	43	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Aramite, Total	ND		340	160	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzidine	ND	UJ	5100	2200	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzo[a]anthracene	ND		170	17	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzo[a]pyrene	ND		170	26	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzo[b]fluoranthene	ND		170	28	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzo[k]fluoranthene	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Benzyl alcohol	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
bis (2-chloroisopropyl) ether	ND		170	35	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Bis(2-chloroethoxy)methane	ND		170	37	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Bis(2-chloroethyl)ether	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Bis(2-ethylhexyl) phthalate	**430**		170	59	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Butyl benzyl phthalate	ND		170	29	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Chrysene	ND		170	39	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Diallate	ND		340	43	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Dibenz(a,h)anthracene	ND		170	31	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Dibenzofuran	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Diethyl phthalate	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Dimethoate	ND		340	42	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Dimethyl phthalate	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Di-n-butyl phthalate	ND		170	30	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Di-n-octyl phthalate	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Dinoseb	ND		340	60	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Diphenylamine	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Disulfoton	ND		340	260	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Chlorobenzilate	ND		340	54	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Ethyl methanesulfonate	ND		340	75	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Famphur	ND		680	160	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Fluoranthene	ND		170	18	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Fluorene	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Hexachlorobenzene	ND		170	24	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Hexachlorobutadiene	ND		170	26	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Hexachlorocyclopentadiene	ND		170	24	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Hexachloroethane	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Hexachloropropene	ND		340	86	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Indeno[1,2,3-cd]pyrene	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Isodrin	ND		340	59	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Isophorone	ND		170	37	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Isosafrole	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Kepone	ND		680	340	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Methapyrilene	ND		1500	340	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Methyl methanesulfonate	ND		340	78	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Naphthalene	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Nitrobenzene	ND		170	19	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitro-o-toluidine	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1

Client Sample ID: PZ-2022-8 (12-16')
Date Collected: 03/22/22 13:40
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-1
Matrix: Solid
Percent Solids: 96.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		340	79	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosodimethylamine	ND		340	74	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosodi-n-butylamine	ND		340	92	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosodi-n-propylamine	ND		170	30	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosodiphenylamine	ND		170	140	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosomethylethylamine	ND		340	78	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosomorpholine	ND		340	76	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosopiperidine	ND		340	69	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
N-Nitrosopyrrolidine	ND		340	51	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
o,o',o''-Triethylphosphorothioate	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Ethyl Parathion	ND		340	38	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Methyl parathion	ND		340	58	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
p-Dimethylamino azobenzene	ND		340	57	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Pentachlorobenzene	ND		340	71	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Pentachloronitrobenzene	ND		340	86	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Pentachlorophenol	ND		340	170	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Phenacetin	ND		340	46	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Phenanthrene	ND		170	26	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Phenol	ND		170	27	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Phorate	ND		340	93	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
p-Phenylene diamine	ND		820	340	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Pronamide	ND		340	67	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Pyrene	ND	*+	170	20	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Pyridine	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Safrole	ND		340	46	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Sulfotepp	ND		340	54	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1
Thionazin	ND		340	59	ug/Kg	☼	03/24/22 15:25	03/29/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*54 - 120*	*03/24/22 15:25*	*03/29/22 19:57*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/24/22 15:25*	*03/29/22 19:57*	*1*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*03/24/22 15:25*	*03/29/22 19:57*	*1*
Nitrobenzene-d5 (Surr)	*75*		*53 - 120*	*03/24/22 15:25*	*03/29/22 19:57*	*1*
Phenol-d5 (Surr)	*75*		*54 - 120*	*03/24/22 15:25*	*03/29/22 19:57*	*1*
p-Terphenyl-d14 (Surr)	*93*		*79 - 130*	*03/24/22 15:25*	*03/29/22 19:57*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
4,4'-DDT	ND		1.7	0.40	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Aldrin	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Chlorobenzilate	ND		17	5.7	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
cis-Chlordane	ND		1.7	0.85	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Dieldrin	ND		1.7	0.41	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1

Client Sample ID: PZ-2022-8 (12-16')

Date Collected: 03/22/22 13:40
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-1

Matrix: Solid
Percent Solids: 96.5

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Endrin	ND		1.7	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Endrin ketone	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
gamma-BHC (Lindane)	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Heptachlor	ND		1.7	0.37	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Heptachlor epoxide	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
Toxaphene	ND		17	9.9	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1
trans-Chlordane	ND		1.7	0.54	ug/Kg	☼	03/24/22 15:38	03/25/22 11:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*80*		*45 - 120*	*03/24/22 15:38*	*03/25/22 11:00*	*1*
Tetrachloro-m-xylene	*74*		*30 - 124*	*03/24/22 15:38*	*03/25/22 11:00*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1
PCB-1221	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1
PCB-1232	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1
PCB-1242	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1
PCB-1248	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1
PCB-1254	ND		0.19	0.088	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1
PCB-1260	ND		0.19	0.088	mg/Kg	☼	03/25/22 15:26	03/28/22 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*96*		*65 - 174*	*03/25/22 15:26*	*03/28/22 01:06*	*1*
Tetrachloro-m-xylene	*122*		*60 - 154*	*03/25/22 15:26*	*03/28/22 01:06*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.5	ug/Kg	☼	03/25/22 14:04	03/29/22 17:22	1
2,4-D	ND		17	11	ug/Kg	☼	03/25/22 14:04	03/29/22 17:22	1
Silvex (2,4,5-TP)	ND		17	6.2	ug/Kg	☼	03/25/22 14:04	03/29/22 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*03/25/22 14:04*	*03/29/22 17:22*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		33	19	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1
Disulfoton	ND		33	22	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1
Famphur	ND		33	18	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1
Methyl parathion	ND		33	19	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1
Ethyl Parathion	ND		33	18	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1
Phorate	ND		33	11	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1
Sulfotepp	ND		33	13	ug/Kg	☼	03/26/22 16:25	03/29/22 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*70*		*20 - 135*	*03/26/22 16:25*	*03/29/22 20:14*	*1*

Client Sample ID: PZ-2022-8 (12-16')

Date Collected: 03/22/22 13:40
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-1

Matrix: Solid
Percent Solids: 96.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*67*		*20 - 135*	*03/26/22 16:25*	*03/29/22 20:14*	*1*
Triphenylphosphate	*61*		*33 - 168*	*03/26/22 16:25*	*03/29/22 20:14*	*1*
Triphenylphosphate	*61*		*33 - 168*	*03/26/22 16:25*	*03/29/22 20:14*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.90~~	~~J B~~ 5.2 U	5.2	0.038	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,4,6,7,8-HpCDF	~~0.34~~	~~J B~~ 5.2 U	5.2	0.0047	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,4,7,8,9-HpCDF	~~0.026~~	~~J I B~~ 5.2 U	5.2	0.0063	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,4,7,8-HxCDD	ND		5.2	0.0051	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,4,7,8-HxCDF	~~0.073~~	~~J B~~ 5.2 U	5.2	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,6,7,8-HxCDD	0.022	~~J I~~ JNX	5.2	0.0048	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,6,7,8-HxCDF	~~0.084~~	~~J B~~ 5.2 U	5.2	0.0099	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,7,8,9-HxCDD	~~0.053~~	~~J B~~ 5.2 U	5.2	0.0049	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,7,8,9-HxCDF	ND		5.2	0.011	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,7,8-PeCDD	~~0.17~~	~~J B~~ 5.2 U	5.2	0.037	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
1,2,3,7,8-PeCDF	~~0.16~~	~~J I B~~ 5.2 U	5.2	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
2,3,4,6,7,8-HxCDF	~~0.043~~	~~J I B~~ 5.2 U	5.2	0.0093	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
2,3,4,7,8-PeCDF	~~0.088~~	~~J I B~~ 5.2 U	5.2	0.0079	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
2,3,7,8-TCDD	ND		1.0	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
2,3,7,8-TCDF	ND		1.0	0.0079	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
OCDD	9.4	J ~~B~~	10	0.044	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
OCDF	10 ~~0.53~~	~~J I B~~ U	10	0.014	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total HpCDD	5.2 ~~0.90~~	~~J B~~ U	5.2	0.038	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total HpCDF	5.2 ~~0.66~~	~~J I B~~ U	5.2	0.0055	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total HxCDD	5.2 ~~0.65~~	~~J I B~~ U	5.2	0.0049	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total HxCDF	5.2 ~~0.63~~	~~J I B~~ U	5.2	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total PeCDD	5.2 ~~0.59~~	~~J I B~~ U	5.2	0.037	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total PeCDF	5.2 ~~0.51~~	~~J I B~~ U	5.2	0.0091	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total TCDD	0.058	~~J I~~ JNX	1.0	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1
Total TCDF	1.0 ~~0.29~~	~~J I B~~ U	1.0	0.0079	ng/Kg	☼	03/28/22 10:10	03/29/22 21:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,4,7,8-HxCDD	*63*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*69*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,7,8,9-HxCDD	*69*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,7,8,9-HxCDF	*74*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-1,2,3,7,8-PeCDF	*52*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-2,3,4,7,8-PeCDF	*58*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-2,3,7,8-TCDD	*59*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-2,3,7,8-TCDF	*63*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*
13C-OCDD	*74*		*40 - 135*	*03/28/22 10:10*	*03/29/22 21:01*	*1*

Client Sample ID: PZ-2022-8 (12-16')

Lab Sample ID: 480-196069-1
Date Collected: 03/22/22 13:40
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 96.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	77		40 - 135	03/28/22 10:10	03/29/22 21:01	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.54	J	15.7	0.42	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Arsenic	3.4		2.1	0.42	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Barium	13.4		0.52	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Beryllium	0.17	J	0.21	0.029	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Cadmium	0.083	J	0.21	0.031	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Chromium	7.3		0.52	0.21	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Cobalt	4.4		0.52	0.052	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Copper	6.6	B	1.0	0.22	mg/Kg	☼	04/01/22 13:41	04/05/22 12:32	1
Lead	4.6		1.0	0.25	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Nickel	7.6		5.2	0.24	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Selenium	1.2	J	4.2	0.42	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Silver	ND		0.63	0.21	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Thallium	ND		6.3	0.31	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Tin	ND		2.1	0.45	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Vanadium	5.2		0.52	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1
Zinc	24.5	J	2.1	0.67	mg/Kg	☼	04/01/22 13:41	04/04/22 16:05	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0048	mg/Kg	☼	04/05/22 10:36	04/05/22 12:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.94	0.46	mg/Kg	☼	03/28/22 16:11	03/29/22 09:10	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.3	11.0	mg/Kg	☼		03/31/22 15:45	1

Client Sample ID: PZ-2022-8 (15')

Lab Sample ID: 480-196069-2
Date Collected: 03/22/22 13:41
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 88.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	0.57	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,1,1-Trichloroethane	ND		5.7	0.41	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,1,2,2-Tetrachloroethane	ND		5.7	0.92	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,1,2-Trichloroethane	ND		5.7	0.74	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,1-Dichloroethane	ND		5.7	0.69	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,1-Dichloroethene	ND		5.7	0.69	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,2,3-Trichloropropane	ND		5.7	0.58	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,2-Dibromo-3-Chloropropane	ND		5.7	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,2-Dichloroethane	ND		5.7	0.28	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
1,2-Dichloropropane	ND		5.7	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
2-Butanone (MEK)	ND		28	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
2-Chloro-1,3-butadiene	ND	UJ	5.7	3.5	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1

Client Sample ID: PZ-2022-8 (15')
Date Collected: 03/22/22 13:41
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-2
Matrix: Solid
Percent Solids: 88.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	11	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
2-Hexanone	ND		28	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
3-Chloro-1-propene	ND		5.7	2.7	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
4-Methyl-2-pentanone (MIBK)	ND		28	1.9	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Acetone	ND		28	4.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Acetonitrile	ND	UJ	57	6.9	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Acrolein	ND		28	9.0	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Acrylonitrile	ND		28	5.1	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Benzene	ND		5.7	0.28	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Bromoform	ND		5.7	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Bromomethane	ND		5.7	0.51	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Carbon disulfide	ND		5.7	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Carbon tetrachloride	ND		5.7	0.55	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Chlorobenzene	ND		5.7	0.75	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Chlorodibromomethane	ND		5.7	0.73	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Chloroethane	ND		5.7	1.3	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Chloroform	ND		5.7	0.35	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Chloromethane	ND		5.7	0.34	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
cis-1,3-Dichloropropene	ND		5.7	0.82	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Dibromomethane	ND		5.7	0.58	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Dichlorobromomethane	ND		5.7	0.76	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Dichlorodifluoromethane	ND		5.7	0.47	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Ethyl methacrylate	ND		5.7	1.9	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Ethylbenzene	ND		5.7	0.39	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Ethylene Dibromide	ND		5.7	0.73	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Iodomethane	ND		5.7	0.28	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Methacrylonitrile	ND	UJ	28	6.7	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Methyl methacrylate	ND	UJ	5.7	1.2	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Methylene Chloride	ND		5.7	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
m-Xylene & p-Xylene	ND		11	0.95	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
o-Xylene	ND		5.7	0.74	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Propionitrile	ND	UJ	57	32	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Styrene	ND		5.7	0.28	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Tetrachloroethene	ND		5.7	0.76	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Toluene	ND		5.7	0.43	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
trans-1,2-Dichloroethene	ND		5.7	0.58	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
trans-1,3-Dichloropropene	ND		5.7	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
trans-1,4-Dichloro-2-butene	ND		5.7	1.3	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Trichloroethene	ND		5.7	1.2	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Trichlorofluoromethane	ND		5.7	0.54	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Vinyl acetate	ND		11	2.8	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1
Vinyl chloride	ND		5.7	0.69	ug/Kg	☼	03/24/22 12:00	03/29/22 02:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*64 - 126*	*03/24/22 12:00*	*03/29/22 02:19*	*1*
4-Bromofluorobenzene (Surr)	*107*		*72 - 126*	*03/24/22 12:00*	*03/29/22 02:19*	*1*
Dibromofluoromethane (Surr)	*114*		*60 - 140*	*03/24/22 12:00*	*03/29/22 02:19*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*03/24/22 12:00*	*03/29/22 02:19*	*1*

Client Sample ID: PZ-2022-8 (26-30')
Date Collected: 03/22/22 14:30
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-3
Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,3-Dichlorobenzene	ND		370	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,4-Dioxane	ND		110	62	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1,4-Naphthoquinone	ND		370	70	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,4,5-Trichlorophenol	ND		190	52	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,4-Dinitrophenol	ND		1900	880	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,6-Dichlorophenol	ND		370	70	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2,6-Dinitrotoluene	ND		190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Chloronaphthalene	ND		190	32	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Picoline	ND		370	43	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
2-Toluidine	ND		370	91	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
3,3'-Dichlorobenzidine	ND		370	230	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Aminobiphenyl	ND		370	78	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
a,a-Dimethylphenethylamine	ND		370	370	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Acenaphthene	ND		190	28	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1

Client Sample ID: PZ-2022-8 (26-30')

Date Collected: 03/22/22 14:30
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-3

Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	25	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Acetophenone	ND		190	26	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Aniline	ND		370	46	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Anthracene	ND		190	47	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Aramite, Total	ND		370	180	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Benzidine	R ~~ND~~	~~F1~~	~~5600~~	~~2400~~	~~ug/Kg~~	☼	03/24/22 15:25	03/25/22 18:56	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Bis(2-chloroethoxy)methane	ND		190	41	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Bis(2-ethylhexyl) phthalate	**660**		190	65	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Butyl benzyl phthalate	ND		190	32	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Chrysene	ND		190	43	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Diallate	ND		370	47	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Dibenzofuran	ND		190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Dimethoate	ND		370	46	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Dimethyl phthalate	ND		190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Di-n-octyl phthalate	ND		190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Dinoseb	ND		370	66	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Diphenylamine	ND		370	48	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Disulfoton	ND		370	280	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Chlorobenzilate	ND		370	60	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Ethyl methanesulfonate	ND		370	82	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Famphur	ND		740	180	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Fluoranthene	ND		190	20	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Fluorene	ND		190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Hexachloroethane	ND		190	25	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Hexachloropropene	ND		370	95	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Isodrin	ND		370	65	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Isophorone	ND		190	41	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Isosafrole	ND		370	50	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Kepone	ND		740	370	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Methapyrilene	ND		1700	370	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Methyl methanesulfonate	ND		370	86	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Naphthalene	ND		190	25	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Nitrobenzene	ND		190	21	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1

Client Sample ID: PZ-2022-8 (26-30')
Date Collected: 03/22/22 14:30
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-3
Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		370	87	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosodimethylamine	ND		370	81	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosomethylethylamine	ND		370	86	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosomorpholine	ND		370	83	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosopiperidine	ND		370	75	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Ethyl Parathion	ND		370	42	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Methyl parathion	ND		370	64	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
p-Dimethylamino azobenzene	ND		370	63	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Pentachlorobenzene	ND		370	78	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Pentachloronitrobenzene	ND		370	95	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Pentachlorophenol	ND	F1	370	190	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Phenacetin	ND		370	51	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Phenanthrene	ND	F1	190	28	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Phenol	ND		190	29	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Phorate	ND		370	100	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
p-Phenylene diamine	ND		900	370	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Pronamide	ND		370	73	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Pyrene	ND	F1	190	23	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Pyridine	ND		370	27	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Safrole	ND		370	51	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Sulfotepp	ND		370	60	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1
Thionazin	ND		370	65	ug/Kg	☼	03/24/22 15:25	03/25/22 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*03/24/22 15:25*	*03/25/22 18:56*	*1*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*03/24/22 15:25*	*03/25/22 18:56*	*1*
2-Fluorophenol (Surr)	*67*		*52 - 120*	*03/24/22 15:25*	*03/25/22 18:56*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/24/22 15:25*	*03/25/22 18:56*	*1*
Phenol-d5 (Surr)	*78*		*54 - 120*	*03/24/22 15:25*	*03/25/22 18:56*	*1*
p-Terphenyl-d14 (Surr)	*110*		*79 - 130*	*03/24/22 15:25*	*03/25/22 18:56*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Chlordane (technical)	ND		19	4.2	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
cis-Chlordane	ND		1.9	0.93	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1

Client Sample ID: PZ-2022-8 (26-30')
Date Collected: 03/22/22 14:30
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-3
Matrix: Solid
Percent Solids: 86.7

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Endrin	ND		1.9	0.37	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
Toxaphene	ND		19	11	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1
trans-Chlordane	ND		1.9	0.60	ug/Kg	☼	03/24/22 15:38	03/25/22 12:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*		*45 - 120*	*03/24/22 15:38*	*03/25/22 12:38*	*1*
Tetrachloro-m-xylene	*75*		*30 - 124*	*03/24/22 15:38*	*03/25/22 12:38*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1
PCB-1254	ND		0.21	0.099	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1
PCB-1260	ND		0.21	0.099	mg/Kg	☼	03/25/22 15:26	03/28/22 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*03/25/22 15:26*	*03/28/22 01:19*	*1*
Tetrachloro-m-xylene	*117*		*60 - 154*	*03/25/22 15:26*	*03/28/22 01:19*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	03/25/22 14:04	03/29/22 17:51	1
2,4-D	ND		19	12	ug/Kg	☼	03/25/22 14:04	03/29/22 17:51	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	03/25/22 14:04	03/29/22 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*03/25/22 14:04*	*03/29/22 17:51*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1
Disulfoton	ND		37	25	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1
Famphur	ND		37	20	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1
Methyl parathion	ND		37	21	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1
Ethyl Parathion	ND		37	21	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1
Phorate	ND		37	13	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1
Sulfotepp	ND		37	15	ug/Kg	☼	03/26/22 16:25	03/29/22 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*80*		*20 - 135*	*03/26/22 16:25*	*03/29/22 21:49*	*1*

Client Sample ID: PZ-2022-8 (26-30')
Date Collected: 03/22/22 14:30
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-3
Matrix: Solid
Percent Solids: 86.7

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	77		20 - 135	03/26/22 16:25	03/29/22 21:49	1
Triphenylphosphate	72		33 - 168	03/26/22 16:25	03/29/22 21:49	1
Triphenylphosphate	73		33 - 168	03/26/22 16:25	03/29/22 21:49	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.4~~	~~J B~~ 5.8 U	5.8	0.031	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,4,6,7,8-HpCDF	0.52	J B	5.8	0.0062	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,4,7,8,9-HpCDF	~~0.068~~	~~J B~~ 5.8 U	5.8	0.0077	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,4,7,8-HxCDD	~~0.088~~	~~J I B~~ 5.8 U	5.8	0.0046	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,4,7,8-HxCDF	~~0.074~~	~~J I B~~ 5.8 U	5.8	0.011	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,6,7,8-HxCDD	0.070	~~J I~~ JNX	5.8	0.0045	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,6,7,8-HxCDF	~~0.052~~	~~J I B~~ 5.8 U	5.8	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,7,8,9-HxCDD	~~0.083~~	~~J B~~ 5.8 U	5.8	0.0046	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,7,8,9-HxCDF	~~0.024~~	~~J B~~ 5.8 U	5.8	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,7,8-PeCDD	ND		5.8	0.025	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
1,2,3,7,8-PeCDF	ND		5.8	0.024	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
2,3,4,6,7,8-HxCDF	~~0.033~~	~~J I B~~ 5.8 U	5.8	0.0095	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
2,3,4,7,8-PeCDF	~~0.11~~	~~J I B~~ 5.8 U	5.8	0.018	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
2,3,7,8-TCDD	ND		1.2	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
2,3,7,8-TCDF	ND		1.2	0.0089	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
OCDD	30	B	12	0.058	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
OCDF	1.4	J B	12	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total HpCDD	~~1.4~~	~~J B~~ 5.8 U	5.8	0.031	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total HpCDF	1.3	~~J I B~~ JNX	5.8	0.0069	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total HxCDD	~~0.37~~	~~J I B~~ 5.8 U	5.8	0.0046	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total HxCDF	~~0.61~~	~~J I B~~ 5.8 U	5.8	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total PeCDD	~~0.26~~	~~J I B~~ 5.8 U	5.8	0.025	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total PeCDF	~~0.44~~	~~J I B~~ 5.8 U	5.8	0.021	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total TCDD	0.026	J	1.2	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1
Total TCDF	~~0.32~~	~~J I B~~ 5.8 U	1.2	0.0089	ng/Kg	☼	03/28/22 10:10	03/29/22 21:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	79		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,4,6,7,8-HpCDF	79		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,4,7,8,9-HpCDF	86		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,4,7,8-HxCDD	69		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,4,7,8-HxCDF	75		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,6,7,8-HxCDD	76		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,6,7,8-HxCDF	79		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,7,8,9-HxCDD	75		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,7,8,9-HxCDF	80		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,7,8-PeCDD	49		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-1,2,3,7,8-PeCDF	54		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-2,3,4,6,7,8-HxCDF	80		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-2,3,4,7,8-PeCDF	59		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-2,3,7,8-TCDD	58		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-2,3,7,8-TCDF	58		40 - 135	03/28/22 10:10	03/29/22 21:50	1
13C-OCDD	83		40 - 135	03/28/22 10:10	03/29/22 21:50	1

Client Sample ID: PZ-2022-8 (26-30')

Lab Sample ID: 480-196069-3
Date Collected: 03/22/22 14:30
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 86.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	86		40 - 135	03/28/22 10:10	03/29/22 21:50	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.76**	**J**	17.2	0.46	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Arsenic	**3.7**		2.3	0.46	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Barium	**16.4**		0.57	0.13	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Beryllium	**0.18**	**J**	0.23	0.032	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Cadmium	**0.10**	**J**	0.23	0.034	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Chromium	**6.5**		0.57	0.23	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Cobalt	**5.0**		0.57	0.057	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Copper	**7.4**	**B**	2.3	0.48	mg/Kg	☼	04/01/22 13:41	04/05/22 16:01	2
Lead	**5.4**		1.1	0.27	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Nickel	**9.6**		5.7	0.26	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Selenium	**0.71**	**J**	4.6	0.46	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Silver	ND		0.69	0.23	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Thallium	ND		6.9	0.34	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Tin	ND		2.3	0.49	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Vanadium	**5.9**		0.57	0.13	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1
Zinc	**31.0**	**F1** J	2.3	0.73	mg/Kg	☼	04/01/22 13:41	04/04/22 16:09	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	04/05/22 10:36	04/05/22 12:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.98	0.47	mg/Kg	☼	03/28/22 16:11	03/29/22 09:11	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.2	11.0	mg/Kg	☼		03/31/22 15:45	1

Client Sample ID: PZ-2022-8 (29')

Lab Sample ID: 480-196069-4
Date Collected: 03/22/22 14:31
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 98.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.83	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,1,2-Trichloroethane	ND		5.1	0.67	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,1-Dichloroethane	ND		5.1	0.63	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,1-Dichloroethene	ND		5.1	0.63	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,2-Dichloroethane	ND		5.1	0.26	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
1,2-Dichloropropane	ND		5.1	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
2-Chloro-1,3-butadiene	ND	UJ	5.1	3.2	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1

Client Sample ID: PZ-2022-8 (29')
Date Collected: 03/22/22 14:31
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-4
Matrix: Solid
Percent Solids: 98.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	10	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
3-Chloro-1-propene	ND		5.1	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Acetone	ND		26	4.3	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Acetonitrile	ND	UJ	51	6.3	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Acrolein	ND		26	8.1	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Benzene	ND		5.1	0.25	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Bromoform	ND		5.1	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Carbon disulfide	ND		5.1	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Carbon tetrachloride	ND		5.1	0.50	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Chlorobenzene	ND		5.1	0.68	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Chlorodibromomethane	ND		5.1	0.66	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Chloroethane	ND		5.1	1.2	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Chloroform	ND		5.1	0.32	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
cis-1,3-Dichloropropene	ND		5.1	0.74	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Dibromomethane	ND		5.1	0.53	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Dichlorobromomethane	ND		5.1	0.69	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Ethyl methacrylate	ND		5.1	1.8	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Ethylene Dibromide	ND		5.1	0.66	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Methacrylonitrile	ND	UJ	26	6.1	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Methyl methacrylate	ND	UJ	5.1	1.1	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Methylene Chloride	ND		5.1	2.4	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
m-Xylene & p-Xylene	ND		10	0.86	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
o-Xylene	ND		5.1	0.67	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Propionitrile	ND	UJ	51	29	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Styrene	ND		5.1	0.26	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Tetrachloroethene	ND		5.1	0.69	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Toluene	ND		5.1	0.39	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
trans-1,2-Dichloroethene	ND		5.1	0.53	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
trans-1,3-Dichloropropene	ND		5.1	2.3	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
trans-1,4-Dichloro-2-butene	ND		5.1	1.2	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Trichlorofluoromethane	ND		5.1	0.49	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1
Vinyl chloride	ND		5.1	0.63	ug/Kg	☼	03/24/22 12:00	03/29/22 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*64 - 126*	*03/24/22 12:00*	*03/29/22 22:44*	*1*
4-Bromofluorobenzene (Surr)	*107*		*72 - 126*	*03/24/22 12:00*	*03/29/22 22:44*	*1*
Dibromofluoromethane (Surr)	*114*		*60 - 140*	*03/24/22 12:00*	*03/29/22 22:44*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*03/24/22 12:00*	*03/29/22 22:44*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196069-1

Client Sample ID: PZ-2022-8 (40-44')
Date Collected: 03/22/22 15:15
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-5
Matrix: Solid
Percent Solids: 96.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		170	30	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,2,4-Trichlorobenzene	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,2-Dichlorobenzene	ND		340	23	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,2-Diphenylhydrazine	ND		340	19	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,3-Dichlorobenzene	ND		340	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,3-Dinitrobenzene	ND		340	41	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,4-Dichlorobenzene	ND		340	26	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,4-Dioxane	ND		100	56	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1,4-Naphthoquinone	ND		340	63	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
1-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,3,4,6-Tetrachlorophenol	ND		170	36	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,4,5-Trichlorophenol	ND		170	47	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,4,6-Trichlorophenol	ND		170	35	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,4-Dichlorophenol	ND		170	18	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,4-Dimethylphenol	ND		170	42	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,4-Dinitrophenol	ND		1700	800	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,4-Dinitrotoluene	ND		170	36	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,6-Dichlorophenol	ND		340	63	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2,6-Dinitrotoluene	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Acetylaminofluorene	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Chloronaphthalene	ND		170	28	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Methylnaphthalene	ND		170	35	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Methylphenol	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Naphthylamine	ND		340	110	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Nitroaniline	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Nitrophenol	ND		170	49	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Picoline	ND		340	39	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
2-Toluidine	ND		340	82	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
3 & 4 Methylphenol	ND		340	26	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
3,3'-Dichlorobenzidine	ND		340	200	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
3,3'-Dimethylbenzidine	ND		670	340	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
3-Methylcholanthrene	ND		340	56	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
3-Methylphenol	ND		340	26	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
3-Nitroaniline	ND		340	48	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4,6-Dinitro-2-methylphenol	ND		340	170	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Aminobiphenyl	ND		340	70	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Bromophenyl phenyl ether	ND		170	24	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Chloro-3-methylphenol	ND		170	43	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Chloroaniline	ND		170	43	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Chlorophenyl phenyl ether	ND		170	21	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Methylphenol	ND		340	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Nitroaniline	ND		340	91	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
4-Nitroquinoline-1-oxide	ND		670	340	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
7,12-Dimethylbenz(a)anthracene	ND		340	50	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
a,a-Dimethylphenethylamine	ND		340	340	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Acenaphthene	ND		170	25	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1

Client Sample ID: PZ-2022-8 (40-44')
Date Collected: 03/22/22 15:15
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-5
Matrix: Solid
Percent Solids: 96.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Acetophenone	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Aniline	ND		340	42	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Anthracene	ND		170	43	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Aramite, Total	ND		340	160	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzidine	ND		5100	2200	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzo[a]anthracene	ND		170	17	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzo[a]pyrene	ND		170	25	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Benzyl alcohol	ND		340	23	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
bis (2-chloroisopropyl) ether	ND		170	35	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Bis(2-chloroethoxy)methane	ND		170	37	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Bis(2-chloroethyl)ether	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Bis(2-ethylhexyl) phthalate	**450**		170	59	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Butyl benzyl phthalate	ND		170	28	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Chrysene	ND		170	39	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Diallate	ND		340	43	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Dibenz(a,h)anthracene	ND		170	31	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Dibenzofuran	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Diethyl phthalate	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Dimethoate	ND		340	42	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Dimethyl phthalate	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Di-n-butyl phthalate	ND		170	30	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Di-n-octyl phthalate	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Dinoseb	ND		340	60	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Diphenylamine	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Disulfoton	ND		340	250	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Chlorobenzilate	ND		340	54	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Ethyl methanesulfonate	ND		340	74	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Famphur	ND		670	160	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Fluoranthene	ND		170	18	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Fluorene	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Hexachlorobenzene	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Hexachlorobutadiene	ND		170	25	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Hexachlorocyclopentadiene	ND		170	23	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Hexachloroethane	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Hexachloropropene	ND		340	85	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Isodrin	ND		340	59	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Isophorone	ND		170	37	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Isosafrole	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Kepone	ND		670	340	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Methapyrilene	ND		1500	340	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Methyl methanesulfonate	ND		340	77	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Naphthalene	ND		170	22	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Nitrobenzene	ND		170	19	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitro-o-toluidine	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1

Client Sample ID: PZ-2022-8 (40-44')
Date Collected: 03/22/22 15:15
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-5
Matrix: Solid
Percent Solids: 96.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		340	78	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosodimethylamine	ND		340	73	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosodi-n-butylamine	ND		340	92	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosodi-n-propylamine	ND		170	30	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosodiphenylamine	ND		170	140	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosomethylethylamine	ND		340	77	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosomorpholine	ND		340	75	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosopiperidine	ND		340	68	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
N-Nitrosopyrrolidine	ND		340	51	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
o,o',o''-Triethylphosphorothioate	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Ethyl Parathion	ND		340	38	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Methyl parathion	ND		340	58	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
p-Dimethylamino azobenzene	ND		340	57	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Pentachlorobenzene	ND		340	70	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Pentachloronitrobenzene	ND		340	85	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Pentachlorophenol	ND		340	170	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Phenacetin	ND		340	46	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Phenanthrene	ND		170	25	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Phenol	ND		170	26	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Phorate	ND		340	93	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
p-Phenylene diamine	ND		810	340	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Pronamide	ND		340	66	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Pyrene	ND		170	20	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Pyridine	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Safrole	ND		340	46	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Sulfotepp	ND		340	54	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1
Thionazin	ND		340	59	ug/Kg	☼	03/24/22 15:25	03/25/22 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*54 - 120*	*03/24/22 15:25*	*03/25/22 19:44*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/24/22 15:25*	*03/25/22 19:44*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/24/22 15:25*	*03/25/22 19:44*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*	*03/24/22 15:25*	*03/25/22 19:44*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/24/22 15:25*	*03/25/22 19:44*	*1*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/24/22 15:25*	*03/25/22 19:44*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
4,4'-DDT	ND		1.7	0.40	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Aldrin	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Dieldrin	ND		1.7	0.41	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1

Client Sample ID: PZ-2022-8 (40-44')

Date Collected: 03/22/22 15:15
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-5

Matrix: Solid
Percent Solids: 96.0

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Endrin	ND		1.7	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Endrin ketone	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Heptachlor	ND		1.7	0.37	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Heptachlor epoxide	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
Toxaphene	ND		17	10	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	03/24/22 15:38	03/25/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*79*		*45 - 120*	*03/24/22 15:38*	*03/25/22 12:58*	*1*
Tetrachloro-m-xylene	*76*		*30 - 124*	*03/24/22 15:38*	*03/25/22 12:58*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1
PCB-1221	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1
PCB-1232	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1
PCB-1242	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1
PCB-1248	ND		0.19	0.037	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1
PCB-1254	ND		0.19	0.089	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1
PCB-1260	ND		0.19	0.089	mg/Kg	☼	03/25/22 15:26	03/28/22 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*03/25/22 15:26*	*03/28/22 01:33*	*1*
Tetrachloro-m-xylene	*106*		*60 - 154*	*03/25/22 15:26*	*03/28/22 01:33*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.5	ug/Kg	☼	03/25/22 14:04	03/29/22 18:21	1
2,4-D	ND		17	11	ug/Kg	☼	03/25/22 14:04	03/29/22 18:21	1
Silvex (2,4,5-TP)	ND		17	6.2	ug/Kg	☼	03/25/22 14:04	03/29/22 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*73*		*28 - 129*	*03/25/22 14:04*	*03/29/22 18:21*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1
Disulfoton	ND		34	23	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1
Famphur	ND		34	18	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1
Methyl parathion	ND		34	19	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1
Ethyl Parathion	ND		34	19	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1
Phorate	ND		34	12	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1
Sulfotepp	ND		34	13	ug/Kg	☼	03/26/22 16:25	03/29/22 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*20 - 135*	*03/26/22 16:25*	*03/29/22 22:20*	*1*

Client Sample ID: PZ-2022-8 (40-44')

Date Collected: 03/22/22 15:15
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-5

Matrix: Solid
Percent Solids: 96.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	82		20 - 135	03/26/22 16:25	03/29/22 22:20	1
Triphenylphosphate	82		33 - 168	03/26/22 16:25	03/29/22 22:20	1
Triphenylphosphate	83		33 - 168	03/26/22 16:25	03/29/22 22:20	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.45~~ ~~J I B~~ 5.2 U		5.2	0.017	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,4,6,7,8-HpCDF	~~0.12~~ ~~J B~~ 5.2 U		5.2	0.0027	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,4,7,8,9-HpCDF	~~0.038~~ ~~J I B~~ 5.2 U		5.2	0.0035	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,4,7,8-HxCDD	~~0.024~~ ~~J I B~~ 5.2 U		5.2	0.0053	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,4,7,8-HxCDF	~~0.073~~ ~~J I B~~ 5.2 U		5.2	0.0064	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,6,7,8-HxCDD	ND		5.2	0.0055	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,6,7,8-HxCDF	~~0.045~~ ~~J I B~~ 5.2 U		5.2	0.0064	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,7,8,9-HxCDD	~~0.042~~ ~~J I B~~ 5.2 U		5.2	0.0056	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,7,8,9-HxCDF	ND		5.2	0.0075	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,7,8-PeCDD	ND		5.2	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
1,2,3,7,8-PeCDF	~~0.058~~ ~~J I B~~ 5.2 U		5.2	0.0060	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
2,3,4,6,7,8-HxCDF	~~0.051~~ ~~J I B~~ 5.2 U		5.2	0.0060	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
2,3,4,7,8-PeCDF	ND		5.2	0.0045	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
2,3,7,8-TCDD	ND		1.0	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
2,3,7,8-TCDF	ND		1.0	0.0070	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
OCDD	~~8.1~~ ~~J B~~ 10 U		10	0.035	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
OCDF	~~0.50~~ ~~J I B~~ 10 U		10	0.0072	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total HpCDD	~~0.52~~ ~~J I B~~ 5.2 U		5.2	0.017	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total HpCDF	~~0.45~~ ~~J I B~~ 5.2 U		5.2	0.0031	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total HxCDD	~~0.44~~ ~~J I B~~ 5.2 U		5.2	0.0054	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total HxCDF	~~0.40~~ ~~J I B~~ 5.2 U		5.2	0.0066	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total PeCDD	~~0.52~~ ~~J I B~~ 5.2 U		5.2	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total PeCDF	~~0.75~~ ~~J I B~~ 5.2 U		5.2	0.0052	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total TCDD	0.33 ~~J I~~ JNX		1.0	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1
Total TCDF	~~0.63~~ ~~J I B~~ 5.2 U		1.0	0.0070	ng/Kg	☼	03/28/22 10:10	03/29/22 22:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	75		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,4,6,7,8-HpCDF	77		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,4,7,8,9-HpCDF	79		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,4,7,8-HxCDD	68		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,4,7,8-HxCDF	72		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,6,7,8-HxCDD	74		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,6,7,8-HxCDF	77		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,7,8,9-HxCDD	71		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,7,8,9-HxCDF	74		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,7,8-PeCDD	50		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-1,2,3,7,8-PeCDF	54		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-2,3,4,6,7,8-HxCDF	73		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-2,3,4,7,8-PeCDF	59		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-2,3,7,8-TCDD	58		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-2,3,7,8-TCDF	59		40 - 135	03/28/22 10:10	03/29/22 22:40	1
13C-OCDD	82		40 - 135	03/28/22 10:10	03/29/22 22:40	1

Client Sample ID: PZ-2022-8 (40-44')

Lab Sample ID: 480-196069-5
Date Collected: 03/22/22 15:15
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 96.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	86		40 - 135	03/28/22 10:10	03/29/22 22:40	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.71	J	16.3	0.43	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Arsenic	3.1		2.2	0.43	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Barium	16.7		0.54	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Beryllium	0.15	J	0.22	0.030	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Cadmium	0.092	J	0.22	0.033	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Chromium	9.0		0.54	0.22	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Cobalt	4.6		0.54	0.054	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Copper	7.7	B	1.1	0.23	mg/Kg	☼	04/01/22 13:41	04/05/22 12:55	1
Lead	4.8		1.1	0.26	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Nickel	9.0		5.4	0.25	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Selenium	0.53	J	4.3	0.43	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Silver	ND		0.65	0.22	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Thallium	ND		6.5	0.33	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Tin	ND		2.2	0.47	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Vanadium	5.3		0.54	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1
Zinc	28.1	J	2.2	0.69	mg/Kg	☼	04/01/22 13:41	04/04/22 16:39	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0047	mg/Kg	☼	04/05/22 10:36	04/05/22 12:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.94	0.45	mg/Kg	☼	03/31/22 10:46	03/31/22 13:24	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.1	10.9	mg/Kg	☼		03/31/22 15:45	1

Client Sample ID: PZ-2022-8 (43')

Lab Sample ID: 480-196069-6
Date Collected: 03/22/22 15:16
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 95.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.3	0.43	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,1,1-Trichloroethane	ND		4.3	0.31	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,1,2,2-Tetrachloroethane	ND		4.3	0.70	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,1,2-Trichloroethane	ND		4.3	0.56	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,1-Dichloroethane	ND		4.3	0.53	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,1-Dichloroethene	ND		4.3	0.53	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,2,3-Trichloropropane	ND		4.3	0.44	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,2-Dibromo-3-Chloropropane	ND		4.3	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,2-Dichloroethane	ND		4.3	0.22	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
1,2-Dichloropropane	ND		4.3	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
2-Chloro-1,3-butadiene	ND	UJ	4.3	2.7	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1

Client Sample ID: PZ-2022-8 (43')
Date Collected: 03/22/22 15:16
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-6
Matrix: Solid
Percent Solids: 95.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	8.6	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
3-Chloro-1-propene	ND		4.3	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.4	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Acetone	ND		22	3.6	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Acetonitrile	ND	UJ	43	5.3	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Acrolein	ND		22	6.8	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Acrylonitrile	ND		22	3.9	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Benzene	ND		4.3	0.21	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Bromoform	ND		4.3	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Bromomethane	ND		4.3	0.39	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Carbon disulfide	ND		4.3	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Carbon tetrachloride	ND		4.3	0.42	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Chlorobenzene	ND		4.3	0.57	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Chlorodibromomethane	ND		4.3	0.55	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Chloroethane	ND		4.3	0.97	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Chloroform	ND		4.3	0.27	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Chloromethane	ND		4.3	0.26	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
cis-1,3-Dichloropropene	ND		4.3	0.62	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Dibromomethane	ND		4.3	0.44	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Dichlorobromomethane	ND		4.3	0.58	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Dichlorodifluoromethane	ND		4.3	0.36	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Ethyl methacrylate	ND		4.3	1.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Ethylbenzene	ND		4.3	0.30	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Ethylene Dibromide	ND		4.3	0.55	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Iodomethane	ND		4.3	0.21	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Methacrylonitrile	ND	UJ	22	5.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Methyl methacrylate	ND	UJ	4.3	0.91	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Methylene Chloride	ND		4.3	2.0	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
m-Xylene & p-Xylene	ND		8.6	0.72	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
o-Xylene	ND		4.3	0.56	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Propionitrile	ND	UJ	43	24	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Styrene	ND		4.3	0.22	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Tetrachloroethene	ND		4.3	0.58	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Toluene	ND		4.3	0.33	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
trans-1,2-Dichloroethene	ND		4.3	0.44	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
trans-1,3-Dichloropropene	ND		4.3	1.9	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
trans-1,4-Dichloro-2-butene	ND		4.3	0.97	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Trichloroethene	ND		4.3	0.95	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Trichlorofluoromethane	ND		4.3	0.41	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Vinyl acetate	ND		8.6	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1
Vinyl chloride	ND		4.3	0.53	ug/Kg	☼	03/24/22 12:00	03/29/22 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*64 - 126*	*03/24/22 12:00*	*03/29/22 03:07*	*1*
4-Bromofluorobenzene (Surr)	*105*		*72 - 126*	*03/24/22 12:00*	*03/29/22 03:07*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*	*03/24/22 12:00*	*03/29/22 03:07*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*03/24/22 12:00*	*03/29/22 03:07*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196069-1

Client Sample ID: PZ-2022-8 (0-1')
Date Collected: 03/22/22 15:25
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-7
Matrix: Solid
Percent Solids: 94.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	30	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,2,4-Trichlorobenzene	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,2-Dichlorobenzene	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,2-Diphenylhydrazine	ND		340	20	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,3-Dichlorobenzene	ND		340	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,3-Dinitrobenzene	ND		340	42	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,4-Dichlorobenzene	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,4-Dioxane	ND		100	57	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1,4-Naphthoquinone	ND		340	65	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
1-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,3,4,6-Tetrachlorophenol	ND		180	36	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,4,5-Trichlorophenol	ND		180	48	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,4,6-Trichlorophenol	ND		180	35	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,4-Dinitrophenol	ND		1700	820	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,4-Dinitrotoluene	ND		180	36	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,6-Dichlorophenol	ND		340	65	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Acetylaminofluorene	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Chloronaphthalene	ND		180	29	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Methylnaphthalene	ND		180	35	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Methylphenol	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Nitroaniline	ND		340	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Nitrophenol	ND		180	50	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Picoline	ND		340	40	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
2-Toluidine	ND		340	84	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
3 & 4 Methylphenol	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
3,3'-Dichlorobenzidine	ND		340	210	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
3,3'-Dimethylbenzidine	ND		690	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
3-Methylcholanthrene	ND		340	57	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
3-Methylphenol	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
3-Nitroaniline	ND		340	49	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4,6-Dinitro-2-methylphenol	ND		340	180	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Aminobiphenyl	ND		340	72	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Chloroaniline	ND		180	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Methylphenol	ND		340	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Nitroaniline	ND		340	93	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
4-Nitroquinoline-1-oxide	ND		690	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
7,12-Dimethylbenz(a)anthracene	ND		340	51	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
a,a-Dimethylphenethylamine	ND		340	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Acenaphthene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196069-1

Client Sample ID: PZ-2022-8 (0-1')
Date Collected: 03/22/22 15:25
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-7
Matrix: Solid
Percent Solids: 94.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Acetophenone	ND		180	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Aniline	ND		340	43	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Anthracene	ND		180	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Aramite, Total	ND		340	170	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzidine	ND		5200	2200	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzo[b]fluoranthene	ND		180	28	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Benzyl alcohol	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
bis (2-chloroisopropyl) ether	ND		180	35	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Bis(2-ethylhexyl) phthalate	ND		180	60	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Butyl benzyl phthalate	ND		180	29	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Chrysene	ND		180	40	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Diallate	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Dibenz(a,h)anthracene	ND		180	31	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Dibenzofuran	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Dimethoate	ND		340	43	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Di-n-butyl phthalate	ND		180	30	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Dinoseb	ND		340	61	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Diphenylamine	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Disulfoton	ND		340	260	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Chlorobenzilate	ND		340	55	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Ethyl methanesulfonate	ND		340	76	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Famphur	ND		690	170	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Fluoranthene	ND		180	19	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Fluorene	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Hexachlorobenzene	ND		180	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Hexachloroethane	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Hexachloropropene	ND		340	88	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Isodrin	ND		340	60	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Isophorone	ND		180	38	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Isosafrole	ND		340	46	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Kepone	ND		690	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Methapyrilene	ND		1600	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Methyl methanesulfonate	ND		340	79	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Naphthalene	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Nitrobenzene	ND		180	20	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitro-o-toluidine	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1

Client Sample ID: PZ-2022-8 (0-1')
Date Collected: 03/22/22 15:25
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-7
Matrix: Solid
Percent Solids: 94.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		340	80	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosodimethylamine	ND		340	75	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosodi-n-butylamine	ND		340	94	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosodi-n-propylamine	ND		180	30	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosodiphenylamine	ND		180	140	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosomethylethylamine	ND		340	79	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosomorpholine	ND		340	77	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosopiperidine	ND		340	70	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
N-Nitrosopyrrolidine	ND		340	52	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
o,o',o''-Triethylphosphorothioate	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Ethyl Parathion	ND		340	39	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Methyl parathion	ND		340	59	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
p-Dimethylamino azobenzene	ND		340	58	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Pentachlorobenzene	ND		340	72	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Pentachloronitrobenzene	ND		340	88	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Pentachlorophenol	ND		340	180	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Phenacetin	ND		340	47	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Phenanthrene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Phenol	ND		180	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Phorate	ND		340	95	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
p-Phenylene diamine	ND		830	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Pronamide	ND		340	68	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Pyrene	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Pyridine	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Safrole	ND		340	47	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Sulfotepp	ND		340	55	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1
Thionazin	ND		340	60	ug/Kg	☼	03/24/22 15:25	03/25/22 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*54 - 120*	*03/24/22 15:25*	*03/25/22 20:08*	*1*
2-Fluorobiphenyl (Surr)	*95*		*60 - 120*	*03/24/22 15:25*	*03/25/22 20:08*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*03/24/22 15:25*	*03/25/22 20:08*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*03/24/22 15:25*	*03/25/22 20:08*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*03/24/22 15:25*	*03/25/22 20:08*	*1*
p-Terphenyl-d14 (Surr)	*125*		*79 - 130*	*03/24/22 15:25*	*03/25/22 20:08*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
4,4'-DDT	ND		1.7	0.41	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Aldrin	ND		1.7	0.43	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Dieldrin	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1

Client Sample ID: PZ-2022-8 (0-1')
Date Collected: 03/22/22 15:25
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-7
Matrix: Solid
Percent Solids: 94.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Endrin	ND		1.7	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Endrin ketone	ND		1.7	0.43	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Heptachlor	ND		1.7	0.37	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
Toxaphene	ND		17	10	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	03/24/22 15:38	03/25/22 13:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*45 - 120*	*03/24/22 15:38*	*03/25/22 13:18*	*1*
Tetrachloro-m-xylene	*79*		*30 - 124*	*03/24/22 15:38*	*03/25/22 13:18*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.042	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1
PCB-1221	ND		0.22	0.042	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1
PCB-1232	ND		0.22	0.042	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1
PCB-1242	ND		0.22	0.042	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1
PCB-1248	ND		0.22	0.042	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	03/25/22 15:26	03/28/22 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*03/25/22 15:26*	*03/28/22 01:46*	*1*
Tetrachloro-m-xylene	*120*		*60 - 154*	*03/25/22 15:26*	*03/28/22 01:46*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.6	ug/Kg	☼	03/25/22 14:04	03/29/22 19:20	1
2,4-D	ND		17	11	ug/Kg	☼	03/25/22 14:04	03/29/22 19:20	1
Silvex (2,4,5-TP)	ND		17	6.3	ug/Kg	☼	03/25/22 14:04	03/29/22 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*100*		*28 - 129*	*03/25/22 14:04*	*03/29/22 19:20*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		35	20	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1
Disulfoton	ND		35	23	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1
Famphur	ND		35	19	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1
Methyl parathion	ND		35	20	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1
Ethyl Parathion	ND		35	19	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1
Phorate	ND		35	12	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1
Sulfotepp	ND		35	14	ug/Kg	☼	03/26/22 16:25	03/29/22 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*20 - 135*	*03/26/22 16:25*	*03/29/22 22:52*	*1*

Client Sample ID: PZ-2022-8 (0-1')

Date Collected: 03/22/22 15:25
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-7

Matrix: Solid
Percent Solids: 94.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	88		20 - 135	03/26/22 16:25	03/29/22 22:52	1
Triphenylphosphate	92		33 - 168	03/26/22 16:25	03/29/22 22:52	1
Triphenylphosphate	94		33 - 168	03/26/22 16:25	03/29/22 22:52	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	120	B	5.3	0.12	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,4,6,7,8-HpCDF	45	B	5.3	0.13	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,4,7,8,9-HpCDF	3.3	J B	5.3	0.16	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,4,7,8-HxCDD	0.96	J B	5.3	0.022	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,4,7,8-HxCDF	4.3	J B	5.3	0.053	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,6,7,8-HxCDD	3.0	J	5.3	0.023	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,6,7,8-HxCDF	1.2	J B	5.3	0.051	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,7,8,9-HxCDD	1.9	J B	5.3	0.022	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,7,8,9-HxCDF	0.74	J B	5.3	0.056	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,7,8-PeCDD	0.44	J B JNX	5.3	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
1,2,3,7,8-PeCDF	0.21	J B 5.3 U	5.3	0.014	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
2,3,4,6,7,8-HxCDF	1.5	J B JNX	5.3	0.048	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
2,3,4,7,8-PeCDF	0.74	J B	5.3	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
2,3,7,8-TCDD	0.064	J JNX	1.1	0.0050	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
2,3,7,8-TCDF	0.053	J B 1.1 U	1.1	0.0065	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
OCDD	2900	B	11	0.22	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
OCDF	180	B	11	0.095	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total HpCDD	120	B	5.3	0.12	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total HpCDF	150	B	5.3	0.15	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total HxCDD	16	B JNX	5.3	0.022	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total HxCDF	47	B JNX	5.3	0.052	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total PeCDD	1.7	J B JNX	5.3	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total PeCDF	6.2	B JNX	5.3	0.012	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total TCDD	0.26	J JNX	1.1	0.0050	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1
Total TCDF	1.5	B JNX	1.1	0.0065	ng/Kg	☼	03/28/22 10:10	03/29/22 16:32	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	74		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,4,6,7,8-HpCDF	70		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,4,7,8,9-HpCDF	72		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,4,7,8-HxCDD	75		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,4,7,8-HxCDF	68		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,6,7,8-HxCDD	73		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,6,7,8-HxCDF	69		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,7,8,9-HxCDD	75		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,7,8,9-HxCDF	73		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,7,8-PeCDD	66		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-1,2,3,7,8-PeCDF	62		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-2,3,4,6,7,8-HxCDF	72		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-2,3,4,7,8-PeCDF	69		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-2,3,7,8-TCDD	57		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-2,3,7,8-TCDF	57		40 - 135	03/28/22 10:10	03/29/22 16:32	1
13C-OCDD	76		40 - 135	03/28/22 10:10	03/29/22 16:32	1

Client Sample ID: PZ-2022-8 (0-1')

Date Collected: 03/22/22 15:25
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-7

Matrix: Solid
Percent Solids: 94.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	73		40 - 135	03/28/22 10:10	03/29/22 16:32	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.0	J	16.6	0.44	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Arsenic	8.5		2.2	0.44	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Barium	38.0		0.55	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Beryllium	0.30		0.22	0.031	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Cadmium	0.18	J	0.22	0.033	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Chromium	5.3		0.55	0.22	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Cobalt	9.1		0.55	0.055	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Copper	11.8	B	1.1	0.23	mg/Kg	☼	04/01/22 13:41	04/05/22 12:59	1
Lead	9.9		1.1	0.27	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Nickel	16.4		5.5	0.25	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Selenium	1.8	J	4.4	0.44	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Silver	ND		0.67	0.22	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Thallium	ND		6.7	0.33	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Tin	ND		2.2	0.48	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Vanadium	8.5		0.55	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1
Zinc	40.0	J	2.2	0.71	mg/Kg	☼	04/01/22 13:41	04/04/22 16:43	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0079	J	0.021	0.0048	mg/Kg	☼	04/05/22 10:36	04/05/22 12:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.96	0.47	mg/Kg	☼	03/31/22 10:46	03/31/22 13:26	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.8	11.3	mg/Kg	☼		03/31/22 15:45	1

Client Sample ID: PZ-2022-8 (0-5')

Date Collected: 03/22/22 15:26
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-8

Matrix: Solid
Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.83	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,1,2-Trichloroethane	ND		5.1	0.66	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,1-Dichloroethane	ND		5.1	0.62	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,1-Dichloroethene	ND		5.1	0.62	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,2-Dichloroethane	ND		5.1	0.26	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
1,2-Dichloropropane	ND		5.1	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
2-Butanone (MEK)	ND		25	1.9	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
2-Chloro-1,3-butadiene	ND	UJ	5.1	3.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1

Client Sample ID: PZ-2022-8 (0-5')
Date Collected: 03/22/22 15:26
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-8
Matrix: Solid
Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	10	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
3-Chloro-1-propene	ND		5.1	2.4	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.7	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Acetone	ND		25	4.3	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Acetonitrile	ND	UJ	51	6.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Acrolein	ND		25	8.0	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Acrylonitrile	ND		25	4.6	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Benzene	ND		5.1	0.25	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Bromoform	ND		5.1	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Carbon disulfide	ND		5.1	2.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Carbon tetrachloride	ND		5.1	0.49	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Chlorobenzene	ND		5.1	0.67	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Chlorodibromomethane	ND		5.1	0.65	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Chloroethane	ND		5.1	1.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Chloroform	ND		5.1	0.31	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
cis-1,3-Dichloropropene	ND		5.1	0.73	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Dibromomethane	ND		5.1	0.52	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Dichlorobromomethane	ND		5.1	0.68	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Ethyl methacrylate	ND		5.1	1.7	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Ethylene Dibromide	ND		5.1	0.65	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Methacrylonitrile	ND	UJ	25	6.0	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Methyl methacrylate	ND	UJ	5.1	1.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Methylene Chloride	ND		5.1	2.3	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
m-Xylene & p-Xylene	ND		10	0.85	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
o-Xylene	ND		5.1	0.66	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Propionitrile	ND	UJ	51	28	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Styrene	ND		5.1	0.25	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Tetrachloroethene	ND		5.1	0.68	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Toluene	ND		5.1	0.38	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
trans-1,2-Dichloroethene	ND		5.1	0.53	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
trans-1,3-Dichloropropene	ND		5.1	2.2	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
trans-1,4-Dichloro-2-butene	ND		5.1	1.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Trichlorofluoromethane	ND		5.1	0.48	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1
Vinyl chloride	ND		5.1	0.62	ug/Kg	☼	03/24/22 12:00	03/29/22 03:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*64 - 126*	*03/24/22 12:00*	*03/29/22 03:31*	*1*
4-Bromofluorobenzene (Surr)	*107*		*72 - 126*	*03/24/22 12:00*	*03/29/22 03:31*	*1*
Dibromofluoromethane (Surr)	*113*		*60 - 140*	*03/24/22 12:00*	*03/29/22 03:31*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*03/24/22 12:00*	*03/29/22 03:31*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196069-1

Client Sample ID: PZ-2022-8 (60-64')
Date Collected: 03/22/22 16:05
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-9
Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	30	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,2,4-Trichlorobenzene	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,2-Dichlorobenzene	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,2-Diphenylhydrazine	ND		340	20	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,3-Dichlorobenzene	ND		340	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,3-Dinitrobenzene	ND		340	42	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,4-Dichlorobenzene	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,4-Dioxane	ND		100	57	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1,4-Naphthoquinone	ND		340	65	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
1-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,4,5-Trichlorophenol	ND		180	48	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,4,6-Trichlorophenol	ND		180	35	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,4-Dinitrophenol	ND		1700	820	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,6-Dichlorophenol	ND		340	65	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Acetylaminofluorene	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Chloronaphthalene	ND		180	29	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Methylnaphthalene	ND		180	35	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Methylphenol	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Naphthylamine	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Nitroaniline	ND		340	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Nitrophenol	ND		180	50	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Picoline	ND		340	40	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
2-Toluidine	ND		340	85	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
3 & 4 Methylphenol	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
3,3'-Dichlorobenzidine	ND		340	210	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
3,3'-Dimethylbenzidine	ND		690	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
3-Methylcholanthrene	ND		340	57	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
3-Methylphenol	ND		340	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
3-Nitroaniline	ND		340	49	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4,6-Dinitro-2-methylphenol	ND		340	180	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Aminobiphenyl	ND		340	72	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Chloroaniline	ND		180	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Methylphenol	ND		340	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Nitroaniline	ND		340	93	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
4-Nitroquinoline-1-oxide	ND		690	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
7,12-Dimethylbenz(a)anthracene	ND		340	51	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
a,a-Dimethylphenethylamine	ND		340	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Acenaphthene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196069-1

Client Sample ID: PZ-2022-8 (60-64')
Date Collected: 03/22/22 16:05
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-9
Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Acetophenone	ND		180	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Aniline	ND		340	43	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Anthracene	ND		180	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Aramite, Total	ND		340	170	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzidine	ND		5200	2200	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzo[b]fluoranthene	ND		180	28	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Benzyl alcohol	ND		340	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
bis (2-chloroisopropyl) ether	ND		180	35	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Bis(2-ethylhexyl) phthalate	**1200**		180	61	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Butyl benzyl phthalate	ND		180	29	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Chrysene	ND		180	40	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Diallate	ND		340	44	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Dibenz(a,h)anthracene	ND		180	31	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Dibenzofuran	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Dimethoate	ND		340	43	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Di-n-butyl phthalate	ND		180	30	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Dinoseb	ND		340	62	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Diphenylamine	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Disulfoton	ND		340	260	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Chlorobenzilate	ND		340	55	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Ethyl methanesulfonate	ND		340	76	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Famphur	ND		690	170	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Fluoranthene	ND		180	19	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Fluorene	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Hexachlorobenzene	ND		180	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Hexachloroethane	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Hexachloropropene	ND		340	88	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Isodrin	ND		340	61	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Isophorone	ND		180	38	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Isosafrole	ND		340	46	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Kepone	ND		690	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Methapyrilene	ND		1600	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Methyl methanesulfonate	ND		340	79	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Naphthalene	ND		180	23	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Nitrobenzene	ND		180	20	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitro-o-toluidine	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1

Client Sample ID: PZ-2022-8 (60-64')
Date Collected: 03/22/22 16:05
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-9
Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		340	80	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosodimethylamine	ND		340	75	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosodi-n-butylamine	ND		340	94	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosodi-n-propylamine	ND		180	30	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosodiphenylamine	ND		180	140	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosomethylethylamine	ND		340	79	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosomorpholine	ND		340	77	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosopiperidine	ND		340	70	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
N-Nitrosopyrrolidine	ND		340	52	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
o,o',o''-Triethylphosphorothioate	ND		340	45	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Ethyl Parathion	ND		340	39	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Methyl parathion	ND		340	60	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
p-Dimethylamino azobenzene	ND		340	58	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Pentachlorobenzene	ND		340	72	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Pentachloronitrobenzene	ND		340	88	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Pentachlorophenol	ND		340	180	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Phenacetin	ND		340	47	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Phenanthrene	ND		180	26	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Phenol	ND		180	27	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Phorate	ND		340	95	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
p-Phenylene diamine	ND		840	340	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Pronamide	ND		340	68	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Pyrene	ND		180	21	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Pyridine	ND		340	25	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Safrole	ND		340	47	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Sulfotepp	ND		340	55	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1
Thionazin	ND		340	61	ug/Kg	☼	03/24/22 15:25	03/25/22 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*102*		*54 - 120*	*03/24/22 15:25*	*03/25/22 20:33*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/24/22 15:25*	*03/25/22 20:33*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*03/24/22 15:25*	*03/25/22 20:33*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*	*03/24/22 15:25*	*03/25/22 20:33*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/24/22 15:25*	*03/25/22 20:33*	*1*
p-Terphenyl-d14 (Surr)	*124*		*79 - 130*	*03/24/22 15:25*	*03/25/22 20:33*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
4,4'-DDT	**0.74**	**J**	1.7	0.40	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Aldrin	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Dieldrin	ND		1.7	0.41	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1

Client Sample ID: PZ-2022-8 (60-64')

Date Collected: 03/22/22 16:05
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-9

Matrix: Solid
Percent Solids: 94.5

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Endrin	ND		1.7	0.34	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Endrin ketone	ND		1.7	0.42	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Heptachlor	ND		1.7	0.37	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Heptachlor epoxide	ND		1.7	0.44	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
Toxaphene	ND		17	10	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	03/24/22 15:38	03/25/22 13:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*45 - 120*	*03/24/22 15:38*	*03/25/22 13:38*	*1*
Tetrachloro-m-xylene	*82*		*30 - 124*	*03/24/22 15:38*	*03/25/22 13:38*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.20	0.039	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1
PCB-1221	ND		0.20	0.039	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1
PCB-1232	ND		0.20	0.039	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1
PCB-1242	ND		0.20	0.039	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1
PCB-1248	ND		0.20	0.039	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1
PCB-1254	ND		0.20	0.093	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1
PCB-1260	ND		0.20	0.093	mg/Kg	☼	03/25/22 15:26	03/28/22 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*03/25/22 15:26*	*03/28/22 01:59*	*1*
Tetrachloro-m-xylene	*111*		*60 - 154*	*03/25/22 15:26*	*03/28/22 01:59*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.5	ug/Kg	☼	03/25/22 14:04	03/29/22 19:50	1
2,4-D	ND		17	11	ug/Kg	☼	03/25/22 14:04	03/29/22 19:50	1
Silvex (2,4,5-TP)	ND		17	6.2	ug/Kg	☼	03/25/22 14:04	03/29/22 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*81*		*28 - 129*	*03/25/22 14:04*	*03/29/22 19:50*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1
Disulfoton	ND		34	22	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1
Famphur	ND		34	18	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1
Methyl parathion	ND		34	19	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1
Ethyl Parathion	ND		34	19	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1
Phorate	ND		34	11	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1
Sulfotepp	ND		34	13	ug/Kg	☼	03/26/22 16:25	03/29/22 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*20 - 135*	*03/26/22 16:25*	*03/29/22 23:23*	*1*

Client Sample ID: PZ-2022-8 (60-64')

Date Collected: 03/22/22 16:05
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-9

Matrix: Solid
Percent Solids: 94.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	83		20 - 135	03/26/22 16:25	03/29/22 23:23	1
Triphenylphosphate	91		33 - 168	03/26/22 16:25	03/29/22 23:23	1
Triphenylphosphate	92		33 - 168	03/26/22 16:25	03/29/22 23:23	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	2.2	J B	5.3	0.022	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,4,6,7,8-HpCDF	0.81	J B	5.3	0.0070	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,4,7,8,9-HpCDF	~~0.096 J I B~~	5.3 U	5.3	0.0088	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,4,7,8-HxCDD	~~0.11 J I B~~	5.3 U	5.3	0.0079	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,4,7,8-HxCDF	~~0.14 J I B~~	5.3 U	5.3	0.0094	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,6,7,8-HxCDD	0.17 ~~J I~~	JNX	5.3	0.0082	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,6,7,8-HxCDF	~~0.13 J B~~	5.3 U	5.3	0.0096	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,7,8,9-HxCDD	~~0.095 J I B~~	5.3 U	5.3	0.0079	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,7,8,9-HxCDF	~~0.11 J I B~~	5.3 U	5.3	0.0096	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,7,8-PeCDD	~~0.090 J I B~~	5.3 U	5.3	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
1,2,3,7,8-PeCDF	~~0.13 J B~~	5.3 U	5.3	0.0085	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
2,3,4,6,7,8-HxCDF	~~0.11 J B~~	5.3 U	5.3	0.0090	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
2,3,4,7,8-PeCDF	~~0.12 J I B~~	5.3 U	5.3	0.0065	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
2,3,7,8-TCDD	0.054 ~~J I~~	JNX	1.1	0.0048	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
2,3,7,8-TCDF	~~0.084 J I B~~	5.3 U	1.1	0.0034	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
OCDD	24 ~~B~~		11	0.039	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
OCDF	2.1 ~~J B~~	J	11	0.0030	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total HpCDD	~~2.2 J I B~~	5.3 U	5.3	0.022	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total HpCDF	~~2.1 J I B~~	5.3 U	5.3	0.0079	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total HxCDD	1.4 ~~J I B~~	JNX	5.3	0.0080	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total HxCDF	~~1.5 J I B~~	5.3 U	5.3	0.0094	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total PeCDD	~~0.84 J I B~~	5.3 U	5.3	0.010	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total PeCDF	~~1.2 J I B~~	5.3 U	5.3	0.0075	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total TCDD	0.68 ~~J I~~	JNX	1.1	0.0048	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1
Total TCDF	1.2 ~~I B~~	JNX	1.1	0.0034	ng/Kg	☼	03/28/22 10:10	03/29/22 17:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	73		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,4,6,7,8-HpCDF	69		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,4,7,8,9-HpCDF	72		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,4,7,8-HxCDD	74		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,4,7,8-HxCDF	68		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,6,7,8-HxCDD	72		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,6,7,8-HxCDF	68		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,7,8,9-HxCDD	73		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,7,8,9-HxCDF	75		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,7,8-PeCDD	64		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-1,2,3,7,8-PeCDF	60		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-2,3,4,6,7,8-HxCDF	70		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-2,3,4,7,8-PeCDF	65		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-2,3,7,8-TCDD	57		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-2,3,7,8-TCDF	56		40 - 135	03/28/22 10:10	03/29/22 17:20	1
13C-OCDD	69		40 - 135	03/28/22 10:10	03/29/22 17:20	1

Client Sample ID: PZ-2022-8 (60-64')

Lab Sample ID: 480-196069-9
Date Collected: 03/22/22 16:05
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 94.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	69		40 - 135	03/28/22 10:10	03/29/22 17:20	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.70	J	16.2	0.43	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Arsenic	3.5		2.2	0.43	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Barium	21.5		0.54	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Beryllium	0.18	J	0.22	0.030	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Cadmium	0.096	J	0.22	0.032	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Chromium	5.6		0.54	0.22	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Cobalt	5.3		0.54	0.054	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Copper	8.5	B	1.1	0.23	mg/Kg	☼	04/01/22 13:41	04/05/22 13:14	1
Lead	6.6		1.1	0.26	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Nickel	9.3		5.4	0.25	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Selenium	0.91	J	4.3	0.43	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Silver	ND		0.65	0.22	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Thallium	ND		6.5	0.32	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Tin	ND		2.2	0.47	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Vanadium	5.7		0.54	0.12	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1
Zinc	29.6	J	2.2	0.69	mg/Kg	☼	04/01/22 13:41	04/04/22 16:46	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0045	mg/Kg	☼	04/05/22 10:36	04/05/22 13:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.48	mg/Kg	☼	03/31/22 10:46	03/31/22 13:27	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.0	10.8	mg/Kg	☼		03/31/22 15:45	1

Client Sample ID: PZ-2022-8 (63')

Lab Sample ID: 480-196069-10
Date Collected: 03/22/22 16:06
Matrix: Solid
Date Received: 03/24/22 10:00
Percent Solids: 93.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.2	0.42	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,1,1-Trichloroethane	ND		4.2	0.30	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,1,2,2-Tetrachloroethane	ND		4.2	0.68	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,1,2-Trichloroethane	ND		4.2	0.55	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,1-Dichloroethane	ND		4.2	0.51	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,1-Dichloroethene	ND		4.2	0.51	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,2,3-Trichloropropane	ND		4.2	0.43	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,2-Dibromo-3-Chloropropane	ND		4.2	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,2-Dichloroethane	ND		4.2	0.21	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
1,2-Dichloropropane	ND		4.2	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
2-Butanone (MEK)	ND		21	1.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
2-Chloro-1,3-butadiene	ND	UJ	4.2	2.6	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1

Client Sample ID: PZ-2022-8 (63')

Date Collected: 03/22/22 16:06
Date Received: 03/24/22 10:00

Lab Sample ID: 480-196069-10

Matrix: Solid
Percent Solids: 93.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	8.4	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
2-Hexanone	ND		21	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
3-Chloro-1-propene	ND		4.2	2.0	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
4-Methyl-2-pentanone (MIBK)	ND		21	1.4	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Acetone	**16**	**J**	21	3.5	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Acetonitrile	ND	UJ	42	5.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Acrolein	ND		21	6.6	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Acrylonitrile	ND		21	3.8	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Benzene	ND		4.2	0.21	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Bromoform	ND		4.2	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Bromomethane	ND		4.2	0.38	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Carbon disulfide	ND		4.2	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Carbon tetrachloride	ND		4.2	0.41	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Chlorobenzene	ND		4.2	0.55	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Chlorodibromomethane	ND		4.2	0.54	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Chloroethane	ND		4.2	0.95	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Chloroform	ND		4.2	0.26	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Chloromethane	ND		4.2	0.25	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
cis-1,3-Dichloropropene	ND		4.2	0.60	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Dibromomethane	ND		4.2	0.43	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Dichlorobromomethane	ND		4.2	0.56	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Dichlorodifluoromethane	ND		4.2	0.35	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Ethyl methacrylate	ND		4.2	1.4	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Ethylbenzene	ND		4.2	0.29	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Ethylene Dibromide	ND		4.2	0.54	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Iodomethane	ND		4.2	0.20	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Methacrylonitrile	ND	UJ	21	5.0	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Methyl methacrylate	ND	UJ	4.2	0.88	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Methylene Chloride	ND		4.2	1.9	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
m-Xylene & p-Xylene	ND		8.4	0.71	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
o-Xylene	ND		4.2	0.55	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Propionitrile	ND	UJ	42	24	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Styrene	ND		4.2	0.21	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Tetrachloroethene	ND		4.2	0.56	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Toluene	ND		4.2	0.32	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
trans-1,2-Dichloroethene	ND		4.2	0.43	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
trans-1,3-Dichloropropene	ND		4.2	1.8	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
trans-1,4-Dichloro-2-butene	ND		4.2	0.95	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Trichloroethene	ND		4.2	0.92	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Trichlorofluoromethane	ND		4.2	0.40	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Vinyl acetate	ND		8.4	2.1	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1
Vinyl chloride	ND		4.2	0.51	ug/Kg	☼	03/24/22 12:00	03/29/22 03:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*64 - 126*	*03/24/22 12:00*	*03/29/22 03:55*	*1*
4-Bromofluorobenzene (Surr)	*109*		*72 - 126*	*03/24/22 12:00*	*03/29/22 03:55*	*1*
Dibromofluoromethane (Surr)	*111*		*60 - 140*	*03/24/22 12:00*	*03/29/22 03:55*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*03/24/22 12:00*	*03/29/22 03:55*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-196725-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47170R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 7
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 11
2.4.2 Continuing Calibration 11
2.5 Surrogates/System Monitoring Compounds 11
2.6 Internal Standard Performance 12
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 12
2.8 Laboratory Control Sample Analysis 14
2.9 Field Duplicate Analysis 15
2.10 Compound Identification 15
2.11 System Performance and Overall Assessment 15
2.12 Data Validation Checklist 15
3 Semi-volatile Organic Compound Analyses 17
3.1 Holding Times 17
3.2 Blank Contamination 17
3.3 Mass Spectrometer Tuning 17
3.4 Calibration 18
3.4.1 Initial Calibration 18
3.4.2 Continuing Calibration 18
3.5 Surrogates/System Monitoring Compounds 19
3.6 Internal Standard Performance 19
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 19
3.8 Laboratory Control Sample Analysis 20
3.9 Field Duplicate Analysis 21
3.10 Compound Identification 21
3.11 System Performance and Overall Assessment 22

3.12 Data Validation Checklist 22
4 Polychlorinated Biphenyl Analyses 23
4.1 Holding Times 23
4.2 Blank Contamination 24
4.3 System Performance 24
4.4 Calibration 24
4.4.1 Initial Calibration 24
4.4.2 Continuing Calibration 24
4.5 Surrogates/System Monitoring Compounds 24
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 25
4.7 Laboratory Control Sample Analysis 25
4.8 Field Duplicate Analysis 25
4.9 Compound Identification 25
4.10 System Performance and Overall Assessment 25
4.11 Data Validation Checklist 26
5 Pesticide/Herbicide Analyses 27
5.1 Holding Times 27
5.2 Blank Contamination 27
5.3 System Performance 28
5.4 Calibration 28
5.4.1 Initial Calibration 28
5.4.2 Continuing Calibration 28
5.5 Surrogates/System Monitoring Compounds 28
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 29
5.7 Laboratory Control Sample Analysis 29
5.8 Field Duplicate Analysis 30
5.9 Compound Identification 30
5.10 System Performance and Overall Assessment 30
5.11 Data Validation Checklist 30
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 31
6.1 Holding Times 31
6.2 Blank Contamination 32
6.3 Mass Spectrometer Tuning 33

6.4 Calibration 33
6.4.1 Initial Calibration 33
6.4.2 Continuing Calibration 33
6.5 Labeled Standard Performance 33
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 34
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 36
6.8 Field Duplicate Analysis 36
6.9 Compound Identification 36
6.10 System Performance and Overall Assessment 36
6.11 Data Validation Checklist 37
7 Metals Analyses 38
7.1 Holding Times 38
7.2 Blank Contamination 39
7.3 Calibration 39
7.3.1 Initial Calibration and Continuing Calibration 39
7.3.2 Lower Limit of Quantitation Check Standard 39
7.3.3 ICP Interference Control Sample 40
7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 40
7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 40
7.4.2 Laboratory Duplicate Analysis 41
7.5 Field Duplicate Analysis 41
7.6 Laboratory Control Sample Analysis 42
7.7 Serial Dilution 42
7.8 System Performance and Overall Assessment 43
7.9 Data Validation Checklist 43
8 General Chemistry Analyses 44
8.1 Holding Times 44
8.2 Blank Contamination 45
8.3 Calibration 45
8.3.1 Initial Calibration and Continuing Calibration 45
8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 45
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 46
8.4.2 Laboratory Duplicate Analysis 46

8.5 Field Duplicate Analysis 47
8.6 Laboratory Control Sample (LCS) Analysis 47
8.7 System Performance and Overall Assessment 47
8.8 Data Validation Checklist for General Chemistry 47
9 Overall Data Usability 48

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 7
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 10
Table 5. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 12
Table 6. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 13
Table 7. Samples with Relative Percent Difference Greater than Control Limits 13
Table 8. Relative Percent Difference Evaluation Criteria and Qualifications 14
Table 9. Holding Time for Method SW-846 8270D 17
Table 10. Summary of Compounds Outside Specified Calibration Control Limits 18
Table 11. Initial and Continuing Calibration Evaluation Criteria and Qualifications 18
Table 12. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 20
Table 13. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 20
Table 14. Samples with Laboratory Control Sample Recoveries Outside Control Limits 21
Table 15. Laboratory Control Sample Recovery Criteria and Qualifications 21
Table 16. Holding Time for Method SW-846 8082A 23
Table 17. Holding Time for Method SW-846 8081B/8141B/8151A 27
Table 18. Summary of Blank Contamination Qualifications 28
Table 19. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit 29
Table 20. Evaluation Criteria for MS/MSD Recoveries 29
Table 21. Holding Time for Method SW-846 8290A 32
Table 22. Summary of Blank Contamination Qualifications 32
Table 23. Samples Associated with Labeled Standards Exhibiting Recoveries Outside of the Control Limits 34
Table 24. Evaluation Criteria for Surrogate Recoveries 34
Table 25. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit 34

Table 26. Evaluation Criteria for MS/MSD Recoveries 35
Table 27. Samples with Relative Percent Difference Greater than Control Limits 35
Table 28. Relative Percent Difference Evaluation Criteria and Qualifications 35
Table 29. Holding Time for Method SW-846 6010C/7471B 38
Table 30. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 40
Table 31. Evaluation Criteria for MS/MSD Recoveries 40
Table 32. Samples with Relative Percent Difference Greater than Control Limits 41
Table 33. Relative Percent Difference Evaluation Criteria and Qualifications 41
Table 34. Samples with Laboratory Control Sample Recoveries Outside Control Limits 42
Table 35. Laboratory Control Sample Recovery Criteria and Qualifications 42
Table 36. Samples with Serial Dilution Difference Outside Control Limits 43
Table 37. Serial Dilution Difference Evaluation Criteria and Qualifications 43
Table 38. Specified Holding Times 44
Table 39. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 46
Table 40. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 46
Table 41. Overall Summary of Data Usability 48

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196725-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs/ HERB/OPC	PCDD/ PCDF	MET	MISC
PZ-2022-5 (0-1)	480-196725-1	Soil	04/12/2022		X	X	X	X	X	X
MW-2022-4 (0-1)	480-196725-2	Soil	04/12/2022		X	X	X	X	X	X
PZ-2022-5 (13-16)	480-196725-3	Soil	04/12/2022		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	3	0	0	3
SVOCs	0	0	0	3	0	0	3
PCBs	0	0	0	3	0	0	3
PEST	0	0	0	3	0	0	3
HERB	0	0	0	3	0	0	3
OPC	0	0	0	3	0	0	3
PCDD/PCDF	0	0	0	3	0	0	3
Metals	0	0	0	3	0	0	3
MISC	0	0	0	3	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the continuing calibrations were within the specified control limits.

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis

requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 5. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
PZ-2022-5 (0-1)	2-Butanone (MEK)	<LL but >10%	<LL but >10%
	Acetone	<LL but >10%	<LL but >10%
	Acrolein	<LL but >10%	<LL but >10%
	Acrylonitrile	AC	<LL but >10%
	Ethyl methacrylate	<LL but >10%	<LL but >10%
	Vinyl acetate	<LL but >10%	<10%

Notes:
LL Lower control limit
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 6. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 7. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compounds
PZ-2022-5 (0-1)	1,1,1-Trichloroethane
	1,1,2,2-Tetrachloroethane
	1,1,2-Trichloroethane
	1,1-Dichloroethane
	1,1-Dichloroethene
	1,2,3-Trichloropropane
	1,2-Dibromo-3-Chloropropane
	1,2-Dichloroethane
	2-Butanone (MEK)
	2-Hexanone
	3-Chloro-1-propene
	4-Methyl-2-pentanone (MIBK)
	Acetone
	Acrolein

Sample ID	Compounds
	Acrylonitrile
	Bromoform
	Carbon disulfide
	Chloroform
	Chloromethane
	Dibromomethane
	Dichlorodifluoromethane
	Ethyl methacrylate
	Iodomethane
	Methylene Chloride
	trans-1,2-Dichloroethene
	trans-1,4-Dichloro-2-butene
	Vinyl acetate
	Vinyl chloride

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 8. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate sample was not collected within this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS or MS/MSD. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW 846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
C. Trip blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 9. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 10. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compound	Criteria
PZ-2022-5 (0-1) MW-2022-4 (0-1) PZ-2022-5 (13-16)	ICV %D	Benzidine	-28.8%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 11. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J

Initial/Continuing	Criteria	Sample Result	Qualification
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase/ decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 12. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
PZ-2022-5 (0-1)	a,a-Dimethylphenethylamine	<10%	<10%
	Benzidine	<10%	<10%
	Famphur	<10%	AC
	p-Phenylene diamine	<10%	<10%

Note:
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 13. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

3.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 14. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
PZ-2022-5 (0-1) MW-2022-4 (0-1) PZ-2022-5 (13-16)	Prep Batch: 621698	a,a-Dimethylphenethylamine Famphur p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 15. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Note:
Sample results were not qualified as rejected I due to the deviations listed above.

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate sample was not collected within this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW 846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X	X		
Continuing calibration RRFs		X		X	

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 5. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibited recoveries and RPDs within the control limits.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate sample was not collected within this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW 846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	

PCBs; SW 846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were

greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 18. Summary of Blank Contamination Qualifications

Sample ID	Method	Compounds	Sample Result	Qualification
PZ-2022-5 (0-1) PZ-2022-5 (13-16)	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-4 (0-1)		Endrin aldehyde (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits.

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide – herbicide analysis requires that one of the two pesticide – herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 19. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit

Sample ID	Method	Compound	MS Recovery	MSD Recovery
PZ-2022-5 (0-1)	SW-846 8141B	Disulfoton	<10%	<10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 20. Evaluation Criteria for MS/MSD Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Detect	No Action
	Non-detect	

5.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW 846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		

SW 846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 21. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 22. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-5 (0-1)	1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 2,3,7,8-TCDF (MB) Total TCDF (MB)	Detected sample results <RL	“U” at the RL
MW-2022-4 (0-1)	1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 2,3,4,6,7,8-HxCDF (MB) Total HpCDF (MB) Total HxCDF (MB)	Detection sample results <RL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-5 (13-16)	1,2,3,6,7,8-HxCDF (MB) OCDF (MB) Total HpCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detection sample results <RL	“U” at the RL

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

Samples associated with labeled standards exhibiting recoveries outside of the control limits are presented in the following table.

Table 23. Samples Associated with Labeled Standards Exhibiting Recoveries Outside of the Control Limits

Sample ID	Labeled Standard	% Recovery
PZ-2022-5 (0-1)	13C-OCDF	<LL but >10%

Note:
LL Lower control limit

The criteria used to evaluate the labeled standard are presented in the following table. In the case of a labeled standard deviation, the sample results associated with the deviant fraction are qualified as documented in the table below.

Table 24. Evaluation Criteria for Surrogate Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 25. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit

Sample ID	Compounds	MS Recovery	MSD Recovery
PZ-2022-5 (0-1)	1,2,3,4,6,7,8-HpCDD	AC	>UL
	OCDD	SR>4X	SR>4X

Notes:
AC = Acceptable
UL = Upper control limit
SR>4X = Sample result greater than four times the matrix spike concentration

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 26. Evaluation Criteria for MS/MSD Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Detect	No Action
	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 27. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compound
PZ-2022-5 (0-1)	1,2,3,4,6,7,8-HpCDD

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 28. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X	X		
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	

PCDD/PCDF: SW 846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Signal-to-noise ratio ≥ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 29. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.

Method	Matrix	Holding Time	Preservation
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

7.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

7.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

7.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% and RPD of 35%. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 30. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery	MSD Recovery
PZ-2022-5 (0-1)	Barium	>125%	>125%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with the preparation batch- 621940.

Table 31. Evaluation Criteria for MS/MSD Recoveries

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

Samples associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit are presented in the following table.

Table 32. Samples with Relative Percent Difference Greater than Control Limits

PZ-2022-5 (0-1)	Barium	118%

The criteria used to evaluate MS/MSD RPD are presented in the following table. In the case of a MS/MSD RPD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with the preparation batch- 621940.

Table 33. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
>35% (soil)	Non-detect	UJ
	Detect	J

7.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD RPD exceedances are documented in the Section 7.4.

7.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

7.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits, with the exception of the analytes associated with sample locations, as presented in the following table.

Table 34. Samples with Laboratory Control Sample Recoveries Outside Control Limits

PZ-2022-5 (0-1) MW-2022-4 (0-1) PZ-2022-5 (13-16)	621940	Antimony	70.9%

The criteria used to evaluate LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified.

Table 35. Laboratory Control Sample Recovery Criteria and Qualifications

Control limit	Sample Result	Qualification
LCS (soil) percent recovery < lower limit	Non-detect	UJ
	Detect	J
LCS (soil) percent recovery > upper limit	Non-detect	No Action
	Detect	J

7.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample

The serial dilution performed on sample PZ-2022-5 (0-1).

All serial dilutions were within control limits, with the exception of the analytes presented in the following table.

Table 36. Samples with Serial Dilution Difference Outside Control Limits

PZ-2022-5 (0-1)	Zinc	15.4%

The criteria used to evaluate the serial dilution are presented in the following table. In the case of a serial dilution deviation, the sample results are qualified as documented in the table below.

Table 37. Serial Dilution Difference Evaluation Criteria and Qualifications

> 15%	Non-detect	UJ
	Detect	J

7.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.9 Data Validation Checklist

METALS; SW 846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		

METALS; SW 846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D		X	X		
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 38. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.

Method	Matrix	Holding Time	Preservation
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample PZ-2022-5 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 39. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery	MSD Recovery
PZ-2022-5 (0-1)	Cyanide	<10%	<10%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte cyanide associated with this SDG.

Table 40. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

8.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for waters and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

8.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.8 Data Validation Checklist for General Chemistry

General Chemistry: SW 846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	

General Chemistry: SW 846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 41. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	99.4%	1
SVOCs	97.3%	10
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	95.2%	1

Parameter	Percent Usability	Rejected Data
PCDD/PCDF	100%	0
Metals	100%	0
MISC	83.3%	1

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: October 18, 2022

PEER REVIEW: Andrew Korycinski

DATE: October 18, 2022

Appendix A

Chain of Custody

Eurofins Buffalo

Chain of Custody Record

Eurofins

Client Information

Page 5 of 8

Analysis Requested

Preservation Codes

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	Special Instructions/Conditions
PZ-2022-5(0-[illegible])	4/12/22	0800	G	S	X	X	
PZ-2022-5(0-[illegible])	4/12/22	0820	G	S	X	X	
PZ-2022-5(0-[illegible])	4/12/22	0830	G	S	X	X	
[illegible]-2022-4([illegible])	4/12/22	0850	G	S	X	X	
PZ-2022-5(13-16)	4/12/22	1055	G	S	X	X	

Possible Hazard Identification

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Special Instructions/QC Requirements

Relinquished by: [illegible] Date: 4/13/22 Time: 1530 Company: [illegible]

Relinquished by: [illegible] Date: [illegible] Time: [illegible] Company: [illegible]

Custody Seals Intact: [illegible]

Cooler Temperature(s): [illegible]



Eurofins Sunrise

80 FC

Chain of Custody Record

480-19

Client Information (Sub Contract Lab)

Client Contact

Company: Eurofins Environment Testing Northeast

Address: GE Niagara Falls Facility

City/State/Zip: Niagara Falls, NY

Phone: 716-278-6800

Project Name: GE Niagara Falls Facility

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Perfluorinated Alkyl Acids by 537 (Modified)	Special Instructions/Note
			Preservation			
[illegible]	[illegible]	[illegible] Eastern		Solid	7	
[illegible]	[illegible]	[illegible] Eastern	MS	Solid	7	
[illegible]	[illegible]	[illegible] Eastern	MSD	Solid	7	
[illegible]	[illegible]	[illegible] Eastern		Solid	7	
[illegible]	[illegible]	[illegible] Eastern		Solid	7	

Possible Hazard Identification: Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Relinquished by: [signature] Date/Time: 4/13/22 1800 Company: [illegible]

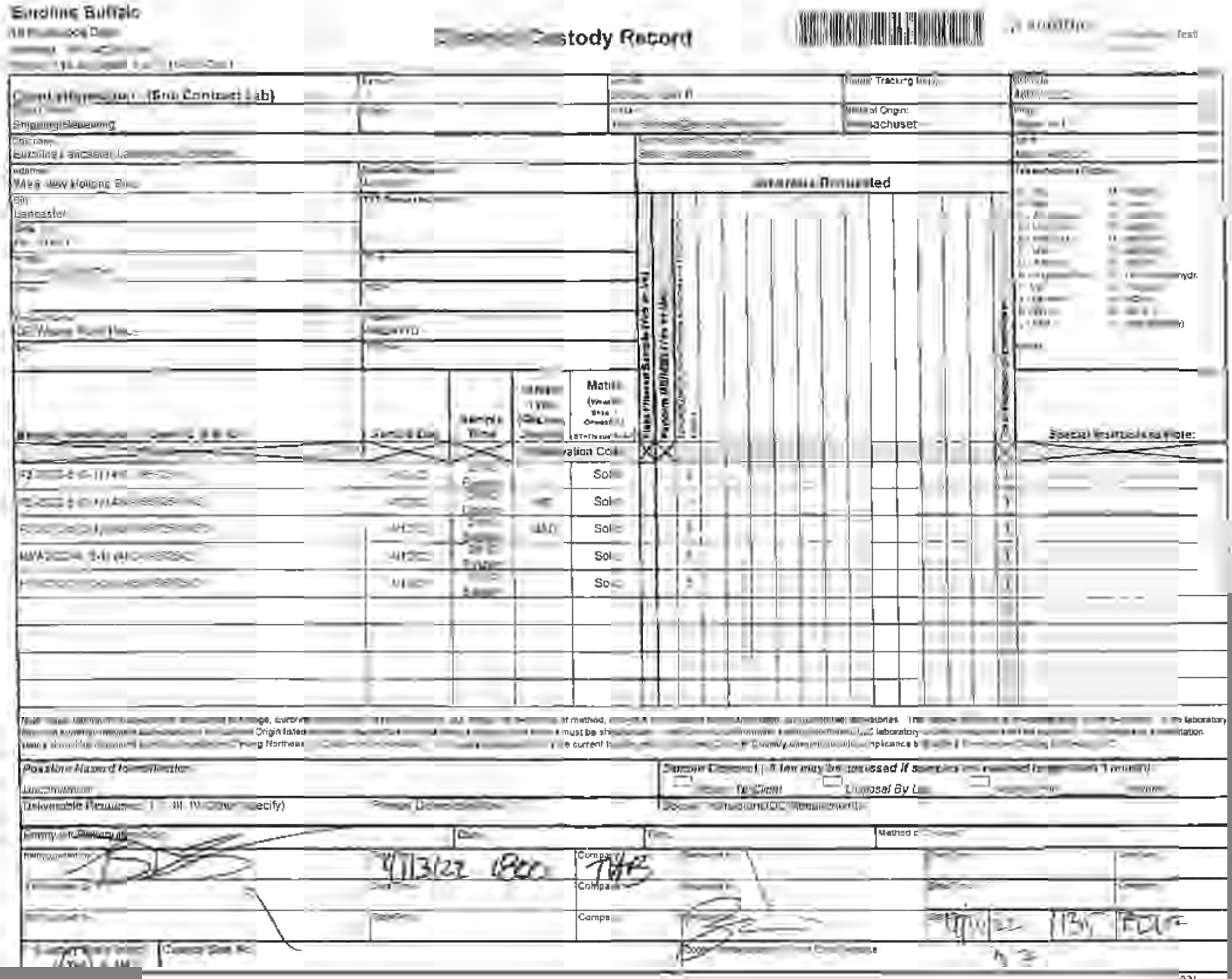
Received by: Date/Time: Company:

Relinquished by: Date/Time: Company:

Received by: Date/Time: Company:

Custody Seals Intact: Yes No

Cooler Temperature(s) °C and Other Remarks:



Eurofins Buffalo

Chain of Custody Record

Client Information (Sub Contract Lab)

Shipping/Receiving

Eurofins Lancaster Laboratories

Wiles New Holland Blvd

Lancaster

Sample Tracking Number

Sample Origin: Massachusetts

Analysis Requested

Special Instructions Note:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Flaks Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions Note:
				Preservation Code	X	X		X
[illegible]	[illegible]	[illegible]		Solid			1	
[illegible]	[illegible]	[illegible]	[illegible]	Solid			1	
[illegible]	[illegible]	[illegible]	[illegible]	Solid			1	
[illegible]	[illegible]	[illegible]		Solid			1	
[illegible]	[illegible]	[illegible]		Solid			1	

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab

Special Instructions/QC Requirements

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: 4/13/22 1800 Company: THB

Relinquished by: Date/Time: Company: Received by: Date/Time: Company:

Relinquished by: Date/Time: Company: Received by: Date/Time: 4/14/22 1135 EDUF

Custody Seal No.: Cooler Temperature(s) Cond. Seals

021

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196725-1

Client Sample ID: PZ-2022-5 (0-1)
Date Collected: 04/12/22 08:00
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-1
Matrix: Solid
Percent Solids: 86.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.5	0.55	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,1,1-Trichloroethane	ND	2 UJ	5.5	0.40	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,1,2,2-Tetrachloroethane	ND	2	5.5	0.90	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,1,2-Trichloroethane	ND	2	5.5	0.72	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,1-Dichloroethane	ND	2	5.5	0.68	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,1-Dichloroethene	ND	F2	5.5	0.68	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,2,3-Trichloropropane	ND	F2	5.5	0.56	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,2-Dibromo-3-Chloropropane	ND	F2	5.5	2.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,2-Dichloroethane	ND	F2	5.5	0.28	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
1,2-Dichloropropane	ND		5.5	2.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
2-Butanone (MEK)	ND	F1 F2 UJ	28	2.0	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
2-Chloro-1,3-butadiene	ND	UJ	5.5	3.4	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
2-Chloroethyl vinyl ether	ND	UJ	11	2.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
2-Hexanone	ND	F2 UJ	28	2.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
3-Chloro-1-propene	ND	F2	5.5	2.7	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
4-Methyl-2-pentanone (MIBK)	ND	F2	28	1.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Acetone	**150**	F1 F2 J	28	4.7	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Acetonitrile	ND	UJ	55	6.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Acrolein	ND	F1 F2 UJ	28	8.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Acrylonitrile	ND	F2 F1 UJ	28	5.0	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Benzene	ND		5.5	0.27	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Bromoform	ND	F2 UJ	5.5	2.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Bromomethane	ND		5.5	0.50	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Carbon disulfide	ND	F2 UJ	5.5	2.8	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Carbon tetrachloride	ND		5.5	0.54	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Chlorobenzene	ND		5.5	0.73	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Chlorodibromomethane	ND		5.5	0.71	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Chloroethane	ND		5.5	1.3	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Chloroform	ND	F2 UJ	5.5	0.34	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Chloromethane	ND	F2 UJ	5.5	0.33	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
cis-1,3-Dichloropropene	ND		5.5	0.80	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Dibromomethane	ND	F2 UJ	5.5	0.57	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Dichlorobromomethane	ND		5.5	0.74	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Dichlorodifluoromethane	ND	F2 UJ	5.5	0.46	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Ethyl methacrylate	ND	F1 F2 UJ	5.5	1.9	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Ethylbenzene	ND		5.5	0.38	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Ethylene Dibromide	ND		5.5	0.71	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Iodomethane	ND	F2 UJ	5.5	0.27	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Methacrylonitrile	ND	UJ	28	6.5	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Methyl methacrylate	ND	UJ	5.5	1.2	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Methylene Chloride	ND	F2 UJ	5.5	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
m-Xylene & p-Xylene	ND		11	0.93	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
o-Xylene	ND		5.5	0.72	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Propionitrile	ND	UJ	55	31	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Styrene	ND		5.5	0.28	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Tetrachloroethene	ND		5.5	0.74	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Toluene	**0.55**	J	5.5	0.42	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
trans-1,2-Dichloroethene	ND	F2 UJ	5.5	0.57	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
trans-1,3-Dichloropropene	ND		5.5	2.4	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196725-1

Client Sample ID: PZ-2022-5 (0-1)
Date Collected: 04/12/22 08:00
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-1
Matrix: Solid
Percent Solids: 86.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND	~~F2~~ UJ	5.5	1.3	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Trichloroethene	ND		5.5	1.2	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
Trichlorofluoromethane	ND		5.5	0.52	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1
~~Vinyl acetate~~	~~ND~~	~~F1 F2~~	~~11~~	~~2.8~~	~~ug/Kg~~	~~☼~~	~~04/13/22 13:30~~	~~04/13/22 21:47~~	~~1~~ R
Vinyl chloride	ND	~~F2~~ UJ	5.5	0.68	ug/Kg	☼	04/13/22 13:30	04/13/22 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*04/13/22 13:30*	*04/13/22 21:47*	*1*
4-Bromofluorobenzene (Surr)	*90*		*72 - 126*	*04/13/22 13:30*	*04/13/22 21:47*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*	*04/13/22 13:30*	*04/13/22 21:47*	*1*
Toluene-d8 (Surr)	*102*		*71 - 125*	*04/13/22 13:30*	*04/13/22 21:47*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,2,4-Trichlorobenzene	ND		380	28	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,2-Dichlorobenzene	ND		380	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,4-Dioxane	ND		110	63	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1,4-Naphthoquinone	ND		380	71	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,3,4,6-Tetrachlorophenol	ND		190	40	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,4,5-Trichlorophenol	ND		190	53	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,4,6-Trichlorophenol	ND		190	39	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,4-Dichlorophenol	ND		190	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,4-Dinitrophenol	ND		1900	900	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,4-Dinitrotoluene	ND		190	40	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,6-Dichlorophenol	ND		380	71	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2,6-Dinitrotoluene	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Acetylaminofluorene	ND		380	49	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Chloronaphthalene	ND		190	32	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Methylnaphthalene	ND		190	39	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Methylphenol	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Nitrophenol	ND		190	55	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Picoline	ND		380	44	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
2-Toluidine	ND		380	93	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
3,3'-Dimethylbenzidine	ND		760	380	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
3-Methylphenol	ND		380	30	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196725-1

Client Sample ID: PZ-2022-5 (0-1)
Date Collected: 04/12/22 08:00
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-1
Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		380	190	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Aminobiphenyl	ND		380	79	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Bromophenyl phenyl ether	ND		190	28	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Chloro-3-methylphenol	ND		190	48	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Chloroaniline	ND		190	48	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Methylphenol	ND		380	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
4-Nitroquinoline-1-oxide	ND		760	380	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
a,a-Dimethylphenethylamine	ND	*	380	380	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	R
Acenaphthene	ND		190	29	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Acenaphthylene	ND		190	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Acetophenone	ND		190	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Aniline	ND		380	47	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Anthracene	ND		190	48	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Aramite, Total	ND		380	180	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Benzidine	ND	F1	5700	2400	ug/Kg		04/14/22 09:13	04/21/22 14:17	1	R
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Benzo[a]pyrene	ND		190	29	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Benzo[g,h,i]perylene	ND		190	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Benzyl alcohol	ND		380	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
bis (2-chloroisopropyl) ether	ND		190	39	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Bis(2-chloroethoxy)methane	ND		190	41	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Butyl benzyl phthalate	ND		190	32	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Chrysene	ND		190	44	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Diallate	ND		380	48	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Dibenzofuran	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Dimethoate	ND		380	47	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Dimethyl phthalate	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Di-n-octyl phthalate	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Dinoseb	ND		380	68	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Diphenylamine	ND		380	49	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Disulfoton	ND		380	290	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Chlorobenzilate	ND		380	61	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Ethyl methanesulfonate	ND		380	84	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Famphur	ND	*	760	180	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	R
Fluoranthene	ND		190	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Fluorene	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	
Hexachlorobutadiene	ND		190	29	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1	

Client Sample ID: PZ-2022-5 (0-1)
Date Collected: 04/12/22 08:00
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-1
Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Hexachloropropene	ND		380	96	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Isodrin	ND		380	66	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Isophorone	ND		190	41	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Isosafrole	ND		380	50	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Kepone	ND		760	380	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Methapyrilene	ND		1700	380	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Methyl methanesulfonate	ND		380	87	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Naphthalene	ND		190	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Nitrobenzene	ND		190	22	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitro-o-toluidine	ND		380	49	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosodiethylamine	ND		380	88	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosodimethylamine	ND		380	83	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosomethylethylamine	ND		380	87	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosomorpholine	ND		380	85	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosopiperidine	ND		380	77	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
N-Nitrosopyrrolidine	ND		380	57	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
o,o',o''-Triethylphosphorothioate	ND		380	49	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Ethyl Parathion	ND		380	42	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Methyl parathion	ND		380	65	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
p-Dimethylamino azobenzene	ND		380	64	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Pentachlorobenzene	ND		380	79	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Pentachloronitrobenzene	ND		380	96	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Pentachlorophenol	ND		380	190	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Phenacetin	ND		380	52	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Phenanthrene	ND		190	29	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Phenol	ND		190	30	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Phorate	ND		380	100	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
p-Phenylene diamine	ND	*-	920	380	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1 R
Pronamide	ND		380	74	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Pyrene	ND		190	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Pyridine	ND		380	28	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Safrole	ND		380	52	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Sulfotepp	ND		380	61	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1
Thionazin	ND		380	66	ug/Kg	☼	04/14/22 09:13	04/21/22 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*78*		*54 - 120*	*04/14/22 09:13*	*04/21/22 14:17*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*04/14/22 09:13*	*04/21/22 14:17*	*1*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*04/14/22 09:13*	*04/21/22 14:17*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*04/14/22 09:13*	*04/21/22 14:17*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*04/14/22 09:13*	*04/21/22 14:17*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*04/14/22 09:13*	*04/21/22 14:17*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196725-1

Client Sample ID: PZ-2022-5 (0-1)
Date Collected: 04/12/22 08:00
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-1
Matrix: Solid
Percent Solids: 86.7

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
4,4'-DDE	ND		1.9	0.40	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
4,4'-DDT	~~0.90~~ ~~J B~~ 1.9		1.9	U 0.45	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Aldrin	ND		1.9	0.47	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Chlordane (technical)	ND		19	4.2	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Chlorobenzilate	ND		19	6.4	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
cis-Chlordane	ND		1.9	0.95	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Endrin ketone	ND		1.9	0.47	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Heptachlor epoxide	ND		1.9	0.49	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Methoxychlor	1.3	J	1.9	0.39	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
Toxaphene	ND		19	11	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1
trans-Chlordane	ND		1.9	0.61	ug/Kg	☼	04/13/22 15:17	04/14/22 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*71*		*45 - 120*	*04/13/22 15:17*	*04/14/22 14:06*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*04/13/22 15:17*	*04/14/22 14:06*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	04/14/22 15:32	04/19/22 02:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*04/14/22 15:32*	*04/19/22 02:40*	*1*
Tetrachloro-m-xylene	*110*		*60 - 154*	*04/14/22 15:32*	*04/19/22 02:40*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	04/15/22 07:55	04/21/22 16:54	1
2,4-D	ND		19	12	ug/Kg	☼	04/15/22 07:55	04/21/22 16:54	1
Silvex (2,4,5-TP)	ND		19	6.8	ug/Kg	☼	04/15/22 07:55	04/21/22 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*04/15/22 07:55*	*04/21/22 16:54*	*1*

Client Sample ID: PZ-2022-5 (0-1)

Date Collected: 04/12/22 08:00
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-1

Matrix: Solid
Percent Solids: 86.7

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1
Disulfoton	ND	F1	38	25	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1 R
Famphur	ND		38	20	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1
Methyl parathion	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1
Phorate	ND		38	13	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1
Sulfotepp	ND		38	15	ug/Kg	☼	04/19/22 08:59	04/20/22 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*20 - 135*	*04/19/22 08:59*	*04/20/22 12:55*	*1*
Tributyl phosphate	*82*		*20 - 135*	*04/19/22 08:59*	*04/20/22 12:55*	*1*
Triphenylphosphate	*85*		*33 - 168*	*04/19/22 08:59*	*04/20/22 12:55*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/19/22 08:59*	*04/20/22 12:55*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	60	F2 F1 B J	5.7	0.17	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,4,6,7,8-HpCDF	21	B	5.7	0.060	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,4,7,8,9-HpCDF	1.5	J B 5.7 U	5.7	0.092	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,4,7,8-HxCDD	0.62	J B 5.7 U	5.7	0.012	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,4,7,8-HxCDF	2.5	J B	5.7	0.037	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,6,7,8-HxCDD	1.4	J B	5.7	0.012	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,6,7,8-HxCDF	0.64	J B	5.7	0.037	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,7,8,9-HxCDD	1.3	J	5.7	0.012	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,7,8,9-HxCDF	0.34	J	5.7	0.044	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,7,8-PeCDD	0.30	J I JNX	5.7	0.010	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
1,2,3,7,8-PeCDF	0.25	J I JNX	5.7	0.0059	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
2,3,4,6,7,8-HxCDF	0.60	J B 5.7 U	5.7	0.033	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
2,3,4,7,8-PeCDF	0.44	J B 5.7 U	5.7	0.0045	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
2,3,7,8-TCDD	0.034	J I JNX	1.1	0.0085	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
2,3,7,8-TCDF	0.069	J I B 1.1 U	1.1	0.020	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
OCDD	1300	F2 B	11	0.17	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
OCDF	89	B J	11	0.14	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total HpCDD	60	B	5.7	0.17	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total HpCDF	23	B	5.7	0.076	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total HxCDD	3.3	J I B JNX	5.7	0.012	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total HxCDF	4.3	J I B JNX	5.7	0.038	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total PeCDD	0.30	J I JNX	5.7	0.010	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total PeCDF	0.69	J I B JNX	5.7	0.0052	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total TCDD	0.034	J I JNX	1.1	0.0085	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1
Total TCDF	0.069	J I B 1.1 U	1.1	0.020	ng/Kg	☼	04/15/22 15:00	04/19/22 00:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*74*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,6,7,8-HxCDF	*84*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*
13C-1,2,3,7,8,9-HxCDD	*79*		*40 - 135*	*04/15/22 15:00*	*04/19/22 00:47*	*1*

Client Sample ID: PZ-2022-5 (0-1)

Lab Sample ID: 480-196725-1

Date Collected: 04/12/22 08:00
Matrix: Solid
Date Received: 04/13/22 11:30
Percent Solids: 86.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	75		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-1,2,3,7,8-PeCDD	81		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-1,2,3,7,8-PeCDF	76		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-2,3,4,6,7,8-HxCDF	80		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-2,3,4,7,8-PeCDF	76		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-2,3,7,8-TCDD	85		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-2,3,7,8-TCDF	77		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-OCDD	77		40 - 135	04/15/22 15:00	04/19/22 00:47	1
13C-OCDF	37	*5-	40 - 135	04/15/22 15:00	04/19/22 00:47	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	J	17.1	0.46	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Arsenic	4.6		2.3	0.46	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Barium	26.2	~~^2 F1 F2~~ J	0.57	0.13	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Beryllium	0.34		0.23	0.032	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Cadmium	0.082	J	0.23	0.034	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Chromium	7.3		0.57	0.23	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Cobalt	7.5		0.57	0.057	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Copper	9.2		1.1	0.24	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Lead	9.3		1.1	0.27	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Nickel	11.3		5.7	0.26	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Selenium	1.9	J	4.6	0.46	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Silver	ND		0.69	0.23	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Thallium	ND		6.9	0.34	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Tin	ND		2.3	0.49	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Vanadium	9.6		0.57	0.13	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1
Zinc	38.0	J	2.3	0.73	mg/Kg	☼	04/15/22 13:24	04/19/22 20:23	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.020	J	0.023	0.0053	mg/Kg	☼	04/14/22 10:37	04/14/22 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~F1~~	~~1.1~~	~~0.52~~	~~mg/Kg~~	~~☼~~	~~04/21/22 14:35~~	~~04/21/22 14:47~~	~~1~~ R

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.0	11.9	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: MW-2022-4 (0-1)

Lab Sample ID: 480-196725-2

Date Collected: 04/12/22 08:50
Matrix: Solid
Date Received: 04/13/22 11:30
Percent Solids: 94.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.49	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,1,1-Trichloroethane	ND		4.9	0.36	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,1,2,2-Tetrachloroethane	ND		4.9	0.80	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,1,2-Trichloroethane	ND		4.9	0.64	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196725-1

Client Sample ID: MW-2022-4 (0-1)
Date Collected: 04/12/22 08:50
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-2
Matrix: Solid
Percent Solids: 94.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.9	0.60	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,1-Dichloroethene	ND		4.9	0.60	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,2,3-Trichloropropane	ND		4.9	0.50	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,2-Dibromo-3-Chloropropane	ND		4.9	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,2-Dichloroethane	ND		4.9	0.25	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
1,2-Dichloropropane	ND		4.9	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
2-Butanone (MEK)	ND		25	1.8	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
2-Chloro-1,3-butadiene	ND	UJ	4.9	3.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
2-Chloroethyl vinyl ether	ND	UJ	9.9	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
3-Chloro-1-propene	ND		4.9	2.4	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Acetone	**9.5**	**J**	25	4.2	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Acetonitrile	ND	UJ	49	6.0	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Acrolein	ND		25	7.8	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Acrylonitrile	ND		25	4.4	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Benzene	ND		4.9	0.24	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Bromoform	ND		4.9	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Bromomethane	ND		4.9	0.44	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Carbon disulfide	ND		4.9	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Carbon tetrachloride	ND		4.9	0.48	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Chlorobenzene	ND		4.9	0.65	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Chlorodibromomethane	ND		4.9	0.63	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Chloroethane	ND		4.9	1.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Chloroform	ND		4.9	0.31	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Chloromethane	ND		4.9	0.30	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
cis-1,3-Dichloropropene	ND		4.9	0.71	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Dibromomethane	ND		4.9	0.51	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Dichlorobromomethane	ND		4.9	0.66	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Dichlorodifluoromethane	ND		4.9	0.41	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Ethyl methacrylate	ND		4.9	1.7	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Ethylbenzene	ND		4.9	0.34	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Ethylene Dibromide	ND		4.9	0.63	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Iodomethane	ND		4.9	0.24	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Methacrylonitrile	ND	UJ	25	5.8	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Methyl methacrylate	ND	UJ	4.9	1.0	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Methylene Chloride	ND		4.9	2.3	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
m-Xylene & p-Xylene	ND		9.9	0.83	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
o-Xylene	ND		4.9	0.64	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Propionitrile	ND	UJ	49	28	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Styrene	ND		4.9	0.25	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Tetrachloroethene	ND		4.9	0.66	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Toluene	**0.49**	**J**	4.9	0.37	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
trans-1,2-Dichloroethene	ND		4.9	0.51	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
trans-1,3-Dichloropropene	ND		4.9	2.2	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
trans-1,4-Dichloro-2-butene	ND		4.9	1.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Trichloroethene	ND		4.9	1.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Trichlorofluoromethane	ND		4.9	0.47	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1
Vinyl acetate	ND		9.9	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1

Client Sample ID: MW-2022-4 (0-1)
Date Collected: 04/12/22 08:50
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-2
Matrix: Solid
Percent Solids: 94.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.9	0.60	ug/Kg	☼	04/13/22 13:30	04/13/22 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*04/13/22 13:30*	*04/13/22 22:12*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/13/22 13:30*	*04/13/22 22:12*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/13/22 13:30*	*04/13/22 22:12*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*04/13/22 13:30*	*04/13/22 22:12*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,2,4-Trichlorobenzene	ND		350	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,2-Dichlorobenzene	ND		350	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,3,5-Trinitrobenzene	ND		350	14	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,3-Dinitrobenzene	ND		350	42	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,4-Dichlorobenzene	ND		350	27	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,4-Dioxane	ND		110	58	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1,4-Naphthoquinone	ND		350	65	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,4,5-Trichlorophenol	ND		180	48	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,4-Dinitrophenol	ND		1700	830	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,6-Dichlorophenol	ND		350	65	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Acetylaminofluorene	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Methylphenol	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Nitroaniline	ND		350	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Picoline	ND		350	40	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
2-Toluidine	ND		350	85	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
3 & 4 Methylphenol	ND		350	27	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
3-Methylcholanthrene	ND		350	58	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
3-Methylphenol	ND		350	27	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
4-Aminobiphenyl	ND		350	73	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1

Client Sample ID: MW-2022-4 (0-1)
Date Collected: 04/12/22 08:50
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-2
Matrix: Solid
Percent Solids: 94.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		180	44	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
4-Methylphenol	ND		350	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
4-Nitroaniline	ND		350	94	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
4-Nitroquinoline-1-oxide	ND		700	350	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
a,a-Dimethylphenethylamine	ND	*-	350	350	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	R
Acenaphthene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Acenaphthylene	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Acetophenone	ND		180	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Aniline	ND		350	43	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Anthracene	ND		180	44	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Aramite, Total	ND		350	170	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzidine	ND	UJ	5300	2200	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzo[b]fluoranthene	ND		180	28	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Benzyl alcohol	ND		350	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Bis(2-ethylhexyl) phthalate	ND		180	61	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Chrysene	ND		180	40	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Diallate	ND		350	44	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Dibenzofuran	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Diethyl phthalate	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Dimethoate	ND		350	43	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Dimethyl phthalate	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Dinoseb	ND		350	62	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Diphenylamine	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Disulfoton	ND		350	260	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Chlorobenzilate	ND		350	56	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Ethyl methanesulfonate	ND		350	77	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Famphur	ND	*-	700	170	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	R
Fluoranthene	ND		180	19	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Fluorene	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Hexachlorobenzene	ND		180	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Hexachloroethane	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Hexachloropropene	ND		350	89	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1	

Client Sample ID: MW-2022-4 (0-1)
Date Collected: 04/12/22 08:50
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-2
Matrix: Solid
Percent Solids: 94.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		350	61	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Isophorone	ND		180	38	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Isosafrole	ND		350	46	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Kepone	ND		700	350	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Methyl methanesulfonate	ND		350	80	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Naphthalene	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitro-o-toluidine	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosodiethylamine	ND		350	81	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosodimethylamine	ND		350	76	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosodi-n-butylamine	ND		350	95	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosomethylethylamine	ND		350	80	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosomorpholine	ND		350	78	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosopiperidine	ND		350	71	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
o,o',o''-Triethylphosphorothioate	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Methyl parathion	ND		350	60	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
p-Dimethylamino azobenzene	ND		350	59	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Pentachlorobenzene	ND		350	73	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Pentachloronitrobenzene	ND		350	89	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Phenacetin	ND		350	47	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Phenanthrene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Phenol	ND		180	27	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Phorate	ND		350	96	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
p-Phenylene diamine	ND	*	840	350	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1 R
Pronamide	ND		350	68	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Pyrene	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Pyridine	ND		350	25	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Safrole	ND		350	47	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Sulfotepp	ND		350	56	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1
Thionazin	ND		350	61	ug/Kg	☼	04/14/22 09:13	04/21/22 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*54 - 120*	*04/14/22 09:13*	*04/21/22 14:41*	*1*
2-Fluorobiphenyl (Surr)	*79*		*60 - 120*	*04/14/22 09:13*	*04/21/22 14:41*	*1*
2-Fluorophenol (Surr)	*84*		*52 - 120*	*04/14/22 09:13*	*04/21/22 14:41*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*04/14/22 09:13*	*04/21/22 14:41*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*04/14/22 09:13*	*04/21/22 14:41*	*1*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*04/14/22 09:13*	*04/21/22 14:41*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
4,4'-DDE	ND		1.7	0.37	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
4,4'-DDT	ND		1.7	0.41	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1

Client Sample ID: MW-2022-4 (0-1)
Date Collected: 04/12/22 08:50
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-2
Matrix: Solid
Percent Solids: 94.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.7	0.43	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Chlordane (technical)	ND		17	3.9	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Chlorobenzilate	ND		17	5.9	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
cis-Chlordane	ND		1.7	0.87	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Dieldrin	ND		1.7	0.42	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Endosulfan I	ND		1.7	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Endosulfan sulfate	ND		1.7	0.33	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Endrin	ND		1.7	0.35	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Endrin aldehyde	~~0.49~~ ~~J B~~ 1.7		1.7	0.45	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Endrin ketone	ND		1.7	0.43	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Heptachlor	ND		1.7	0.38	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Methoxychlor	ND		1.7	0.36	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
Toxaphene	ND		17	10	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1
trans-Chlordane	ND		1.7	0.56	ug/Kg	☼	04/13/22 15:17	04/14/22 16:07	1

U

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*75*		*45 - 120*	*04/13/22 15:17*	*04/14/22 16:07*	*1*
Tetrachloro-m-xylene	*76*		*30 - 124*	*04/13/22 15:17*	*04/14/22 16:07*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.046	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1
PCB-1221	ND		0.24	0.046	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1
PCB-1232	ND		0.24	0.046	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1
PCB-1242	ND		0.24	0.046	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1
PCB-1248	ND		0.24	0.046	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/14/22 15:32	04/19/22 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*100*		*65 - 174*	*04/14/22 15:32*	*04/19/22 02:53*	*1*
Tetrachloro-m-xylene	*119*		*60 - 154*	*04/14/22 15:32*	*04/19/22 02:53*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.6	ug/Kg	☼	04/15/22 07:55	04/21/22 17:23	1
2,4-D	ND		17	11	ug/Kg	☼	04/15/22 07:55	04/21/22 17:23	1
Silvex (2,4,5-TP)	ND		17	6.3	ug/Kg	☼	04/15/22 07:55	04/21/22 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*04/15/22 07:55*	*04/21/22 17:23*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		35	20	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1

Client Sample ID: MW-2022-4 (0-1)
Date Collected: 04/12/22 08:50
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-2
Matrix: Solid
Percent Solids: 94.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		35	23	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1
Famphur	ND		35	19	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1
Methyl parathion	ND		35	20	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1
Ethyl Parathion	ND		35	19	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1
Phorate	ND		35	12	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1
Sulfotepp	ND		35	13	ug/Kg	☼	04/19/22 08:59	04/20/22 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*20 - 135*	*04/19/22 08:59*	*04/20/22 15:32*	*1*
Tributyl phosphate	*87*		*20 - 135*	*04/19/22 08:59*	*04/20/22 15:32*	*1*
Triphenylphosphate	*93*		*33 - 168*	*04/19/22 08:59*	*04/20/22 15:32*	*1*
Triphenylphosphate	*97*		*33 - 168*	*04/19/22 08:59*	*04/20/22 15:32*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**8.7**	**B**	5.2	0.046	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,4,6,7,8-HpCDF	**2.1**	**J B**	5.2	0.0079	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,4,7,8,9-HpCDF	~~0.30~~	~~J B~~ 5.2 U	5.2	0.011	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,4,7,8-HxCDD	~~0.42~~	~~J I B~~ 5.2 U	5.2	0.0085	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,4,7,8-HxCDF	~~0.38~~	~~J I B~~ 5.2 U	5.2	0.014	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,6,7,8-HxCDD	**0.61**	**J B**	5.2	0.0080	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,6,7,8-HxCDF	**0.20**	~~J I B~~ JNX	5.2	0.014	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,7,8,9-HxCDD	**0.62**	~~J I~~ JNX	5.2	0.0090	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,7,8,9-HxCDF	**0.076**	~~J I~~	5.2	0.018	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,7,8-PeCDD	**0.38**	~~J I~~	5.2	0.025	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
1,2,3,7,8-PeCDF	**0.13**	~~J I~~	5.2	0.030	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
2,3,4,6,7,8-HxCDF	~~0.19~~	~~J B~~ 5.2 U	5.2	0.013	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
2,3,4,7,8-PeCDF	**0.21**	~~J I B~~ JNX	5.2	0.023	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
2,3,7,8-TCDD	**0.22**	**J**	1.0	0.015	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
2,3,7,8-TCDF	ND		1.0	0.022	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
OCDD	**81**	**B**	10	0.050	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
OCDF	**6.2**	**J B**	10	0.019	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total HpCDD	**8.7**		5.2	0.046	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total HpCDF	~~2.4~~	~~J B~~ 5.2 U	5.2	0.0096	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total HxCDD	**1.7**	~~J I B~~ JNX	5.2	0.0085	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total HxCDF	~~0.65~~	~~J I B~~ 5.2 U	5.2	0.015	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total PeCDD	**0.38**	~~J I~~ JNX	5.2	0.025	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total PeCDF	**0.34**	~~J I B~~ JNX	5.2	0.026	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total TCDD	**0.22**	**J**	1.0	0.015	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1
Total TCDF	ND		1.0	0.022	ng/Kg	☼	04/15/22 15:00	04/18/22 23:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*52*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*53*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*51*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,4,7,8-HxCDD	*52*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,4,7,8-HxCDF	*56*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,6,7,8-HxCDF	*59*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*
13C-1,2,3,7,8,9-HxCDD	*55*		*40 - 135*	*04/15/22 15:00*	*04/18/22 23:10*	*1*

Client Sample ID: MW-2022-4 (0-1)

Lab Sample ID: 480-196725-2

Date Collected: 04/12/22 08:50
Matrix: Solid
Date Received: 04/13/22 11:30
Percent Solids: 94.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	56		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-1,2,3,7,8-PeCDD	57		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-1,2,3,7,8-PeCDF	54		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-2,3,4,6,7,8-HxCDF	56		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-2,3,4,7,8-PeCDF	55		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-2,3,7,8-TCDD	61		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-2,3,7,8-TCDF	56		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-OCDD	57		40 - 135	04/15/22 15:00	04/18/22 23:10	1
13C-OCDF	45		40 - 135	04/15/22 15:00	04/18/22 23:10	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.4**	**J**	16.6	0.44	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Arsenic	**3.9**		2.2	0.44	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Barium	**18.8**	J	0.55	0.12	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Beryllium	**0.24**		0.22	0.031	mg/Kg	☼	04/15/22 13:24	04/22/22 23:58	1
Cadmium	**0.074**	**J**	0.22	0.033	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Chromium	**4.5**		0.55	0.22	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Cobalt	**8.2**		0.55	0.055	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Copper	**6.6**		1.1	0.23	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Lead	**6.5**		1.1	0.27	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Nickel	**11.7**		5.5	0.25	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Selenium	**1.1**	**J**	4.4	0.44	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Silver	ND		0.67	0.22	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Thallium	ND		6.7	0.33	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Tin	ND		2.2	0.48	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Vanadium	**5.7**		0.55	0.12	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1
Zinc	**31.3**		2.2	0.71	mg/Kg	☼	04/15/22 13:24	04/19/22 20:53	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0050	mg/Kg	☼	04/14/22 10:37	04/14/22 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.50	mg/Kg	☼	04/18/22 13:57	04/19/22 13:52	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.8	10.7	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: PZ-2022-5 (13-16)

Lab Sample ID: 480-196725-3

Date Collected: 04/12/22 16:55
Matrix: Solid
Date Received: 04/13/22 11:30
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,1,1-Trichloroethane	ND		5.2	0.38	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.84	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,1,2-Trichloroethane	ND		5.2	0.67	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1

Client Sample ID: PZ-2022-5 (13-16)
Date Collected: 04/12/22 16:55
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-3
Matrix: Solid
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.2	0.63	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,1-Dichloroethene	ND		5.2	0.63	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,2,3-Trichloropropane	ND		5.2	0.53	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
2-Chloro-1,3-butadiene	ND	UJ	5.2	3.2	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
2-Chloroethyl vinyl ether	ND	UJ	10	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Acetone	ND		26	4.4	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Acetonitrile	ND	UJ	52	6.3	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Acrolein	ND		26	8.2	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Benzene	ND		5.2	0.25	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Bromomethane	ND		5.2	0.47	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Carbon tetrachloride	ND		5.2	0.50	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Chlorobenzene	ND		5.2	0.68	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Chlorodibromomethane	ND		5.2	0.66	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Chloroform	ND		5.2	0.32	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Chloromethane	ND		5.2	0.31	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
cis-1,3-Dichloropropene	ND		5.2	0.75	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Dibromomethane	ND		5.2	0.53	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Dichlorobromomethane	ND		5.2	0.69	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Ethylene Dibromide	ND		5.2	0.67	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Methacrylonitrile	ND	UJ	26	6.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Methyl methacrylate	ND	UJ	5.2	1.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
m-Xylene & p-Xylene	ND		10	0.87	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
o-Xylene	ND		5.2	0.68	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Propionitrile	ND	UJ	52	29	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Styrene	ND		5.2	0.26	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Tetrachloroethene	ND		5.2	0.70	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Toluene	ND		5.2	0.39	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
trans-1,2-Dichloroethene	ND		5.2	0.54	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1

Client Sample ID: PZ-2022-5 (13-16)
Lab Sample ID: 480-196725-3
Date Collected: 04/12/22 16:55
Matrix: Solid
Date Received: 04/13/22 11:30
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.2	0.63	ug/Kg	☼	04/13/22 13:30	04/13/22 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*04/13/22 13:30*	*04/13/22 22:36*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/13/22 13:30*	*04/13/22 22:36*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*	*04/13/22 13:30*	*04/13/22 22:36*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*04/13/22 13:30*	*04/13/22 22:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,2,4-Trichlorobenzene	ND		350	25	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,2-Dichlorobenzene	ND		350	24	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,3,5-Trinitrobenzene	ND		350	14	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,3-Dinitrobenzene	ND		350	42	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,4-Dichlorobenzene	ND		350	27	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,4-Dioxane	ND		110	58	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1,4-Naphthoquinone	ND		350	66	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,4-Dinitrophenol	ND		1800	830	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,6-Dichlorophenol	ND		350	66	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Acetylaminofluorene	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Methylphenol	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Nitroaniline	ND		350	26	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Picoline	ND		350	40	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
2-Toluidine	ND		350	86	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
3 & 4 Methylphenol	ND		350	27	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
3-Methylcholanthrene	ND		350	58	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
3-Methylphenol	ND		350	27	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
4-Aminobiphenyl	ND		350	73	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196725-1

Client Sample ID: PZ-2022-5 (13-16)
Date Collected: 04/12/22 16:55
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-3
Matrix: Solid
Percent Solids: 94.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		180	44	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
4-Methylphenol	ND		350	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
4-Nitroaniline	ND		350	94	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
4-Nitroquinoline-1-oxide	ND		700	350	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
a,a-Dimethylphenethylamine	ND	*	350	350	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	R
Acenaphthene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Acenaphthylene	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Acetophenone	ND		180	24	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Aniline	ND		350	43	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Anthracene	ND		180	44	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Aramite, Total	ND		350	170	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzidine	ND	UJ	5300	2200	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Benzyl alcohol	ND		350	24	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Bis(2-ethylhexyl) phthalate	**190**		180	61	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Chrysene	ND		180	40	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Diallate	ND		350	44	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Dibenzofuran	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Diethyl phthalate	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Dimethoate	ND		350	43	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Dimethyl phthalate	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Dinoseb	ND		350	62	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Diphenylamine	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Disulfoton	ND		350	260	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Chlorobenzilate	ND		350	56	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Ethyl methanesulfonate	ND		350	77	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Famphur	ND	*	700	170	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	R
Fluoranthene	ND		180	19	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Fluorene	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Hexachlorobenzene	ND		180	24	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Hexachloroethane	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Hexachloropropene	ND		350	89	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1	

Client Sample ID: PZ-2022-5 (13-16)
Date Collected: 04/12/22 16:55
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-3
Matrix: Solid
Percent Solids: 94.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		350	61	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Isophorone	ND		180	38	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Isosafrole	ND		350	46	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Kepone	ND		700	350	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Methyl methanesulfonate	ND		350	80	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Naphthalene	ND		180	23	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitro-o-toluidine	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosodiethylamine	ND		350	81	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosodimethylamine	ND		350	76	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosodi-n-butylamine	ND		350	95	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosomethylethylamine	ND		350	80	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosomorpholine	ND		350	78	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosopiperidine	ND		350	71	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
o,o',o''-Triethylphosphorothioate	ND		350	45	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Methyl parathion	ND		350	60	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
p-Dimethylamino azobenzene	ND		350	59	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Pentachlorobenzene	ND		350	73	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Pentachloronitrobenzene	ND		350	89	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Phenacetin	ND		350	48	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Phenanthrene	ND		180	26	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Phenol	ND		180	27	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Phorate	ND		350	96	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
p-Phenylene diamine	ND	*-	850	350	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1 R
Pronamide	ND		350	69	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Pyrene	ND		180	21	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Pyridine	ND		350	25	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Safrole	ND		350	48	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Sulfotepp	ND		350	56	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1
Thionazin	ND		350	61	ug/Kg	☼	04/14/22 09:13	04/21/22 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*04/14/22 09:13*	*04/21/22 15:05*	*1*
2-Fluorobiphenyl (Surr)	*80*		*60 - 120*	*04/14/22 09:13*	*04/21/22 15:05*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*04/14/22 09:13*	*04/21/22 15:05*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*	*04/14/22 09:13*	*04/21/22 15:05*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*04/14/22 09:13*	*04/21/22 15:05*	*1*
p-Terphenyl-d14 (Surr)	*100*		*79 - 130*	*04/14/22 09:13*	*04/21/22 15:05*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
4,4'-DDT	~~0.91 J B~~ 1.7		1.7 U	0.41	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1

Client Sample ID: PZ-2022-5 (13-16)
Date Collected: 04/12/22 16:55
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-3
Matrix: Solid
Percent Solids: 94.4

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.7	0.43	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Chlordane (technical)	ND		17	3.9	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Dieldrin	ND		1.7	0.42	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Endrin	ND		1.7	0.34	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Endrin ketone	ND		1.7	0.43	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Heptachlor	ND		1.7	0.38	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
Toxaphene	ND		17	10	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	04/13/22 15:17	04/14/22 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*45 - 120*	*04/13/22 15:17*	*04/14/22 16:27*	*1*
Tetrachloro-m-xylene	*68*		*30 - 124*	*04/13/22 15:17*	*04/14/22 16:27*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.040	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1
PCB-1221	ND		0.21	0.040	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1
PCB-1232	ND		0.21	0.040	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1
PCB-1242	ND		0.21	0.040	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1
PCB-1248	ND		0.21	0.040	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	04/14/22 15:32	04/19/22 03:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*65 - 174*	*04/14/22 15:32*	*04/19/22 03:06*	*1*
Tetrachloro-m-xylene	*116*		*60 - 154*	*04/14/22 15:32*	*04/19/22 03:06*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.6	ug/Kg	☼	04/15/22 07:55	04/21/22 17:53	1
2,4-D	ND		18	11	ug/Kg	☼	04/15/22 07:55	04/21/22 17:53	1
Silvex (2,4,5-TP)	ND		18	6.3	ug/Kg	☼	04/15/22 07:55	04/21/22 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*04/15/22 07:55*	*04/21/22 17:53*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1

Client Sample ID: PZ-2022-5 (13-16)
Date Collected: 04/12/22 16:55
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-3
Matrix: Solid
Percent Solids: 94.4

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		34	23	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1
Famphur	ND		34	19	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1
Methyl parathion	ND		34	20	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1
Ethyl Parathion	ND		34	19	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1
Phorate	ND		34	12	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1
Sulfotepp	ND		34	13	ug/Kg	☼	04/19/22 08:59	04/20/22 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*20 - 135*	*04/19/22 08:59*	*04/20/22 16:04*	*1*
Tributyl phosphate	*87*		*20 - 135*	*04/19/22 08:59*	*04/20/22 16:04*	*1*
Triphenylphosphate	*93*		*33 - 168*	*04/19/22 08:59*	*04/20/22 16:04*	*1*
Triphenylphosphate	*95*		*33 - 168*	*04/19/22 08:59*	*04/20/22 16:04*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.78**	**J**	5.3	0.048	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,4,6,7,8-HpCDF	**0.88**	**J I B** JNX	5.3	0.029	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,4,7,8,9-HpCDF	**1.0**	**J B**	5.3	0.040	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,4,7,8-HxCDD	ND		5.3	0.045	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,4,7,8-HxCDF	**0.35**	**J I B** JNX	5.3	0.070	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,6,7,8-HxCDD	ND		5.3	0.047	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,6,7,8-HxCDF	**0.24**	**J I B** 5.3 U	5.3	0.066	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,7,8,9-HxCDD	ND		5.3	0.047	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,7,8,9-HxCDF	ND		5.3	0.086	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,7,8-PeCDD	ND		5.3	0.050	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
1,2,3,7,8-PeCDF	**0.25**	**J I B** JNX	5.3	0.078	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
2,3,4,6,7,8-HxCDF	**0.63**	**J B** JNX	5.3	0.065	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
2,3,4,7,8-PeCDF	**0.42**	**J I B** JNX	5.3	0.060	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
2,3,7,8-TCDD	ND		1.1	0.027	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
2,3,7,8-TCDF	ND		1.1	0.058	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
OCDD	**9.1**	**J B**	11	0.053	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
OCDF	**0.67**	**J I B** 11 U	11	0.015	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total HpCDD	**0.78**	**J B** 5.3 U	5.3	0.048	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total HpCDF	**1.9**	**J I B** JNX	5.3	0.034	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total HxCDD	ND		5.3	0.047	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total HxCDF	**1.2**	**J I B** 5.3 U	5.3	0.072	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total PeCDD	ND		5.3	0.050	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total PeCDF	**0.67**	**J I B** 5.3 U	5.3	0.069	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total TCDD	ND		1.1	0.027	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1
Total TCDF	ND		1.1	0.058	ng/Kg	☼	04/20/22 15:07	04/22/22 01:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*62*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*66*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,4,7,8-HxCDD	*57*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,4,7,8-HxCDF	*58*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,6,7,8-HxCDF	*65*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*
13C-1,2,3,7,8,9-HxCDD	*62*		*40 - 135*	*04/20/22 15:07*	*04/22/22 01:39*	*1*

Client Sample ID: PZ-2022-5 (13-16)
Date Collected: 04/12/22 16:55
Date Received: 04/13/22 11:30

Lab Sample ID: 480-196725-3
Matrix: Solid
Percent Solids: 94.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	63		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-1,2,3,7,8-PeCDD	53		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-1,2,3,7,8-PeCDF	54		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-2,3,4,6,7,8-HxCDF	61		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-2,3,4,7,8-PeCDF	57		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-2,3,7,8-TCDD	61		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-2,3,7,8-TCDF	58		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-OCDD	69		40 - 135	04/20/22 15:07	04/22/22 01:39	1
13C-OCDF	67		40 - 135	04/20/22 15:07	04/22/22 01:39	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.6	J	16.4	0.44	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Arsenic	3.3		2.2	0.44	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Barium	15.2	J	0.55	0.12	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Beryllium	0.20	J	0.22	0.031	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Cadmium	0.034	J	0.22	0.033	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Chromium	3.9		0.55	0.22	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Cobalt	5.1		0.55	0.055	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Copper	5.7		1.1	0.23	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Lead	5.6		1.1	0.26	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Nickel	8.1		5.5	0.25	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Selenium	ND		4.4	0.44	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Silver	ND		0.66	0.22	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Thallium	ND		6.6	0.33	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Tin	1.8	J	2.2	0.47	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Vanadium	4.8		0.55	0.12	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1
Zinc	26.5		2.2	0.70	mg/Kg	☼	04/15/22 13:24	04/19/22 20:57	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0050	mg/Kg	☼	04/14/22 10:37	04/14/22 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.50	mg/Kg	☼	04/18/22 13:57	04/19/22 13:53	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.4	10.5	mg/Kg	☼		04/20/22 15:30	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-196779-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47171R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 7
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 12
2.4.2 Continuing Calibration 12
2.5 Surrogates/System Monitoring Compounds 13
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
2.8 Laboratory Control Sample Analysis 14
2.9 Field Duplicate Analysis 15
2.10 Compound Identification 15
2.11 System Performance and Overall Assessment 15
2.12 Data Validation Checklist 15
3 Semi-volatile Organic Compound Analyses 17
3.1 Holding Times 17
3.2 Blank Contamination 17
3.3 Mass Spectrometer Tuning 18
3.4 Calibration 18
3.4.1 Initial Calibration 18
3.4.2 Continuing Calibration 18
3.5 Surrogates/System Monitoring Compounds 20
3.6 Internal Standard Performance 20
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 20
3.8 Laboratory Control Sample Analysis 22
3.9 Field Duplicate Analysis 23
3.10 Compound Identification 23
3.11 System Performance and Overall Assessment 24

3.12 Data Validation Checklist 24
4 Polychlorinated Biphenyl Analyses 25
4.1 Holding Times 25
4.2 Blank Contamination 26
4.3 System Performance 26
4.4 Calibration 26
4.4.1 Initial Calibration 26
4.4.2 Continuing Calibration 26
4.5 Surrogates/System Monitoring Compounds 27
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 27
4.7 Laboratory Control Sample Analysis 27
4.8 Field Duplicate Analysis 27
4.9 Compound Identification 28
4.10 System Performance and Overall Assessment 28
4.11 Data Validation Checklist 28
5 Pesticide/Herbicide Analyses 29
5.1 Holding Times 29
5.2 Blank Contamination 30
5.3 System Performance 31
5.4 Calibration 31
5.4.1 Initial Calibration 31
5.4.2 Continuing Calibration 31
5.5 Surrogates/System Monitoring Compounds 32
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 32
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 32
5.8 Field Duplicate Analysis 33
5.9 Compound Identification 34
5.10 System Performance and Overall Assessment 34
5.11 Data Validation Checklist 34
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 35
6.1 Holding Times 35
6.2 Blank Contamination 36
6.3 Mass Spectrometer Tuning 40

6.4 Calibration 40
6.4.1 Initial Calibration 40
6.4.2 Continuing Calibration 40
6.5 Labeled Standard Performance 40
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 40
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 41
6.8 Field Duplicate Analysis 41
6.9 Compound Identification 41
6.10 System Performance and Overall Assessment 42
6.11 Data Validation Checklist 43
7 Metals Analyses 44
7.1 Holding Times 44
7.2 Blank Contamination 45
7.3 Calibration 45
7.3.1 Initial Calibration and Continuing Calibration 45
7.3.2 Lower Limit of Quantitation Check Standard 45
7.3.3 ICP Interference Control Sample 46
7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 46
7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 46
7.4.2 Laboratory Duplicate Analysis 46
7.5 Field Duplicate Analysis 46
7.6 Laboratory Control Sample Analysis 47
7.7 Serial Dilution 48
7.8 System Performance and Overall Assessment 48
7.9 Data Validation Checklist 48
8 General Chemistry Analyses 50
8.1 Holding Times 50
8.2 Blank Contamination 50
8.3 Calibration 50
8.3.1 Initial Calibration and Continuing Calibration 51
8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 51
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 51
8.4.2 Laboratory Duplicate Analysis 52

8.5 Field Duplicate Analysis 52
8.6 Laboratory Control Sample (LCS) Analysis 52
8.7 System Performance and Overall Assessment 53
8.8 Data Validation Checklist for General Chemistry 53
9 Overall Data Usability 54

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 10
Table 5. Summary of Blank Contamination Qualifications 11
Table 6. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 7. Initial and Continuing Calibration Evaluation Criteria and Qualifications 12
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 14
Table 9. Laboratory Control Sample Recovery Criteria and Qualifications 14
Table 10. Field Duplicate Sample Results 15
Table 11. Holding Time for Method SW-846 8270D 17
Table 12. Summary of Compounds Outside Specified Calibration Control Limits 18
Table 13. Initial and Continuing Calibration Evaluation Criteria and Qualifications 19
Table 14. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 21
Table 15. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 21
Table 16. Samples with Relative Percent Difference Greater than Control Limits 21
Table 17. Relative Percent Difference Evaluation Criteria and Qualifications 22
Table 18. Samples with Laboratory Control Sample Recoveries Outside Control Limits 22
Table 19. Laboratory Control Sample Recovery Criteria and Qualifications 23
Table 20. Field Duplicate Sample Results 23
Table 21. Holding Time for Method SW-846 8082A 25
Table 22. Field Duplicate Sample Results 27
Table 23. Holding Time for Method SW-846 8081B/8141B/8151A 29
Table 24. Summary of Holding Time Exceedances 30
Table 25. Summary of Holding Time Qualifications 30
Table 26. Summary of Blank Contamination Qualifications 30

Table 27. Summary of Compounds Outside Specified Calibration Control Limits 31

Table 28. Initial and Continuing Calibration Evaluation Criteria and Qualifications 32

Table 29. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 33

Table 30. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 33

Table 31. Field Duplicate Sample Results 33

Table 32. Holding Time for Method SW-846 8290A 35

Table 33. Summary of Blank Contamination Qualifications 36

Table 34. Field Duplicate Sample Results 41

Table 35. Holding Time for Method SW-846 6010C/7470A/7471B 44

Table 36. Field Duplicate Sample Results 46

Table 37. Samples with Laboratory Control Sample Recoveries Outside Control Limits 47

Table 38. Laboratory Control Sample Recovery Criteria and Qualifications 48

Table 39. Specified Holding Times 50

Table 40. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 51

Table 41. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 51

Table 42. Field Duplicate Sample Results 52

Table 43. Overall Summary of Data Usability 54

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196779-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	MET	MISC
PZ-2022-5 (26-30)	480-196779-1	Soil	04/13/2022		X	X	X	X	X	X
FB_041322	480-196779-2	Water	04/13/2022		X	X	X		X	X
MW-2022-4 (12-16)	480-196779-3	Soil	04/13/2022		X	X	X	X	X	X
MW-2022-4 (26-30)	480-196779-4	Soil	04/13/2022		X	X	X	X	X	X
DUP-2-041322	480-196779-5	Soil	04/13/2022	MW-2022-4 (26-30)	X	X	X	X	X	X
MW-2022-4 (45-47)	480-196779-6	Soil	04/13/2022		X	X	X	X	X	X
MW-2022-4 (60-64)	480-196779-7	Soil	04/13/2022		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	5	1	1	7
SVOCs	0	0	0	5	1	1	7
PCBs	0	0	0	5	1	1	7
PEST	0	0	0	5	1	1	7
HERB	0	0	0	5	1	1	7
OPC	0	0	0	5	1	1	7
PCDD/PCDF	0	0	0	5	1	0	6
Metals	0	0	0	5	1	1	7
MISC	0	0	0	5	1	1	7

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 5. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
DUP-2-041322 MW-2022-4 (60-64)	Acetone (FB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
FB Field blank
RL Reporting limit

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 6. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
FB_041322	CCV %D	Dichlorobromomethane	+32.9%
		2-Hexanone	+27.8%
		Chlorodibromomethane	+41.4%
		Bromoform	+46.5%
		trans-1,4-Dichloro-2-butene	-29.9%
		1,2-Dibromo-3-Chloropropane	+52.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 7. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
FB_041322	621874	1,2-Dibromo-3-Chloropropane	>UL
		2-Hexanone	
		Bromoform	
		Chlorodibromomethane	
		Dichlorobromomethane	
		Ethyl methacrylate	

Note:
UL Upper control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 10. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	Chloroform	0.50 J	0.78 J	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS or MS/MSD. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW 846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X	X		
C. Trip blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	

VOCs: SW 846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 11. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing

concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compound 4-chloro-3-methylphenol was detected in the associated field blank- FB_041322; however, the associated sample results were non-detect. No qualification of the sample results was required. All other criteria were met.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 12. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
FB_041322	ICV %D	Benzidine	-36.4%
	CCV %D	N-Nitrosodimethylamine	-36.6%
		Hexachlorocyclopentadiene	-34.9%
		4-Nitrophenol	-34.7%
		Benzidine	-61.6%

Sample ID	Initial/Continuing	Compounds	Criteria
		N-Nitrosomorpholine	-26.2%
		a,a-Dimethylphenethylamine	-29.7%
		Sulfotepp	+27.8%
		Phorate	-25.6%
		Disulfoton	-26.5%
		4-Nitroquinoline-1-oxide	-42.4%
		Methapyrilene	-37.9%
PZ-2022-5 (26-30) MW-2022-4 (12-16) MW-2022-4 (26-30) DUP-2-041322 MW-2022-4 (45-47) MW-2022-4 (60-64)	ICV %D	Benzidine	-28.8%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 13. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample MW-2022-4 (12-16) exhibiting recoveries outside of the control limits are presented in the following table.

Table 14. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
MW-2022-4 (12-16)	a,a-Dimethylphenethylamine	<10%	<10%
	Benzidine	<10%	<10%
	p-Phenylene diamine	<10%	<10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 15. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 165. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compounds
MW-2022-4 (12-16)	1,3,5-Trinitrobenzene
	1-Naphthylamine
	2-Acetylaminofluorene
	4-Nitrophenol
	4-Nitroquinoline-1-oxide
	Diethyl phthalate
	Dimethoate

Sample ID	Compounds
	Chlorobenzilate
	Famphur
	Kepone
	N-Nitro-o-toluidine

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 17. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 18. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
PZ-2022-5 (26-30) MW-2022-4 (12-16) MW-2022-4 (26-30) DUP-2-041322 MW-2022-4 (45-47) MW-2022-4 (60-64)	Prep Batch: 621866	1-Naphthylamine	<LL but >10%
		2-Naphthylamine	<LL but >10%
		4-Aminobiphenyl	<LL but >10%
		a,a-Dimethylphenethylamine	<10%
		Famphur	<10%
		p-Phenylene diamine	<10%
FB_041322	Prep Batch: 621867	3,3'-Dimethylbenzidine	<LL but >10%
		a,a-Dimethylphenethylamine	<10%
		Kepone	<LL but >10%

Sample ID	Batch	Compounds	LCS Recovery
		Methapyrilene	<LL but >10%
		p-Phenylene diamine	<10%

Note:
LL Lower control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 19. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 20. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW 846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Initial calibration %Ds		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 21. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Method	Matrix	Holding Time	Preservation
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. Results for duplicate samples are summarized in the following table.

Table 22. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW 846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X		X	
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	

PCBs; SW 846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 23. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding are presented in the following table.

Table 24. Summary of Holding Time Exceedances

FB_041322	The sample extracted on 8th day from collection	7 days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 25. Summary of Holding Time Qualifications

Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds endrin aldehyde, and methoxychlor were detected in the associated method blank batch- 621775; however, the associated sample is a field blank. Hence, qualification of the sample results was not required.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 26. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
PZ-2022-5 (26-30) MW-2022-4 (12-16) MW-2022-4 (26-30) DUP-2-041322	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	"U" at the RL

MW-2022-4 (45-47) MW-2022-4 (60-64)				

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 6. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
FB_041322	CCV %D	Heptachlor	+22.6%
MW-2022-4 (60-64)	CCV %D	Endrin Ketone	+45.8%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 7. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 20% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >15% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 29. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
FB_041322	621775	4,4'-DDT	>UL	Not Analysed
		beta-BHC		
		Endosulfan sulfate		
		Heptachlor		

Note:
UL Upper control limit

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 30. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 31. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW 846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks		X	X		
LCS %R		X	X		
LCS Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	

SW 846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 32. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 33. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-5 (26-30)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
MW-2022-4 (12-16)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-4 (26-30)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB)		
DUP-2-041322	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-4 (45-47)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)		
MW-2022-4 (60-64)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:

MB Method blank

RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 34. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	1,2,3,6,7,8-HxCDD	0.055 J	5.8 U	AC
	2,3,7,8-TCDD	0.035 J	1.2 U	AC
	Total TCDD	0.035 J	1.2 U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	

PCDD/PCDF: SW 846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Signal-to-noise ratio ≥ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 35. Holding Time for Method SW-846 6010C/7470A/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.

Method	Matrix	Holding Time	Preservation
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analyte zinc was detected in the associated method blank batch- 621976; however, the associated sample is a field blank. Hence, qualification of the sample results was not required. All other criteria were met.

7.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

7.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

7.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

7.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

The laboratory duplicate analysis was not performed on sample associated with this SDG.

7.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 36. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	Arsenic	2.9	3.2	AC
	Barium	13.4	17.0	24%
	Beryllium	0.23	0.21 J	AC
	Cadmium	0.051 J	0.087 J	AC
	Chromium	4.6	4.0	14%
	Cobalt	7.6	6.9	10%
	Copper	6.1	5.4	AC
	Lead	5.7	6.5	AC
	Nickel	9.6	9.6	AC
	Vanadium	5.3	5.3	0.0%
	Zinc	27.2	28.8	6%

Note:
AC Acceptable

The results and calculated RPDs between the parent sample and field duplicate were acceptable.

7.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits, with the exception of the analytes associated with samples, as presented in the following table.

Table 37. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Analytes	LCS Recovery
PZ-2022-5 (26-30) MW-2022-4 (12-16) MW-2022-4 (26-30) DUP-2-041322 MW-2022-4 (45-47)	Prep Batch: 622883	Antimony	69.8%
	Prep Batch: 622170	Mercury	79.0%

MW-2022-4 (60-64)			

The criteria used to evaluate LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified.

Table 38. Laboratory Control Sample Recovery Criteria and Qualifications

Control limit	Sample Result	Qualification
LCS (soil) percent recovery < lower limit	Non-detect	UJ
	Detect	J
LCS (soil) percent recovery > upper limit	Non-detect	No Action
	Detect	J

7.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample

The serial dilution was not performed on sample associated with this SDG.

7.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.9 Data Validation Checklist

METALS; SW 846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					

METALS; SW 846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 39. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS analysis performed on sample FB_041322 for the analyte sulfide exhibited recovery within the control limits.

The MS/MSD analysis performed on sample PZ-2022-5 (26-30) for the analyte cyanide exhibiting recoveries outside of the control limits are presented in the following table.

Table 40. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery	MSD Recovery
PZ-2022-5 (26-30)	Cyanide	0%	43%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte cyanide associated with this SDG.

Table 41. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R

Control limit	Sample Result	Qualification
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 42. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD
MW-2022-4 (26-30) / DUP-2-041322	All target analytes	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

8.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

8.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 43. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	99.5%	2
SVOCs	97.9%	18
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	92.9%	1

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: October 24, 2022

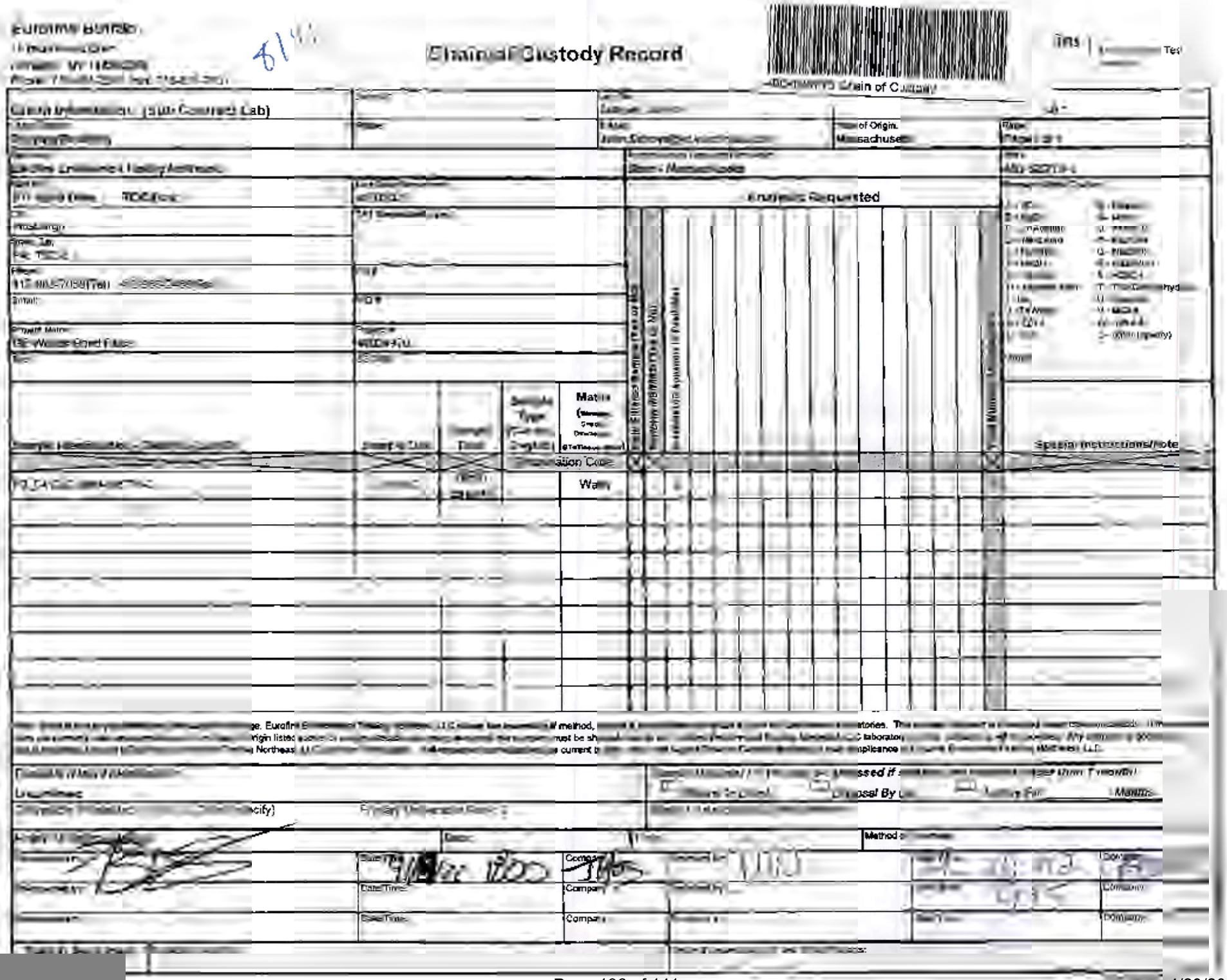
PEER REVIEW: Andrew Korycinski

DATE: October 24, 2022

Appendix A

Chain of Custody

8151A - Appendix IX Herbicides



Eurofins Buffalo
[illegible]
[illegible]
[illegible]

Chain of Custody Record

Chain of Custody

Client Information (Sub Contract Lab)

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Analysis Requested

Sample Identification - Description	Sample Date	Sample Time	Sample Type	Matrix	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis for Appendix IX Parameters	Total Number of Containers	Special Instructions/Note
				Preservation Code					
[illegible]	[illegible]	[illegible]		Water					

[illegible] Eurofins [illegible] method, [illegible] laboratories. [illegible] Origin listed [illegible] must be [illegible] laboratory [illegible] Northeast [illegible] current [illegible] compliance [illegible]

Possible Hazard Identification
Unconfirmed

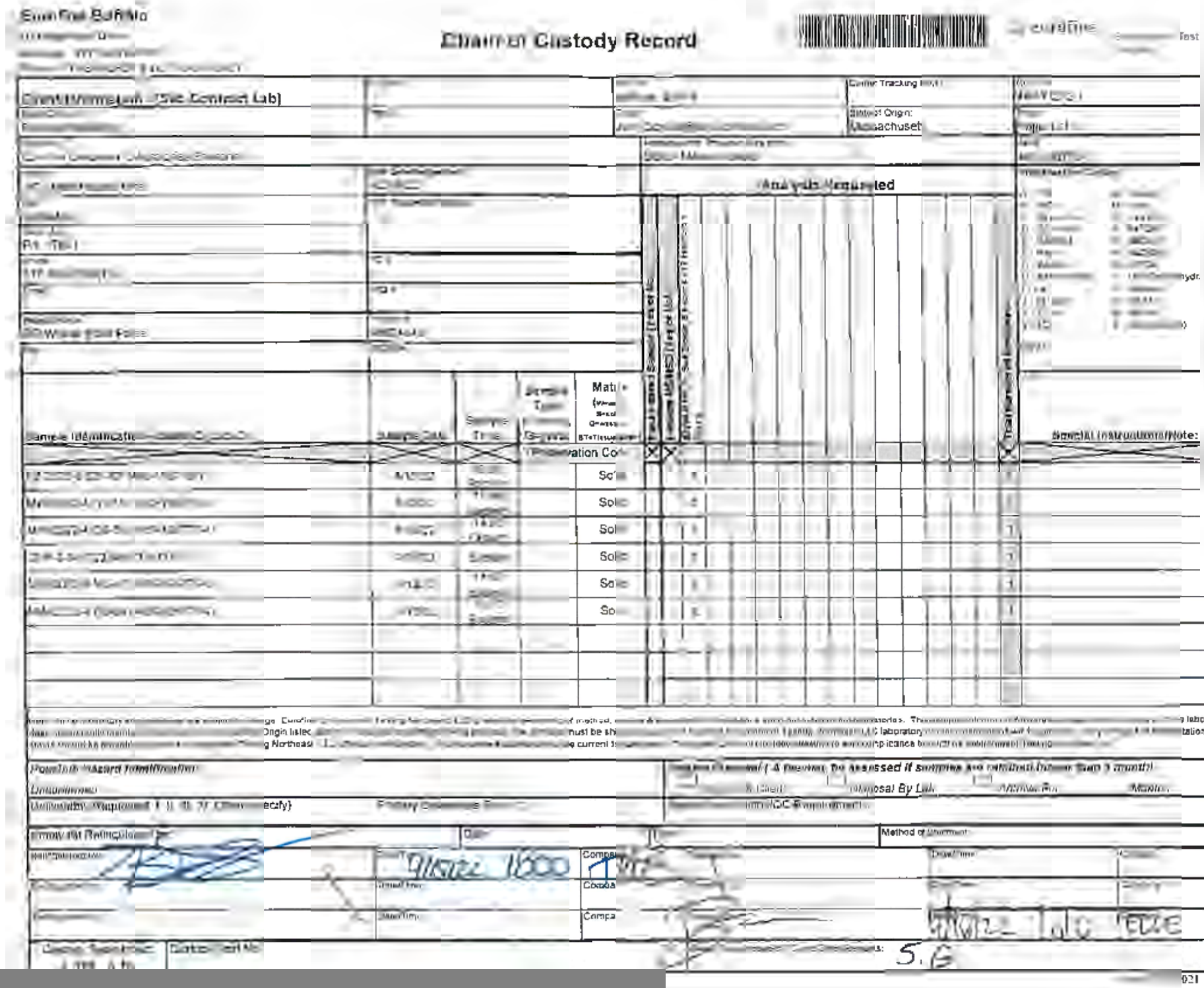
Sample Disposal (If Hazard Is Assessed if [illegible] Treatment)
Return to Client | Disposal By Lab | Archive For Months

Drivers Or Protection (Specify) | Primary Deliverable Rank 2

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible]	[illegible] 1800	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Method of Shipment

Custody Seal Intact | Custody Seal Intact | Cooler Temperature | Cooler Temperature



Eurofins Buffalo

Chain of Custody Record

Client/Information (Sub Contract Lab)

Carrier Tracking No(s):

State of Origin: Massachusetts

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Special Instructions/Note:
			Preservation Code:		
[illegible]	[illegible]	[illegible]		Solid	
[illegible]	[illegible]	[illegible]		Solid	
[illegible]	[illegible]	[illegible]		Solid	
[illegible]	[illegible]	[illegible]		Solid	
[illegible]	[illegible]	[illegible]		Solid	
[illegible]	[illegible]	[illegible]		Solid	

Possible Hazard Identification:

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Primary Deliverable Rank:

Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab

Archive For

Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:

Date:

Time:

Method of Shipment:

Relinquished by: [signature] Date/Time: 9/16/22 1800 Company: [illegible]

Received by: Date/Time: Company:

Relinquished by: Date/Time: Company:

Received by: Date/Time: 9/16/22 1800 Company: [illegible]

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s): 5.6

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196779-1

Client Sample ID: PZ-2022-5 (26-30)
Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1
Matrix: Solid
Percent Solids: 96.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.50	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,1,1-Trichloroethane	ND		5.0	0.36	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.80	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,1,2-Trichloroethane	ND		5.0	0.64	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,1-Dichloroethane	ND		5.0	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,1-Dichloroethene	ND		5.0	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,2,3-Trichloropropane	ND		5.0	0.50	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,2-Dichloroethane	ND		5.0	0.25	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
2-Butanone (MEK)	ND		25	1.8	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
2-Chloro-1,3-butadiene	ND	UJ	5.0	3.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
2-Chloroethyl vinyl ether	ND	UJ	9.9	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
3-Chloro-1-propene	ND		5.0	2.4	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.6	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Acetone	ND		25	4.2	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Acetonitrile	ND	UJ	50	6.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Acrolein	ND		25	7.8	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Acrylonitrile	ND		25	4.4	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Benzene	ND		5.0	0.24	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Bromoform	ND		5.0	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Bromomethane	ND		5.0	0.45	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Carbon disulfide	ND		5.0	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Carbon tetrachloride	ND		5.0	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Chlorobenzene	ND		5.0	0.65	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Chlorodibromomethane	ND		5.0	0.63	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Chloroethane	ND		5.0	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Chloroform	ND		5.0	0.31	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Chloromethane	ND		5.0	0.30	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
cis-1,3-Dichloropropene	ND		5.0	0.71	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Dibromomethane	ND		5.0	0.51	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Dichlorobromomethane	ND		5.0	0.66	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Dichlorodifluoromethane	ND		5.0	0.41	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Ethyl methacrylate	ND		5.0	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Ethylbenzene	ND		5.0	0.34	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Ethylene Dibromide	ND		5.0	0.64	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Iodomethane	ND		5.0	0.24	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Methacrylonitrile	ND	UJ	25	5.8	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Methyl methacrylate	ND	UJ	5.0	1.0	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Methylene Chloride	ND		5.0	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
m-Xylene & p-Xylene	ND		9.9	0.83	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
o-Xylene	ND		5.0	0.65	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Propionitrile	ND	UJ	50	28	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Styrene	ND		5.0	0.25	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Tetrachloroethene	ND		5.0	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Toluene	ND		5.0	0.37	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
trans-1,2-Dichloroethene	ND		5.0	0.51	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
trans-1,3-Dichloropropene	ND		5.0	2.2	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1

Client Sample ID: PZ-2022-5 (26-30)
Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1
Matrix: Solid
Percent Solids: 96.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Trichloroethene	ND		5.0	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Trichlorofluoromethane	ND		5.0	0.47	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Vinyl acetate	ND		9.9	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1
Vinyl chloride	ND		5.0	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/14/22 12:00*	*04/14/22 16:20*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/14/22 12:00*	*04/14/22 16:20*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/14/22 12:00*	*04/14/22 16:20*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/14/22 12:00*	*04/14/22 16:20*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		170	30	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,2,4-Trichlorobenzene	ND		340	24	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,2-Dichlorobenzene	ND		340	23	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,2-Diphenylhydrazine	ND		340	19	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,3-Dichlorobenzene	ND		340	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,3-Dinitrobenzene	ND		340	41	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,4-Dichlorobenzene	ND		340	27	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,4-Dioxane	ND		100	56	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1,4-Naphthoquinone	ND		340	63	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
1-Naphthylamine	ND	UJ	340	120	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,3,4,6-Tetrachlorophenol	ND		170	36	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,4,5-Trichlorophenol	ND		170	47	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,4,6-Trichlorophenol	ND		170	35	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,4-Dichlorophenol	ND		170	18	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,4-Dimethylphenol	ND		170	42	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,4-Dinitrophenol	ND		1700	800	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,4-Dinitrotoluene	ND		170	36	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,6-Dichlorophenol	ND		340	63	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2,6-Dinitrotoluene	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Acetylaminofluorene	ND		340	44	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Chloronaphthalene	ND		170	29	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Methylnaphthalene	ND		170	35	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Methylphenol	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Naphthylamine	ND	UJ	340	120	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Nitroaniline	ND		340	26	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Nitrophenol	ND		170	49	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Picoline	ND		340	39	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
2-Toluidine	ND		340	83	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
3 & 4 Methylphenol	ND		340	27	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
3,3'-Dichlorobenzidine	ND		340	200	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
3,3'-Dimethylbenzidine	ND		670	340	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
3-Methylcholanthrene	ND		340	56	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
3-Methylphenol	ND		340	27	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
3-Nitroaniline	ND		340	48	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1

Client Sample ID: PZ-2022-5 (26-30)
Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1
Matrix: Solid
Percent Solids: 96.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		340	170	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Aminobiphenyl	ND	*- UJ	340	70	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Bromophenyl phenyl ether	ND		170	24	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Chloro-3-methylphenol	ND		170	43	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Chloroaniline	ND		170	43	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Chlorophenyl phenyl ether	ND		170	21	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Methylphenol	ND		340	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Nitroaniline	ND		340	91	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
4-Nitroquinoline-1-oxide	ND		670	340	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
7,12-Dimethylbenz(a)anthracene	ND		340	50	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
a,a-Dimethylphenethylamine	ND	*-	340	340	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1 R
Acenaphthene	ND		170	26	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Acenaphthylene	ND		170	22	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Acetophenone	ND		170	23	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Aniline	ND		340	42	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Anthracene	ND		170	43	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Aramite, Total	ND		340	160	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzidine	ND	UJ	5100	2200	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzo[a]anthracene	ND		170	17	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzo[a]pyrene	ND		170	26	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzo[b]fluoranthene	ND		170	28	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Benzyl alcohol	ND		340	23	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
bis (2-chloroisopropyl) ether	ND		170	35	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Bis(2-chloroethoxy)methane	ND		170	37	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Bis(2-chloroethyl)ether	ND		170	22	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Bis(2-ethylhexyl) phthalate	**79**	**J**	170	59	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Butyl benzyl phthalate	ND		170	29	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Chrysene	ND		170	39	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Diallate	ND		340	43	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Dibenz(a,h)anthracene	ND		170	31	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Dibenzofuran	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Diethyl phthalate	ND		170	22	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Dimethoate	ND		340	42	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Dimethyl phthalate	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Di-n-butyl phthalate	ND		170	30	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Di-n-octyl phthalate	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Dinoseb	ND		340	60	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Diphenylamine	ND		340	44	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Disulfoton	ND		340	260	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Chlorobenzilate	ND		340	54	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Ethyl methanesulfonate	ND		340	74	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Famphur	ND	*-	670	160	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1 R
Fluoranthene	ND		170	18	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Fluorene	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Hexachlorobenzene	ND		170	23	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Hexachlorobutadiene	ND		170	26	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1

Client Sample ID: PZ-2022-5 (26-30)
Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1
Matrix: Solid
Percent Solids: 96.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		170	23	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Hexachloroethane	ND		170	22	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Hexachloropropene	ND		340	86	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Isodrin	ND		340	59	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Isophorone	ND		170	37	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Isosafrole	ND		340	45	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Kepone	ND		670	340	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Methapyrilene	ND		1500	340	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Methyl methanesulfonate	ND		340	78	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Naphthalene	ND		170	22	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Nitrobenzene	ND		170	19	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitro-o-toluidine	ND		340	44	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosodiethylamine	ND		340	79	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosodimethylamine	ND		340	73	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosodi-n-butylamine	ND		340	92	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosodi-n-propylamine	ND		170	30	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosodiphenylamine	ND		170	140	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosomethylethylamine	ND		340	78	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosomorpholine	ND		340	76	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosopiperidine	ND		340	68	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
N-Nitrosopyrrolidine	ND		340	51	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
o,o',o''-Triethylphosphorothioate	ND		340	44	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Ethyl Parathion	ND		340	38	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Methyl parathion	ND		340	58	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
p-Dimethylamino azobenzene	ND		340	57	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Pentachlorobenzene	ND		340	70	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Pentachloronitrobenzene	ND		340	86	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Pentachlorophenol	ND		340	170	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Phenacetin	ND		340	46	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Phenanthrene	ND		170	26	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Phenol	ND		170	27	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Phorate	ND		340	93	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
p-Phenylene diamine	ND	*	820	340	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1 R
Pronamide	ND		340	66	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Pyrene	ND		170	20	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Pyridine	ND		340	24	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Safrole	ND		340	46	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Sulfotepp	ND		340	54	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1
Thionazin	ND		340	59	ug/Kg	☼	04/15/22 07:59	04/21/22 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*04/15/22 07:59*	*04/21/22 03:47*	*1*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*04/15/22 07:59*	*04/21/22 03:47*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*04/15/22 07:59*	*04/21/22 03:47*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*04/15/22 07:59*	*04/21/22 03:47*	*1*
Phenol-d5 (Surr)	*82*		*54 - 120*	*04/15/22 07:59*	*04/21/22 03:47*	*1*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*04/15/22 07:59*	*04/21/22 03:47*	*1*

Client Sample ID: PZ-2022-5 (26-30)
Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1
Matrix: Solid
Percent Solids: 96.0

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.33	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
4,4'-DDT	~~0.95~~ ~~J B~~ 1.7		1.7	U 0.40	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Aldrin	ND		1.7	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
alpha-BHC	ND		1.7	0.30	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
beta-BHC	ND		1.7	0.30	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Chlorobenzilate	ND		17	5.7	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
cis-Chlordane	ND		1.7	0.84	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
delta-BHC	ND		1.7	0.31	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Dieldrin	ND		1.7	0.41	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Endosulfan I	ND		1.7	0.32	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Endosulfan II	ND		1.7	0.30	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Endrin	ND		1.7	0.33	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Endrin aldehyde	**0.44**	**J**	1.7	0.43	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Endrin ketone	ND		1.7	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
gamma-BHC (Lindane)	ND		1.7	0.31	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Heptachlor	ND		1.7	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Heptachlor epoxide	ND		1.7	0.44	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
Toxaphene	ND		17	9.8	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1
trans-Chlordane	ND		1.7	0.54	ug/Kg	☼	04/14/22 15:21	04/18/22 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*72*		*45 - 120*	*04/14/22 15:21*	*04/18/22 14:50*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*04/14/22 15:21*	*04/18/22 14:50*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.19	0.036	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1
PCB-1221	ND		0.19	0.036	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1
PCB-1232	ND		0.19	0.036	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1
PCB-1242	ND		0.19	0.036	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1
PCB-1248	ND		0.19	0.036	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1
PCB-1254	ND		0.19	0.087	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1
PCB-1260	ND		0.19	0.087	mg/Kg	☼	04/14/22 15:32	04/19/22 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*102*		*65 - 174*	*04/14/22 15:32*	*04/19/22 03:33*	*1*
Tetrachloro-m-xylene	*113*		*60 - 154*	*04/14/22 15:32*	*04/19/22 03:33*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.5	ug/Kg	☼	04/15/22 07:55	04/21/22 18:23	1
2,4-D	ND		17	11	ug/Kg	☼	04/15/22 07:55	04/21/22 18:23	1
Silvex (2,4,5-TP)	ND		17	6.2	ug/Kg	☼	04/15/22 07:55	04/21/22 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*53*		*28 - 129*	*04/15/22 07:55*	*04/21/22 18:23*	*1*

Client Sample ID: PZ-2022-5 (26-30)

Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1

Matrix: Solid
Percent Solids: 96.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1
Disulfoton	ND		34	23	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1
Famphur	ND		34	18	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1
Methyl parathion	ND		34	19	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1
Ethyl Parathion	ND		34	19	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1
Phorate	ND		34	12	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1
Sulfotepp	ND		34	13	ug/Kg	☼	04/19/22 08:59	04/20/22 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*20 - 135*	*04/19/22 08:59*	*04/20/22 16:35*	*1*
Tributyl phosphate	*86*		*20 - 135*	*04/19/22 08:59*	*04/20/22 16:35*	*1*
Triphenylphosphate	*90*		*33 - 168*	*04/19/22 08:59*	*04/20/22 16:35*	*1*
Triphenylphosphate	*92*		*33 - 168*	*04/19/22 08:59*	*04/20/22 16:35*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.40~~	~~J B~~ 5.0	5.0	U	0.012	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,4,6,7,8-HpCDF	~~0.20~~	~~J I B~~ 5.0	5.0	U	0.0018	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,4,7,8,9-HpCDF	0.12	~~J I B~~ JNX	5.0		0.0023	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,4,7,8-HxCDD	~~0.063~~	~~J B~~	5.0	U	0.0038	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,4,7,8-HxCDF	~~0.16~~	~~J I B~~	5.0	U	0.0066	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,6,7,8-HxCDD	0.091	~~J I~~ JNX	5.0		0.0040	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,6,7,8-HxCDF	~~0.084~~	~~J I B~~ 5.0	5.0	U	0.0066	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,7,8,9-HxCDD	~~0.083~~	~~J I B~~	5.0		0.0037	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,7,8,9-HxCDF	~~0.084~~	~~J I B~~	5.0		0.0069	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,7,8-PeCDD	~~0.072~~	~~J I B~~	5.0		0.0051	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
1,2,3,7,8-PeCDF	~~0.080~~	~~J I B~~	5.0		0.0036	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
2,3,4,6,7,8-HxCDF	~~0.091~~	~~J I B~~	5.0		0.0064	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
2,3,4,7,8-PeCDF	~~0.12~~	~~J B~~	5.0		0.0027	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
2,3,7,8-TCDD	0.063	~~J I~~ JNX	1.0		0.0049	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
2,3,7,8-TCDF	ND		1.0		0.0034	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
OCDD	7.0	~~J B~~	10		0.015	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
OCDF	~~0.59~~	~~J I B~~ 10	10	U	0.0031	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total HpCDD	~~0.40~~	~~J B~~ 5.0	5.0		0.012	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total HpCDF	~~0.32~~	~~J I B~~	5.0		0.0021	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total HxCDD	~~0.24~~	~~J I B~~	5.0		0.0038	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total HxCDF	~~0.42~~	~~J I B~~	5.0		0.0066	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total PeCDD	~~0.072~~	~~J I B~~	5.0		0.0051	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total PeCDF	~~0.20~~	~~J I B~~	5.0		0.0032	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total TCDD	0.063	~~J I~~ JNX	1.0		0.0049	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1
Total TCDF	ND		1.0		0.0034	ng/Kg	☼	04/20/22 15:07	04/21/22 18:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*78*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,4,7,8-HxCDF	*71*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,6,7,8-HxCDF	*71*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*
13C-1,2,3,7,8,9-HxCDD	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 18:45*	*1*

Client Sample ID: PZ-2022-5 (26-30)

Date Collected: 04/13/22 08:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-1

Matrix: Solid
Percent Solids: 96.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	75		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-1,2,3,7,8-PeCDD	79		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-1,2,3,7,8-PeCDF	72		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-2,3,4,6,7,8-HxCDF	71		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-2,3,4,7,8-PeCDF	74		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-2,3,7,8-TCDD	72		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-2,3,7,8-TCDF	71		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-OCDD	78		40 - 135	04/20/22 15:07	04/21/22 18:45	1
13C-OCDF	78		40 - 135	04/20/22 15:07	04/21/22 18:45	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	15.6	0.42	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Arsenic	**1.9**	**J**	2.1	0.42	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Barium	**13.4**		0.52	0.11	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Beryllium	**0.18**	**J**	0.21	0.029	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Cadmium	**0.099**	**J**	0.21	0.031	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Chromium	**3.8**		0.52	0.21	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Cobalt	**5.3**		0.52	0.052	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Copper	**5.4**		1.0	0.22	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Lead	**4.8**		1.0	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Nickel	**7.7**		5.2	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Selenium	ND		4.2	0.42	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Silver	ND		0.62	0.21	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Thallium	ND		6.2	0.31	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Tin	ND		2.1	0.45	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Vanadium	**5.0**		0.52	0.11	mg/Kg	☼	04/22/22 16:08	04/27/22 19:25	1
Zinc	**24.2**		2.1	0.66	mg/Kg	☼	04/22/22 16:08	04/28/22 14:02	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	UJ	0.020	0.0046	mg/Kg	☼	04/19/22 11:13	04/19/22 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~F1~~	~~1.0~~	~~0.50~~	~~mg/Kg~~	~~☼~~	~~04/21/22 14:35~~	~~04/21/22 14:53~~	~~1~~ R

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		17.9	10.2	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: FB_041322

Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			04/15/22 18:39	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/15/22 18:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/15/22 18:39	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/15/22 18:39	1

Client Sample ID: FB_041322
Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/15/22 18:39	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/15/22 18:39	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			04/15/22 18:39	1
1,2-Dibromo-3-Chloropropane	ND	*+ UJ	1.0	0.39	ug/L			04/15/22 18:39	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/15/22 18:39	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/15/22 18:39	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/15/22 18:39	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			04/15/22 18:39	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			04/15/22 18:39	1 R
2-Hexanone	ND	*+ UJ	5.0	1.2	ug/L			04/15/22 18:39	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			04/15/22 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/15/22 18:39	1
Acetone	**3.7**	**J**	10	3.0	ug/L			04/15/22 18:39	1
Acetonitrile	ND	UJ	15	4.9	ug/L			04/15/22 18:39	1
Acrolein	ND		20	0.91	ug/L			04/15/22 18:39	1
Acrylonitrile	ND		5.0	0.83	ug/L			04/15/22 18:39	1
Benzene	ND		1.0	0.41	ug/L			04/15/22 18:39	1
Bromoform	ND	*+ UJ	1.0	0.26	ug/L			04/15/22 18:39	1
Bromomethane	ND		1.0	0.69	ug/L			04/15/22 18:39	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/15/22 18:39	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/15/22 18:39	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/15/22 18:39	1
Chlorodibromomethane	ND	*+ UJ	1.0	0.32	ug/L			04/15/22 18:39	1
Chloroethane	ND		1.0	0.32	ug/L			04/15/22 18:39	1
Chloroform	ND		1.0	0.34	ug/L			04/15/22 18:39	1
Chloromethane	ND		1.0	0.35	ug/L			04/15/22 18:39	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/15/22 18:39	1
Dibromomethane	ND		1.0	0.41	ug/L			04/15/22 18:39	1
Dichlorobromomethane	ND	*+	1.0	0.39	ug/L			04/15/22 18:39	1
Dichlorodifluoromethane	ND	UJ	1.0	0.68	ug/L			04/15/22 18:39	1
Ethyl methacrylate	ND	*+	1.0	0.59	ug/L			04/15/22 18:39	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/15/22 18:39	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			04/15/22 18:39	1
Iodomethane	ND		1.0	0.30	ug/L			04/15/22 18:39	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			04/15/22 18:39	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			04/15/22 18:39	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/15/22 18:39	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			04/15/22 18:39	1
o-Xylene	ND		1.0	0.76	ug/L			04/15/22 18:39	1
Propionitrile	ND	UJ	10	5.8	ug/L			04/15/22 18:39	1
Styrene	ND		1.0	0.73	ug/L			04/15/22 18:39	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/15/22 18:39	1
Toluene	ND		1.0	0.51	ug/L			04/15/22 18:39	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/15/22 18:39	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/15/22 18:39	1
trans-1,4-Dichloro-2-butene	ND	UJ	1.0	0.22	ug/L			04/15/22 18:39	1
Trichloroethene	ND		1.0	0.46	ug/L			04/15/22 18:39	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/15/22 18:39	1
Vinyl acetate	ND		5.0	0.85	ug/L			04/15/22 18:39	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196779-1

Client Sample ID: FB_041322
Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0	0.90	ug/L			04/15/22 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*04/15/22 18:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*04/15/22 18:39*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*04/15/22 18:39*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*04/15/22 18:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.2	0.60	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,2,4-Trichlorobenzene	ND		10	0.46	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,2-Dichlorobenzene	ND		10	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,2-Diphenylhydrazine	ND		10	0.36	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,3,5-Trinitrobenzene	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,3-Dichlorobenzene	ND		10	0.50	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,3-Dinitrobenzene	ND		21	0.85	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,4-Dioxane	ND		10	1.1	ug/L		04/15/22 09:13	04/19/22 01:33	1
1,4-Naphthoquinone	ND		10	0.25	ug/L		04/15/22 09:13	04/19/22 01:33	1
1-Naphthylamine	ND		10	1.4	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,3,4,6-Tetrachlorophenol	ND		5.2	0.33	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,4,5-Trichlorophenol	ND		5.2	0.50	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,4,6-Trichlorophenol	ND		5.2	0.64	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,4-Dichlorophenol	ND		5.2	0.53	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,4-Dimethylphenol	ND		5.2	0.52	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,4-Dinitrophenol	ND		10	2.3	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,4-Dinitrotoluene	ND		5.2	0.47	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,6-Dichlorophenol	ND		10	0.48	ug/L		04/15/22 09:13	04/19/22 01:33	1
2,6-Dinitrotoluene	ND		5.2	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Acetylaminofluorene	ND		10	2.4	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Chloronaphthalene	ND		5.2	0.48	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Chlorophenol	ND		5.2	0.55	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Methylnaphthalene	ND		5.2	0.63	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Methylphenol	ND		5.2	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Naphthylamine	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Nitroaniline	ND		10	0.44	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Nitrophenol	ND		5.2	0.50	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Picoline	ND		83	1.5	ug/L		04/15/22 09:13	04/19/22 01:33	1
2-Toluidine	ND		10	1.5	ug/L		04/15/22 09:13	04/19/22 01:33	1
3 & 4 Methylphenol	ND		10	0.38	ug/L		04/15/22 09:13	04/19/22 01:33	1
3,3'-Dichlorobenzidine	ND		5.2	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
3,3'-Dimethylbenzidine	ND	UJ	42	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
3-Methylcholanthrene	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
3-Methylphenol	ND		10	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
3-Nitroaniline	ND		10	0.50	ug/L		04/15/22 09:13	04/19/22 01:33	1
4,6-Dinitro-2-methylphenol	ND		10	2.3	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Aminobiphenyl	ND		10	0.84	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Bromophenyl phenyl ether	ND		5.2	0.47	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Chloro-3-methylphenol	**15**		5.2	0.47	ug/L		04/15/22 09:13	04/19/22 01:33	1

Client Sample ID: FB_041322
Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		5.2	0.61	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Chlorophenyl phenyl ether	ND		5.2	0.36	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Methylphenol	ND		10	0.38	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Nitroaniline	ND		10	0.26	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Nitrophenol	ND	UJ	10	1.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
4-Nitroquinoline-1-oxide	ND	UJ	10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.65	ug/L		04/15/22 09:13	04/19/22 01:33	1
a,a-Dimethylphenethylamine	ND	*-	100	41	ug/L		04/15/22 09:13	04/19/22 01:33	1 R
Acenaphthene	ND		5.2	0.43	ug/L		04/15/22 09:13	04/19/22 01:33	1
Acenaphthylene	ND		5.2	0.40	ug/L		04/15/22 09:13	04/19/22 01:33	1
Acetophenone	ND		5.2	0.56	ug/L		04/15/22 09:13	04/19/22 01:33	1
Aniline	ND		10	0.64	ug/L		04/15/22 09:13	04/19/22 01:33	1
Anthracene	ND		5.2	0.29	ug/L		04/15/22 09:13	04/19/22 01:33	1
Aramite, Total	ND		21	1.7	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzidine	ND	UJ	83	2.3	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzo[a]anthracene	ND		5.2	0.38	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzo[a]pyrene	ND		5.2	0.49	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzo[b]fluoranthene	ND		5.2	0.35	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzo[g,h,i]perylene	ND		5.2	0.36	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzo[k]fluoranthene	ND		5.2	0.76	ug/L		04/15/22 09:13	04/19/22 01:33	1
Benzyl alcohol	ND		21	2.1	ug/L		04/15/22 09:13	04/19/22 01:33	1
bis (2-chloroisopropyl) ether	ND		5.2	0.54	ug/L		04/15/22 09:13	04/19/22 01:33	1
Bis(2-chloroethoxy)methane	ND		5.2	0.36	ug/L		04/15/22 09:13	04/19/22 01:33	1
Bis(2-chloroethyl)ether	ND		5.2	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		04/15/22 09:13	04/19/22 01:33	1
Butyl benzyl phthalate	ND		5.2	1.0	ug/L		04/15/22 09:13	04/19/22 01:33	1
Chrysene	ND		5.2	0.34	ug/L		04/15/22 09:13	04/19/22 01:33	1
Diallate	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
Dibenz(a,h)anthracene	ND		5.2	0.44	ug/L		04/15/22 09:13	04/19/22 01:33	1
Dibenzofuran	ND		10	0.53	ug/L		04/15/22 09:13	04/19/22 01:33	1
Diethyl phthalate	ND		5.2	0.23	ug/L		04/15/22 09:13	04/19/22 01:33	1
Dimethoate	ND		10	0.56	ug/L		04/15/22 09:13	04/19/22 01:33	1
Dimethyl phthalate	ND		5.2	0.38	ug/L		04/15/22 09:13	04/19/22 01:33	1
Di-n-butyl phthalate	ND		5.2	0.32	ug/L		04/15/22 09:13	04/19/22 01:33	1
Di-n-octyl phthalate	ND		5.2	0.49	ug/L		04/15/22 09:13	04/19/22 01:33	1
Dinoseb	ND		10	3.1	ug/L		04/15/22 09:13	04/19/22 01:33	1
Diphenylamine	ND		10	0.85	ug/L		04/15/22 09:13	04/19/22 01:33	1
Disulfoton	ND	UJ	10	0.44	ug/L		04/15/22 09:13	04/19/22 01:33	1
Chlorobenzilate	ND		21	0.70	ug/L		04/15/22 09:13	04/19/22 01:33	1
Ethyl methanesulfonate	ND		10	0.41	ug/L		04/15/22 09:13	04/19/22 01:33	1
Famphur	ND		42	2.0	ug/L		04/15/22 09:13	04/19/22 01:33	1
Fluoranthene	ND		5.2	0.42	ug/L		04/15/22 09:13	04/19/22 01:33	1
Fluorene	ND		5.2	0.38	ug/L		04/15/22 09:13	04/19/22 01:33	1
Hexachlorobenzene	ND		5.2	0.53	ug/L		04/15/22 09:13	04/19/22 01:33	1
Hexachlorobutadiene	ND		5.2	0.71	ug/L		04/15/22 09:13	04/19/22 01:33	1
Hexachlorocyclopentadiene	ND		5.2	0.61	ug/L		04/15/22 09:13	04/19/22 01:33	1
Hexachloroethane	ND		5.2	0.61	ug/L		04/15/22 09:13	04/19/22 01:33	1
Hexachloropropene	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
Indeno[1,2,3-cd]pyrene	ND		5.2	0.49	ug/L		04/15/22 09:13	04/19/22 01:33	1

Client Sample ID: FB_041322

Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		10	0.19	ug/L		04/15/22 09:13	04/19/22 01:33	1
Isophorone	ND		5.2	0.45	ug/L		04/15/22 09:13	04/19/22 01:33	1
Isosafrole	ND		10	0.60	ug/L		04/15/22 09:13	04/19/22 01:33	1
Kepone	ND	*- UJ	52	1.9	ug/L		04/15/22 09:13	04/19/22 01:33	1
Methapyrilene	ND	*- UJ	52	1.9	ug/L		04/15/22 09:13	04/19/22 01:33	1
Methyl methanesulfonate	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
Naphthalene	ND		5.2	0.79	ug/L		04/15/22 09:13	04/19/22 01:33	1
Nitrobenzene	ND		5.2	0.30	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitro-o-toluidine	ND		10	0.68	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosodiethylamine	ND		10	0.38	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosodimethylamine	ND	UJ	10	2.3	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosodi-n-butylamine	ND		10	0.63	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosodi-n-propylamine	ND		5.2	0.56	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosodiphenylamine	ND		5.2	0.53	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosomethylethylamine	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosomorpholine	ND	UJ	10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosopiperidine	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
N-Nitrosopyrrolidine	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
o,o',o''-Triethylphosphorothioate	ND		10	0.45	ug/L		04/15/22 09:13	04/19/22 01:33	1
Ethyl Parathion	ND		10	0.67	ug/L		04/15/22 09:13	04/19/22 01:33	1
Methyl parathion	ND		10	0.39	ug/L		04/15/22 09:13	04/19/22 01:33	1
p-Dimethylamino azobenzene	ND		10	0.78	ug/L		04/15/22 09:13	04/19/22 01:33	1
Pentachlorobenzene	ND		10	0.55	ug/L		04/15/22 09:13	04/19/22 01:33	1
Pentachloronitrobenzene	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
Pentachlorophenol	ND		10	2.3	ug/L		04/15/22 09:13	04/19/22 01:33	1
Phenacetin	ND		10	0.64	ug/L		04/15/22 09:13	04/19/22 01:33	1
Phenanthrene	ND		5.2	0.46	ug/L		04/15/22 09:13	04/19/22 01:33	1
Phenol	ND		5.2	0.41	ug/L		04/15/22 09:13	04/19/22 01:33	1
Phorate	ND	UJ	10	0.52	ug/L		04/15/22 09:13	04/19/22 01:33	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~830~~	~~210~~	~~ug/L~~		~~04/15/22 09:13~~	~~04/19/22 01:33~~	~~1~~ R
Pronamide	ND		10	2.6	ug/L		04/15/22 09:13	04/19/22 01:33	1
Pyrene	ND		5.2	0.35	ug/L		04/15/22 09:13	04/19/22 01:33	1
Pyridine	ND		26	0.43	ug/L		04/15/22 09:13	04/19/22 01:33	1
Safrole	ND		10	0.48	ug/L		04/15/22 09:13	04/19/22 01:33	1
Sulfotepp	ND	UJ	10	0.67	ug/L		04/15/22 09:13	04/19/22 01:33	1
Thionazin	ND		10	0.40	ug/L		04/15/22 09:13	04/19/22 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*65*		*41 - 120*	*04/15/22 09:13*	*04/19/22 01:33*	*1*
2-Fluorobiphenyl (Surr)	*88*		*48 - 120*	*04/15/22 09:13*	*04/19/22 01:33*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 120*	*04/15/22 09:13*	*04/19/22 01:33*	*1*
Nitrobenzene-d5 (Surr)	*76*		*46 - 120*	*04/15/22 09:13*	*04/19/22 01:33*	*1*
Phenol-d5 (Surr)	*51*		*22 - 120*	*04/15/22 09:13*	*04/19/22 01:33*	*1*
p-Terphenyl-d14 (Surr)	*96*		*60 - 148*	*04/15/22 09:13*	*04/19/22 01:33*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		04/14/22 14:51	04/15/22 19:11	1
4,4'-DDE	ND		0.050	0.012	ug/L		04/14/22 14:51	04/15/22 19:11	1
4,4'-DDT	~~0.019~~ ~~J *+~~ 0.050		0.050	U 0.011	ug/L		04/14/22 14:51	04/15/22 19:11	1

Client Sample ID: FB_041322

Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.050	0.0081	ug/L		04/14/22 14:51	04/15/22 19:11	1
alpha-BHC	ND		0.050	0.0077	ug/L		04/14/22 14:51	04/15/22 19:11	1
beta-BHC	ND	*+	0.050	0.025	ug/L		04/14/22 14:51	04/15/22 19:11	1
Chlordane (technical)	ND		0.50	0.29	ug/L		04/14/22 14:51	04/15/22 19:11	1
Chlorobenzilate	ND		5.0	0.090	ug/L		04/14/22 14:51	04/15/22 19:11	1
cis-Chlordane	ND		0.050	0.015	ug/L		04/14/22 14:51	04/15/22 19:11	1
delta-BHC	ND		0.050	0.010	ug/L		04/14/22 14:51	04/15/22 19:11	1
Dieldrin	ND		0.050	0.0098	ug/L		04/14/22 14:51	04/15/22 19:11	1
Endosulfan I	ND		0.050	0.011	ug/L		04/14/22 14:51	04/15/22 19:11	1
Endosulfan II	ND		0.050	0.012	ug/L		04/14/22 14:51	04/15/22 19:11	1
Endosulfan sulfate	ND	*+	0.050	0.016	ug/L		04/14/22 14:51	04/15/22 19:11	1
Endrin	ND		0.050	0.014	ug/L		04/14/22 14:51	04/15/22 19:11	1
Endrin aldehyde	**0.028**	**J B**	0.050	0.016	ug/L		04/14/22 14:51	04/15/22 19:11	1
Endrin ketone	ND		0.050	0.012	ug/L		04/14/22 14:51	04/15/22 19:11	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		04/14/22 14:51	04/15/22 19:11	1
Heptachlor	ND	*+ UJ	0.050	0.0085	ug/L		04/14/22 14:51	04/15/22 19:11	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		04/14/22 14:51	04/15/22 19:11	1
Methoxychlor	ND		0.050	0.014	ug/L		04/14/22 14:51	04/15/22 19:11	1
Toxaphene	ND		0.50	0.12	ug/L		04/14/22 14:51	04/15/22 19:11	1
trans-Chlordane	ND		0.050	0.011	ug/L		04/14/22 14:51	04/15/22 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*37*		*20 - 120*	*04/14/22 14:51*	*04/15/22 19:11*	*1*
Tetrachloro-m-xylene	*76*		*44 - 120*	*04/14/22 14:51*	*04/15/22 19:11*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		04/18/22 15:44	04/19/22 16:24	1
PCB-1221	ND		0.50	0.18	ug/L		04/18/22 15:44	04/19/22 16:24	1
PCB-1232	ND		0.50	0.18	ug/L		04/18/22 15:44	04/19/22 16:24	1
PCB-1242	ND		0.50	0.18	ug/L		04/18/22 15:44	04/19/22 16:24	1
PCB-1248	ND		0.50	0.18	ug/L		04/18/22 15:44	04/19/22 16:24	1
PCB-1254	ND		0.50	0.25	ug/L		04/18/22 15:44	04/19/22 16:24	1
PCB-1260	ND		0.50	0.25	ug/L		04/18/22 15:44	04/19/22 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*92*		*39 - 121*	*04/18/22 15:44*	*04/19/22 16:24*	*1*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*04/18/22 15:44*	*04/19/22 16:24*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		04/15/22 09:25	04/19/22 09:30	1
2,4-D	ND		0.48	0.16	ug/L		04/15/22 09:25	04/19/22 09:30	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		04/15/22 09:25	04/19/22 09:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*101*		*48 - 132*	*04/15/22 09:25*	*04/19/22 09:30*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	0.94	0.25	ug/L		04/21/22 07:40	04/25/22 15:50	1

Client Sample ID: FB_041322

Date Collected: 04/13/22 09:30
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-2

Matrix: Water

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND	H UJ	0.94	0.38	ug/L		04/21/22 07:40	04/25/22 15:50	1
Famphur	ND	H	0.94	0.30	ug/L		04/21/22 07:40	04/25/22 15:50	1
Methyl parathion	ND	H	0.94	0.32	ug/L		04/21/22 07:40	04/25/22 15:50	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		04/21/22 07:40	04/25/22 15:50	1
Phorate	ND	H	0.94	0.36	ug/L		04/21/22 07:40	04/25/22 15:50	1
Sulfotepp	ND	H	0.94	0.38	ug/L		04/21/22 07:40	04/25/22 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*82*		*25 - 127*	*04/21/22 07:40*	*04/25/22 15:50*	*1*
Tributyl phosphate	*81*		*25 - 127*	*04/21/22 07:40*	*04/25/22 15:50*	*1*
Triphenylphosphate	*87*		*70 - 155*	*04/21/22 07:40*	*04/25/22 15:50*	*1*
Triphenylphosphate	*91*		*70 - 155*	*04/21/22 07:40*	*04/25/22 15:50*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		04/18/22 10:15	04/20/22 00:11	1
Arsenic	ND		0.015	0.0056	mg/L		04/18/22 10:15	04/20/22 00:11	1
Barium	ND		0.0020	0.00070	mg/L		04/18/22 10:15	04/20/22 00:11	1
Beryllium	ND		0.0020	0.00030	mg/L		04/18/22 10:15	04/20/22 00:11	1
Cadmium	ND		0.0020	0.00050	mg/L		04/18/22 10:15	04/20/22 00:11	1
Chromium	ND		0.0040	0.0010	mg/L		04/18/22 10:15	04/20/22 00:11	1
Cobalt	ND		0.0040	0.00063	mg/L		04/18/22 10:15	04/20/22 00:11	1
Copper	ND		0.010	0.0016	mg/L		04/18/22 10:15	04/20/22 00:11	1
Lead	ND		0.010	0.0030	mg/L		04/18/22 10:15	04/20/22 00:11	1
Nickel	ND		0.010	0.0013	mg/L		04/18/22 10:15	04/20/22 00:11	1
Selenium	ND		0.025	0.0087	mg/L		04/18/22 10:15	04/20/22 00:11	1
Silver	ND		0.0060	0.0017	mg/L		04/18/22 10:15	04/20/22 00:11	1
Thallium	ND		0.020	0.010	mg/L		04/18/22 10:15	04/20/22 00:11	1
Tin	ND		0.010	0.0051	mg/L		04/18/22 10:15	04/22/22 20:56	1
Vanadium	ND		0.0050	0.0015	mg/L		04/18/22 10:15	04/20/22 00:11	1
Zinc	ND		0.010	0.0015	mg/L		04/18/22 10:15	04/20/22 00:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		04/25/22 10:55	04/25/22 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		04/21/22 10:45	04/21/22 12:23	1
Sulfide	ND		1.0	0.67	mg/L			04/14/22 16:01	1

Client Sample ID: MW-2022-4 (12-16)

Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3

Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.76	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1

Client Sample ID: MW-2022-4 (12-16)
Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3
Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		4.7	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,1-Dichloroethane	ND		4.7	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,1-Dichloroethene	ND		4.7	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,2,3-Trichloropropane	ND		4.7	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,2-Dichloroethane	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
1,2-Dichloropropane	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
2-Chloro-1,3-butadiene	ND	UJ	4.7	2.9	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
2-Chloroethyl vinyl ether	ND	UJ	9.4	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
3-Chloro-1-propene	ND		4.7	2.2	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Acetone	ND		23	3.9	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Acetonitrile	ND	UJ	47	5.7	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Acrolein	ND		23	7.4	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Acrylonitrile	ND		23	4.2	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Benzene	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Bromoform	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Bromomethane	ND		4.7	0.42	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Carbon disulfide	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Carbon tetrachloride	ND		4.7	0.45	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Chlorobenzene	ND		4.7	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Chlorodibromomethane	ND		4.7	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Chloroform	ND		4.7	0.29	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Chloromethane	ND		4.7	0.28	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
cis-1,3-Dichloropropene	ND		4.7	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Dibromomethane	ND		4.7	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Dichlorobromomethane	ND		4.7	0.63	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Ethylbenzene	ND		4.7	0.32	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Ethylene Dibromide	ND		4.7	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Methacrylonitrile	ND	UJ	23	5.5	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Methyl methacrylate	ND	UJ	4.7	0.98	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Methylene Chloride	ND		4.7	2.2	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
m-Xylene & p-Xylene	ND		9.4	0.79	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
o-Xylene	ND		4.7	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Propionitrile	ND	UJ	47	26	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Styrene	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Tetrachloroethene	ND		4.7	0.63	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Toluene	ND		4.7	0.35	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
trans-1,2-Dichloroethene	ND		4.7	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Trichlorofluoromethane	ND		4.7	0.44	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1

Client Sample ID: MW-2022-4 (12-16)
Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3
Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		9.4	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1
Vinyl chloride	ND		4.7	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*64 - 126*	*04/14/22 12:00*	*04/14/22 16:45*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/14/22 12:00*	*04/14/22 16:45*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*04/14/22 12:00*	*04/14/22 16:45*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*04/14/22 12:00*	*04/14/22 16:45*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,3,5-Trinitrobenzene	ND	~~F2~~ UJ	390	16	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,3-Dichlorobenzene	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,4-Dichlorobenzene	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1,4-Naphthoquinone	ND		390	73	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
1-Naphthylamine	ND	~~*-F2~~ UJ	390	130	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,4-Dinitrophenol	ND		1900	920	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,6-Dichlorophenol	ND		390	73	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Acetylaminofluorene	ND	~~F2~~ UJ	390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Chlorophenol	ND		390	36	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Naphthylamine	ND	~~*~~ UJ	390	130	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Picoline	ND		390	45	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
2-Toluidine	ND		390	95	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
3 & 4 Methylphenol	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
3,3'-Dichlorobenzidine	ND		390	230	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
3,3'-Dimethylbenzidine	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
3-Methylcholanthrene	ND		390	64	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
3-Methylphenol	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Aminobiphenyl	ND	~~*~~ UJ	390	81	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1

Client Sample ID: MW-2022-4 (12-16)

Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3

Matrix: Solid
Percent Solids: 84.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Methylphenol	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Nitroaniline	ND		390	100	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Nitrophenol	ND	F2	390	140	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
4-Nitroquinoline-1-oxide	ND	F2	770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
7,12-Dimethylbenz(a)anthracene	ND		390	57	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
a,a-Dimethylphenethylamine	ND	* F1	390	390	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Acenaphthene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Acetophenone	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Aniline	ND		390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Anthracene	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Aramite, Total	ND		390	190	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzidine	ND	F1	5900	2500	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Bis(2-ethylhexyl) phthalate	ND		200	68	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Chrysene	ND		200	45	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Diallate	ND		390	49	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Diethyl phthalate	ND	F2	200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Dimethoate	ND	F2	390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Dinoseb	ND		390	69	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Diphenylamine	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Disulfoton	ND		390	290	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Chlorobenzilate	ND	F2	390	62	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Ethyl methanesulfonate	ND		390	86	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Famphur	ND	* F2	770	190	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Fluoranthene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Fluorene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Hexachloropropene	ND		390	98	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1

UJ
UJ
R
R
UJ
UJ
UJ
R

Client Sample ID: MW-2022-4 (12-16)

Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3

Matrix: Solid
Percent Solids: 84.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Isodrin	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Isophorone	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Isosafrole	ND		390	52	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Kepone	ND	F2 UJ	770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Methyl methanesulfonate	ND		390	89	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Naphthalene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitro-o-toluidine	ND	F2 UJ	390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosodiethylamine	ND		390	90	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosodimethylamine	ND		390	84	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosomethylethylamine	ND		390	89	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosomorpholine	ND		390	87	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosopiperidine	ND		390	78	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
o,o',o''-Triethylphosphorothioate	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Ethyl Parathion	ND		390	43	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Methyl parathion	ND		390	67	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Pentachlorobenzene	ND		390	81	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Pentachloronitrobenzene	ND		390	98	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Phenacetin	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Phenol	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Phorate	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
p-Phenylene diamine	ND	* F1	940	390	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1 R
Pronamide	ND		390	76	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Pyrene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Pyridine	ND		390	28	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Safrole	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Sulfotepp	ND		390	62	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1
Thionazin	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*54 - 120*	*04/15/22 07:59*	*04/21/22 00:57*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*04/15/22 07:59*	*04/21/22 00:57*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*04/15/22 07:59*	*04/21/22 00:57*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*	*04/15/22 07:59*	*04/21/22 00:57*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*04/15/22 07:59*	*04/21/22 00:57*	*1*
p-Terphenyl-d14 (Surr)	*97*		*79 - 130*	*04/15/22 07:59*	*04/21/22 00:57*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
4,4'-DDE	ND		1.9	0.40	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1

Client Sample ID: MW-2022-4 (12-16)

Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3

Matrix: Solid
Percent Solids: 84.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	~~1.1~~ J B 1.9		1.9	0.45 U	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Aldrin	ND		1.9	0.47	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
cis-Chlordane	ND		1.9	0.96	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Endrin ketone	ND		1.9	0.47	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Methoxychlor	ND		1.9	0.39	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
Toxaphene	ND		19	11	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1
trans-Chlordane	ND		1.9	0.61	ug/Kg	☼	04/14/22 15:21	04/18/22 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*69*		*45 - 120*	*04/14/22 15:21*	*04/18/22 15:09*	*1*
Tetrachloro-m-xylene	*76*		*30 - 124*	*04/14/22 15:21*	*04/18/22 15:09*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.044	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1
PCB-1221	ND		0.22	0.044	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1
PCB-1232	ND		0.22	0.044	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1
PCB-1242	ND		0.22	0.044	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1
PCB-1248	ND		0.22	0.044	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*04/14/22 15:32*	*04/19/22 03:47*	*1*
Tetrachloro-m-xylene	*114*		*60 - 154*	*04/14/22 15:32*	*04/19/22 03:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	04/15/22 07:55	04/21/22 18:52	1
2,4-D	ND		20	12	ug/Kg	☼	04/15/22 07:55	04/21/22 18:52	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	04/15/22 07:55	04/21/22 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*28 - 129*	*04/15/22 07:55*	*04/21/22 18:52*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196779-1

Client Sample ID: MW-2022-4 (12-16)
Date Collected: 04/13/22 11:55
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-3
Matrix: Solid
Percent Solids: 84.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1
Disulfoton	ND		39	26	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1
Famphur	ND		39	21	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1
Methyl parathion	ND		39	22	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1
Phorate	ND		39	13	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1
Sulfotepp	ND		39	15	ug/Kg	☼	04/19/22 08:59	04/20/22 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*20 - 135*	*04/19/22 08:59*	*04/20/22 17:06*	*1*
Tributyl phosphate	*83*		*20 - 135*	*04/19/22 08:59*	*04/20/22 17:06*	*1*
Triphenylphosphate	*85*		*33 - 168*	*04/19/22 08:59*	*04/20/22 17:06*	*1*
Triphenylphosphate	*87*		*33 - 168*	*04/19/22 08:59*	*04/20/22 17:06*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.14~~ ~~J I B~~ 5.8		5.8 U	0.013	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,4,6,7,8-HpCDF	~~0.056~~ ~~J B~~ 5.8		5.8 U	0.0022	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,4,7,8,9-HpCDF	ND		5.8	0.0028	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,4,7,8-HxCDD	~~0.057~~ ~~J I B~~ 5.8		5.8 U	0.0032	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,4,7,8-HxCDF	~~0.072~~ ~~J I B~~ 5.8		5.8 U	0.0076	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,6,7,8-HxCDD	0.070 ~~J I~~ JNX		5.8	0.0031	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,6,7,8-HxCDF	~~0.077~~ ~~J I B~~ 5.8		5.8 U	0.0080	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,7,8,9-HxCDD	~~0.091~~ ~~J I B~~ ↓		5.8 ↓	0.0033	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,7,8,9-HxCDF	~~0.054~~ ~~J B~~ ↓		5.8 ↓	0.0086	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,7,8-PeCDD	ND		5.8	0.0083	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
1,2,3,7,8-PeCDF	~~0.11~~ ~~J I B~~ 5.8		5.8 U	0.0043	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
2,3,4,6,7,8-HxCDF	~~0.068~~ ~~J I B~~ ↓		5.8 ↓	0.0072	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
2,3,4,7,8-PeCDF	~~0.026~~ ~~J I B~~ ↓		5.8 ↓	0.0033	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
2,3,7,8-TCDD	ND		1.2	0.0059	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
2,3,7,8-TCDF	0.017 J I B 1.2		1.2 U	0.0040	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
OCDD	1.4 J I B 12		12 ↓	0.0042	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
OCDF	0.057 J I B 12		12 ↓	0.0038	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total HpCDD	0.14 J I B 5.8		5.8 ↓	0.013	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total HpCDF	0.056 J B ↓		5.8 ↓	0.0025	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total HxCDD	0.22 J I B ↓		5.8 ↓	0.0032	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total HxCDF	0.27 J I B ↓		5.8 ↓	0.0079	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total PeCDD	ND		5.8	0.0083	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total PeCDF	~~0.14~~ ~~J I B~~ 5.8		5.8 U	0.0038	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total TCDD	ND		1.2	0.0059	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1
Total TCDF	~~0.017~~ ~~J I B~~ 5.8		1.2 U	0.0040	ng/Kg	☼	04/20/22 15:07	04/21/22 19:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*
13C-1,2,3,7,8,9-HxCDD	*85*		*40 - 135*	*04/20/22 15:07*	*04/21/22 19:33*	*1*

Client Sample ID: MW-2022-4 (12-16)

Lab Sample ID: 480-196779-3

Date Collected: 04/13/22 11:55
Matrix: Solid
Date Received: 04/14/22 10:00
Percent Solids: 84.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	84		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-1,2,3,7,8-PeCDD	85		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-1,2,3,7,8-PeCDF	78		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-2,3,4,6,7,8-HxCDF	82		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-2,3,4,7,8-PeCDF	80		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-2,3,7,8-TCDD	75		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-2,3,7,8-TCDF	77		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-OCDD	85		40 - 135	04/20/22 15:07	04/21/22 19:33	1
13C-OCDF	85		40 - 135	04/20/22 15:07	04/21/22 19:33	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	18.4	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Arsenic	**3.2**		2.5	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Barium	**16.0**		0.61	0.14	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Beryllium	**0.22**	**J**	0.25	0.034	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Cadmium	**0.070**	**J**	0.25	0.037	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Chromium	**4.5**		0.61	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Cobalt	**5.9**		0.61	0.061	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Copper	**6.3**		1.2	0.26	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Lead	**6.6**		1.2	0.30	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Nickel	**10.1**		6.1	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Selenium	ND		4.9	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Silver	ND		0.74	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Thallium	ND		7.4	0.37	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Tin	ND		2.5	0.53	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Vanadium	**5.8**		0.61	0.14	mg/Kg	☼	04/22/22 16:08	04/27/22 19:29	1
Zinc	**29.4**		2.5	0.79	mg/Kg	☼	04/22/22 16:08	04/28/22 14:06	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	UJ	0.023	0.0054	mg/Kg	☼	04/19/22 11:13	04/19/22 13:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.49	mg/Kg	☼	04/18/22 13:57	04/19/22 13:40	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.1	12.0	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: MW-2022-4 (26-30)

Lab Sample ID: 480-196779-4

Date Collected: 04/13/22 14:00
Matrix: Solid
Date Received: 04/14/22 10:00
Percent Solids: 84.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.83	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,1,2-Trichloroethane	ND		5.1	0.66	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1

Client Sample ID: MW-2022-4 (26-30)
Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4
Matrix: Solid
Percent Solids: 84.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.1	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,1-Dichloroethene	ND		5.1	0.63	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,2-Dichloroethane	ND		5.1	0.26	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
1,2-Dichloropropane	ND		5.1	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
2-Chloro-1,3-butadiene	ND	UJ	5.1	3.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
2-Chloroethyl vinyl ether	ND	UJ	10	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
3-Chloro-1-propene	ND		5.1	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Acetone	ND		26	4.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Acetonitrile	ND	UJ	51	6.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Acrolein	ND		26	8.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Benzene	ND		5.1	0.25	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Bromoform	ND		5.1	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Carbon disulfide	ND		5.1	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Carbon tetrachloride	ND		5.1	0.49	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Chlorobenzene	ND		5.1	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Chlorodibromomethane	ND		5.1	0.65	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Chloroethane	ND		5.1	1.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Chloroform	**0.50**	**J**	5.1	0.32	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
cis-1,3-Dichloropropene	ND		5.1	0.74	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Dibromomethane	ND		5.1	0.53	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Dichlorobromomethane	ND		5.1	0.68	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Ethyl methacrylate	ND		5.1	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Ethylene Dibromide	ND		5.1	0.66	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Methacrylonitrile	ND	UJ	26	6.0	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Methyl methacrylate	ND	UJ	5.1	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Methylene Chloride	ND		5.1	2.4	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
m-Xylene & p-Xylene	ND		10	0.86	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
o-Xylene	ND		5.1	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Propionitrile	ND	UJ	51	29	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Styrene	ND		5.1	0.26	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Tetrachloroethene	ND		5.1	0.69	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Toluene	ND		5.1	0.39	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
trans-1,2-Dichloroethene	ND		5.1	0.53	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
trans-1,3-Dichloropropene	ND		5.1	2.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
trans-1,4-Dichloro-2-butene	ND		5.1	1.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Trichlorofluoromethane	ND		5.1	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1

Client Sample ID: MW-2022-4 (26-30)
Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4
Matrix: Solid
Percent Solids: 84.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.1	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*04/14/22 12:00*	*04/14/22 17:09*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/14/22 12:00*	*04/14/22 17:09*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*04/14/22 12:00*	*04/14/22 17:09*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*04/14/22 12:00*	*04/14/22 17:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,3-Dichlorobenzene	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,4-Dichlorobenzene	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1,4-Naphthoquinone	ND		390	72	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
1-Naphthylamine	ND	UJ	390	130	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,4-Dinitrophenol	ND		1900	920	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,6-Dichlorophenol	ND		390	72	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Acetylaminofluorene	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Chlorophenol	ND		390	36	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Naphthylamine	ND	UJ	390	130	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Picoline	ND		390	44	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
2-Toluidine	ND		390	95	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
3 & 4 Methylphenol	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
3,3'-Dichlorobenzidine	ND		390	230	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
3,3'-Dimethylbenzidine	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
3-Methylcholanthrene	ND		390	64	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
3-Methylphenol	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Aminobiphenyl	ND	UJ	390	81	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1

Client Sample ID: MW-2022-4 (26-30)

Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4

Matrix: Solid
Percent Solids: 84.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Methylphenol	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Nitroaniline	ND		390	100	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
4-Nitroquinoline-1-oxide	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
7,12-Dimethylbenz(a)anthracene	ND		390	57	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
a,a-Dimethylphenethylamine	ND	*	390	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1 R
Acenaphthene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Acetophenone	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Aniline	ND		390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Anthracene	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Aramite, Total	ND		390	190	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzidine	ND	UJ	5800	2500	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Bis(2-ethylhexyl) phthalate	ND		200	68	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Chrysene	ND		200	44	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Diallate	ND		390	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Dimethoate	ND		390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Dinoseb	ND		390	69	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Diphenylamine	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Disulfoton	ND		390	290	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Chlorobenzilate	ND		390	62	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Ethyl methanesulfonate	ND		390	85	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Famphur	ND	*	770	190	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1 R
Fluoranthene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Fluorene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Hexachloropropene	ND		390	98	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1

Client Sample ID: MW-2022-4 (26-30)

Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4

Matrix: Solid
Percent Solids: 84.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Isophorone	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Isosafrole	ND		390	51	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Kepone	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Methyl methanesulfonate	ND		390	89	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Naphthalene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitro-o-toluidine	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosodiethylamine	ND		390	90	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosodimethylamine	ND		390	84	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosomethylethylamine	ND		390	89	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosomorpholine	ND		390	86	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosopiperidine	ND		390	78	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
N-Nitrosopyrrolidine	ND		390	58	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
o,o',o''-Triethylphosphorothioate	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Ethyl Parathion	ND		390	43	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Methyl parathion	ND		390	67	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
p-Dimethylamino azobenzene	ND		390	65	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Pentachlorobenzene	ND		390	81	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Pentachloronitrobenzene	ND		390	98	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Phenacetin	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Phenol	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Phorate	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~930~~	~~390~~	~~ug/Kg~~	~~☼~~	~~04/15/22 07:59~~	~~04/21/22 04:12~~	~~1~~ R
Pronamide	ND		390	76	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Pyrene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Pyridine	ND		390	28	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Safrole	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Sulfotepp	ND		390	62	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1
Thionazin	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*72*		*54 - 120*	*04/15/22 07:59*	*04/21/22 04:12*	*1*
2-Fluorobiphenyl (Surr)	*84*		*60 - 120*	*04/15/22 07:59*	*04/21/22 04:12*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*04/15/22 07:59*	*04/21/22 04:12*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*04/15/22 07:59*	*04/21/22 04:12*	*1*
Phenol-d5 (Surr)	*74*		*54 - 120*	*04/15/22 07:59*	*04/21/22 04:12*	*1*
p-Terphenyl-d14 (Surr)	*97*		*79 - 130*	*04/15/22 07:59*	*04/21/22 04:12*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
4,4'-DDT	~~0.94~~ ~~J B~~ 1.9		1.9	U 0.45	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1

Client Sample ID: MW-2022-4 (26-30)
Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4
Matrix: Solid
Percent Solids: 84.7

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
cis-Chlordane	ND		1.9	0.96	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Endrin aldehyde	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Endrin ketone	ND		1.9	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
gamma-BHC (Lindane)	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Methoxychlor	ND		1.9	0.40	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
Toxaphene	ND		19	11	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1
trans-Chlordane	ND		1.9	0.62	ug/Kg	☼	04/14/22 15:21	04/18/22 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*70*		*45 - 120*	*04/14/22 15:21*	*04/18/22 15:29*	*1*
Tetrachloro-m-xylene	*68*		*30 - 124*	*04/14/22 15:21*	*04/18/22 15:29*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1
PCB-1221	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1
PCB-1232	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1
PCB-1242	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1
PCB-1248	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1
PCB-1254	ND		0.21	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1
PCB-1260	ND		0.21	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 04:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*65 - 174*	*04/14/22 15:32*	*04/19/22 04:00*	*1*
Tetrachloro-m-xylene	*106*		*60 - 154*	*04/14/22 15:32*	*04/19/22 04:00*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	04/15/22 07:55	04/21/22 19:22	1
2,4-D	ND		20	12	ug/Kg	☼	04/15/22 07:55	04/21/22 19:22	1
Silvex (2,4,5-TP)	ND		20	7.0	ug/Kg	☼	04/15/22 07:55	04/21/22 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*73*		*28 - 129*	*04/15/22 07:55*	*04/21/22 19:22*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1

Client Sample ID: MW-2022-4 (26-30)
Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4
Matrix: Solid
Percent Solids: 84.7

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		38	25	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1
Famphur	ND		38	20	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1
Methyl parathion	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1
Phorate	ND		38	13	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1
Sulfotepp	ND		38	15	ug/Kg	☼	04/19/22 08:59	04/20/22 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*20 - 135*	*04/19/22 08:59*	*04/20/22 17:38*	*1*
Tributyl phosphate	*83*		*20 - 135*	*04/19/22 08:59*	*04/20/22 17:38*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/19/22 08:59*	*04/20/22 17:38*	*1*
Triphenylphosphate	*91*		*33 - 168*	*04/19/22 08:59*	*04/20/22 17:38*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.18**	**J I B** 5.8	5.8	U	0.0076	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,4,6,7,8-HpCDF	**0.088**	**J B** 5.8	5.8	U	0.0022	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,4,7,8,9-HpCDF	ND		5.8		0.0028	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,4,7,8-HxCDD	**0.017**	**J I B** 5.8	5.8	U	0.0031	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,4,7,8-HxCDF	**0.082**	**J I B** 5.8	5.8	U	0.0048	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,6,7,8-HxCDD	**0.055**	**J I** JNX	5.8		0.0033	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,6,7,8-HxCDF	**0.11**	**J B** 5.8	5.8	U	0.0047	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,7,8,9-HxCDD	**0.038**	**J I B**	5.8		0.0032	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,7,8,9-HxCDF	**0.049**	**J I B**	5.8		0.0050	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,7,8-PeCDD	**0.068**	**J B**	5.8		0.0062	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
1,2,3,7,8-PeCDF	**0.11**	**J B**	5.8		0.0044	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
2,3,4,6,7,8-HxCDF	**0.050**	**J I B**	5.8		0.0044	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
2,3,4,7,8-PeCDF	**0.083**	**J I B**	5.8		0.0035	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
2,3,7,8-TCDD	**0.035**	**J I** JNX	1.2		0.0061	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
2,3,7,8-TCDF	ND		1.2		0.0042	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
OCDD	**1.1**	**J B** 12	12	U	0.0044	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
OCDF	**0.077**	**J I B** 12	12		0.0039	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total HpCDD	**0.18**	**J I B** 5.8	5.8		0.0076	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total HpCDF	**0.088**	**J I B**	5.8		0.0025	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total HxCDD	**0.11**	**J I B**	5.8		0.0032	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total HxCDF	**0.29**	**J I B**	5.8		0.0047	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total PeCDD	**0.068**	**J B**	5.8		0.0062	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total PeCDF	**0.19**	**J I B**	5.8		0.0039	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total TCDD	**0.035**	**J I** JNX	1.2		0.0061	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1
Total TCDF	ND		1.2		0.0042	ng/Kg	☼	04/20/22 15:07	04/21/22 20:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,7,8,9-HxCDD	*84*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*

Client Sample ID: MW-2022-4 (26-30)

Date Collected: 04/13/22 14:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-4

Matrix: Solid
Percent Solids: 84.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-2,3,7,8-TCDF	*75*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-OCDD	*82*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*
13C-OCDF	*83*		*40 - 135*	*04/20/22 15:07*	*04/21/22 20:22*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	17.5	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Arsenic	**2.9**		2.3	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Barium	**13.4**		0.58	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Beryllium	**0.23**		0.23	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Cadmium	**0.051**	**J**	0.23	0.035	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Chromium	**4.6**		0.58	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Cobalt	**7.6**		0.58	0.058	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Copper	**6.1**		1.2	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Lead	**5.7**		1.2	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Nickel	**9.6**		5.8	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Selenium	ND		4.7	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Silver	ND		0.70	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Thallium	ND		7.0	0.35	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Tin	ND		2.3	0.50	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Vanadium	**5.3**		0.58	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:44	1
Zinc	**27.2**		2.3	0.75	mg/Kg	☼	04/22/22 16:08	04/28/22 14:10	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	UJ	0.021	0.0049	mg/Kg	☼	04/19/22 11:13	04/19/22 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.49	mg/Kg	☼	04/18/22 13:57	04/19/22 13:42	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.2	11.5	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: DUP-2-041322

Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5

Matrix: Solid
Percent Solids: 84.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.46	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,1,1-Trichloroethane	ND		4.6	0.34	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,1,2,2-Tetrachloroethane	ND		4.6	0.75	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,1,2-Trichloroethane	ND		4.6	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1

Client Sample ID: DUP-2-041322
Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5
Matrix: Solid
Percent Solids: 84.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.6	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,1-Dichloroethene	ND		4.6	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,2,3-Trichloropropane	ND		4.6	0.47	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,2-Dibromo-3-Chloropropane	ND		4.6	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,2-Dichloroethane	ND		4.6	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
1,2-Dichloropropane	ND		4.6	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
2-Chloro-1,3-butadiene	ND	UJ	4.6	2.9	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
2-Chloroethyl vinyl ether	ND	UJ	9.3	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
3-Chloro-1-propene	ND		4.6	2.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Acetone	~~6.9~~ ~~J~~	23	23	3.9	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Acetonitrile	ND	UJ	46	5.7	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Acrolein	ND		23	7.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Acrylonitrile	ND		23	4.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Benzene	ND		4.6	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Bromoform	ND		4.6	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Bromomethane	ND		4.6	0.42	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Carbon disulfide	ND		4.6	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Carbon tetrachloride	ND		4.6	0.45	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Chlorobenzene	ND		4.6	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Chlorodibromomethane	ND		4.6	0.59	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Chloroethane	ND		4.6	1.0	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Chloroform	0.78	J	4.6	0.29	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Chloromethane	ND		4.6	0.28	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
cis-1,3-Dichloropropene	ND		4.6	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Dibromomethane	ND		4.6	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Dichlorobromomethane	ND		4.6	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Dichlorodifluoromethane	ND		4.6	0.38	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Ethyl methacrylate	ND		4.6	1.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Ethylbenzene	ND		4.6	0.32	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Ethylene Dibromide	ND		4.6	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Iodomethane	ND		4.6	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Methacrylonitrile	ND	UJ	23	5.5	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Methyl methacrylate	ND	UJ	4.6	0.97	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Methylene Chloride	ND		4.6	2.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
m-Xylene & p-Xylene	ND		9.3	0.78	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
o-Xylene	ND		4.6	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Propionitrile	ND	UJ	46	26	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Styrene	ND		4.6	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Tetrachloroethene	ND		4.6	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Toluene	ND		4.6	0.35	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
trans-1,2-Dichloroethene	ND		4.6	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
trans-1,3-Dichloropropene	ND		4.6	2.0	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
trans-1,4-Dichloro-2-butene	ND		4.6	1.0	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Trichloroethene	ND		4.6	1.0	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Trichlorofluoromethane	ND		4.6	0.44	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1
Vinyl acetate	ND		9.3	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1

Client Sample ID: DUP-2-041322
Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5
Matrix: Solid
Percent Solids: 84.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.6	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*04/14/22 12:00*	*04/14/22 17:33*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/14/22 12:00*	*04/14/22 17:33*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/14/22 12:00*	*04/14/22 17:33*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/14/22 12:00*	*04/14/22 17:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,3-Dichlorobenzene	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,4-Dichlorobenzene	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1,4-Naphthoquinone	ND		390	72	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
1-Naphthylamine	ND	*- UJ	390	130	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,4-Dinitrophenol	ND		1900	920	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,6-Dichlorophenol	ND		390	72	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Acetylaminofluorene	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Chlorophenol	ND		390	36	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Naphthylamine	ND	*- UJ	390	130	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Picoline	ND		390	44	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
2-Toluidine	ND		390	95	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
3 & 4 Methylphenol	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
3,3'-Dichlorobenzidine	ND		390	230	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
3,3'-Dimethylbenzidine	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
3-Methylcholanthrene	ND		390	64	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
3-Methylphenol	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
4-Aminobiphenyl	ND	*- UJ	390	81	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1

Client Sample ID: DUP-2-041322
Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5
Matrix: Solid
Percent Solids: 84.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
4-Methylphenol	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
4-Nitroaniline	ND		390	100	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
4-Nitroquinoline-1-oxide	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
7,12-Dimethylbenz(a)anthracene	ND		390	57	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
a,a-Dimethylphenethylamine	ND	*-	390	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	R
Acenaphthene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Acenaphthylene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Acetophenone	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Aniline	ND		390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Anthracene	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Aramite, Total	ND		390	190	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzidine	ND	UJ	5800	2500	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Bis(2-ethylhexyl) phthalate	ND		200	68	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Chrysene	ND		200	44	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Diallate	ND		390	49	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Dibenzofuran	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Dimethoate	ND		390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Dinoseb	ND		390	69	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Diphenylamine	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Disulfoton	ND		390	290	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Chlorobenzilate	ND		390	62	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Ethyl methanesulfonate	ND		390	85	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Famphur	ND	*-	770	190	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	R
Fluoranthene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Fluorene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Hexachloropropene	ND		390	98	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1	

Client Sample ID: DUP-2-041322

Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5

Matrix: Solid
Percent Solids: 84.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Isophorone	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Isosafrole	ND		390	51	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Kepone	ND		770	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Methyl methanesulfonate	ND		390	89	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Naphthalene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitro-o-toluidine	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosodiethylamine	ND		390	90	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosodimethylamine	ND		390	84	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosomethylethylamine	ND		390	89	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosomorpholine	ND		390	86	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosopiperidine	ND		390	78	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
N-Nitrosopyrrolidine	ND		390	58	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
o,o',o''-Triethylphosphorothioate	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Ethyl Parathion	ND		390	43	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Methyl parathion	ND		390	67	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
p-Dimethylamino azobenzene	ND		390	65	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Pentachlorobenzene	ND		390	81	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Pentachloronitrobenzene	ND		390	98	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Phenacetin	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Phenol	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Phorate	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
p-Phenylene diamine	ND	*-	930	390	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1 R
Pronamide	ND		390	76	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Pyrene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Pyridine	ND		390	28	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Safrole	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Sulfotepp	ND		390	62	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1
Thionazin	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 04:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*04/15/22 07:59*	*04/21/22 04:36*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*04/15/22 07:59*	*04/21/22 04:36*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*04/15/22 07:59*	*04/21/22 04:36*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*04/15/22 07:59*	*04/21/22 04:36*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*04/15/22 07:59*	*04/21/22 04:36*	*1*
p-Terphenyl-d14 (Surr)	*109*		*79 - 130*	*04/15/22 07:59*	*04/21/22 04:36*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
4,4'-DDT	~~0.95~~ ~~J B~~ 1.9		1.9	U 0.45	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1

Client Sample ID: DUP-2-041322

Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5

Matrix: Solid
Percent Solids: 84.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
cis-Chlordane	ND		1.9	0.97	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Dieldrin	ND		1.9	0.47	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Endrin aldehyde	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Endrin ketone	ND		1.9	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
gamma-BHC (Lindane)	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Methoxychlor	**1.4**	**J**	1.9	0.40	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
Toxaphene	ND		19	11	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1
trans-Chlordane	ND		1.9	0.62	ug/Kg	☼	04/14/22 15:21	04/18/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*45 - 120*	*04/14/22 15:21*	*04/18/22 15:48*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*04/14/22 15:21*	*04/18/22 15:48*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1
PCB-1221	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1
PCB-1232	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1
PCB-1242	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1
PCB-1248	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1
PCB-1254	ND		0.21	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1
PCB-1260	ND		0.21	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*65 - 174*	*04/14/22 15:32*	*04/19/22 04:13*	*1*
Tetrachloro-m-xylene	*114*		*60 - 154*	*04/14/22 15:32*	*04/19/22 04:13*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	04/15/22 07:55	04/21/22 20:22	1
2,4-D	ND		20	12	ug/Kg	☼	04/15/22 07:55	04/21/22 20:22	1
Silvex (2,4,5-TP)	ND		20	7.0	ug/Kg	☼	04/15/22 07:55	04/21/22 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*82*		*28 - 129*	*04/15/22 07:55*	*04/21/22 20:22*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1

Client Sample ID: DUP-2-041322
Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5
Matrix: Solid
Percent Solids: 84.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		39	26	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1
Famphur	ND		39	21	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1
Methyl parathion	ND		39	22	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1
Phorate	ND		39	13	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1
Sulfotepp	ND		39	15	ug/Kg	☼	04/19/22 08:59	04/20/22 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*85*		*20 - 135*	*04/19/22 08:59*	*04/20/22 18:09*	*1*
Tributyl phosphate	*84*		*20 - 135*	*04/19/22 08:59*	*04/20/22 18:09*	*1*
Triphenylphosphate	*86*		*33 - 168*	*04/19/22 08:59*	*04/20/22 18:09*	*1*
Triphenylphosphate	*89*		*33 - 168*	*04/19/22 08:59*	*04/20/22 18:09*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.22**	**J I B**	5.8	U	0.017	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,4,6,7,8-HpCDF	**0.067**	**J I B**	5.8		0.0025	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,4,7,8,9-HpCDF	**0.024**	**J I B**	5.8		0.0031	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,4,7,8-HxCDD	**0.042**	**J I B**	5.8		0.0049	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,4,7,8-HxCDF	**0.11**	**J B**	5.8		0.0085	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,6,7,8-HxCDD	ND		5.8		0.0046	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,6,7,8-HxCDF	**0.10**	**J B**	5.8	U	0.0085	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,7,8,9-HxCDD	**0.063**	**J I B**	5.8		0.0051	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,7,8,9-HxCDF	**0.088**	**J I B**	5.8		0.0094	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,7,8-PeCDD	**0.088**	**J I B**	5.8		0.0090	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
1,2,3,7,8-PeCDF	**0.12**	**J I B**	5.8		0.0063	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
2,3,4,6,7,8-HxCDF	**0.079**	**J I B**	5.8		0.0079	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
2,3,4,7,8-PeCDF	**0.12**	**J B**	5.8		0.0050	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
2,3,7,8-TCDD	ND		1.2		0.0062	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
2,3,7,8-TCDF	**0.027**	**J I B**	1.2	U	0.0044	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
OCDD	**0.82**	**J B**	12		0.0098	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
OCDF	**0.11**	**J B**	12		0.0042	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total HpCDD	**0.22**	**J I B**	5.8		0.017	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total HpCDF	**0.091**	**J I B**	5.8		0.0028	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total HxCDD	**0.11**	**J I B**	5.8		0.0049	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total HxCDF	**0.38**	**J I B**	5.8		0.0086	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total PeCDD	**0.088**	**J I B**	5.8		0.0090	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total PeCDF	**0.24**	**J I B**	5.8		0.0057	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total TCDD	ND		1.2		0.0062	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1
Total TCDF	**0.027**	**J I B**	1.2	U	0.0044	ng/Kg	☼	04/20/22 15:07	04/21/22 21:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*77*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*72*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,7,8,9-HxCDD	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*

Client Sample ID: DUP-2-041322

Date Collected: 04/13/22 00:00
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-5

Matrix: Solid
Percent Solids: 84.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*73*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-2,3,7,8-TCDF	*73*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-OCDD	*71*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*
13C-OCDF	*73*		*40 - 135*	*04/20/22 15:07*	*04/21/22 21:11*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	18.0	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Arsenic	**3.2**		2.4	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Barium	**17.0**		0.60	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Beryllium	**0.21**	**J**	0.24	0.034	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Cadmium	**0.087**	**J**	0.24	0.036	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Chromium	**4.0**		0.60	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Cobalt	**6.9**		0.60	0.060	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Copper	**5.4**		1.2	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Lead	**6.5**		1.2	0.29	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Nickel	**9.6**		6.0	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Selenium	ND		4.8	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Silver	ND		0.72	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Thallium	ND		7.2	0.36	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Tin	ND		2.4	0.52	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Vanadium	**5.3**		0.60	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:48	1
Zinc	**28.8**		2.4	0.77	mg/Kg	☼	04/22/22 16:08	04/28/22 14:14	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	UJ	0.023	0.0053	mg/Kg	☼	04/19/22 11:13	04/19/22 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.53	mg/Kg	☼	04/18/22 13:57	04/19/22 13:43	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.3	12.1	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: MW-2022-4 (45-47)

Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6

Matrix: Solid
Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.76	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,1,2-Trichloroethane	ND		4.7	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1

Client Sample ID: MW-2022-4 (45-47)
Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6
Matrix: Solid
Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.7	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,1-Dichloroethene	ND		4.7	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,2,3-Trichloropropane	ND		4.7	0.47	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,2-Dichloroethane	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
1,2-Dichloropropane	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
2-Chloro-1,3-butadiene	ND	UJ	4.7	2.9	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
2-Chloroethyl vinyl ether	ND	UJ	9.3	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
3-Chloro-1-propene	ND		4.7	2.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Acetone	ND		23	3.9	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Acetonitrile	ND	UJ	47	5.7	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Acrolein	ND		23	7.4	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Acrylonitrile	ND		23	4.2	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Benzene	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Bromoform	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Bromomethane	ND		4.7	0.42	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Carbon disulfide	ND		4.7	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Carbon tetrachloride	ND		4.7	0.45	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Chlorobenzene	ND		4.7	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Chlorodibromomethane	ND		4.7	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Chloroform	**0.98**	**J**	4.7	0.29	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Chloromethane	ND		4.7	0.28	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
cis-1,3-Dichloropropene	ND		4.7	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Dibromomethane	ND		4.7	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Dichlorobromomethane	ND		4.7	0.62	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Ethylbenzene	ND		4.7	0.32	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Ethylene Dibromide	ND		4.7	0.60	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Methacrylonitrile	ND	UJ	23	5.5	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Methyl methacrylate	ND	UJ	4.7	0.98	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Methylene Chloride	ND		4.7	2.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
m-Xylene & p-Xylene	ND		9.3	0.78	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
o-Xylene	ND		4.7	0.61	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Propionitrile	ND	UJ	47	26	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Styrene	ND		4.7	0.23	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Tetrachloroethene	ND		4.7	0.63	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Toluene	ND		4.7	0.35	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
trans-1,2-Dichloroethene	ND		4.7	0.48	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Trichlorofluoromethane	ND		4.7	0.44	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1
Vinyl acetate	ND		9.3	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1

Client Sample ID: MW-2022-4 (45-47)
Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6
Matrix: Solid
Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.7	0.57	ug/Kg	☼	04/14/22 12:00	04/14/22 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/14/22 12:00*	*04/14/22 17:57*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/14/22 12:00*	*04/14/22 17:57*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/14/22 12:00*	*04/14/22 17:57*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/14/22 12:00*	*04/14/22 17:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
1-Naphthylamine	ND	*- UJ	390	140	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Methylphenol	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Naphthylamine	ND	*- UJ	390	140	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Picoline	ND		390	45	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
2-Toluidine	ND		390	97	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
3-Methylphenol	ND		390	31	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
4-Aminobiphenyl	ND	*- UJ	390	82	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1

Client Sample ID: MW-2022-4 (45-47)
Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6
Matrix: Solid
Percent Solids: 81.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		200	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
4-Methylphenol	ND		390	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
4-Nitroaniline	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
7,12-Dimethylbenz(a)anthracene	ND		390	59	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
a,a-Dimethylphenethylamine	ND	*	390	390	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	R
Acenaphthene	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Acenaphthylene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Acetophenone	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Aniline	ND		390	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Anthracene	ND		200	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Aramite, Total	ND		390	190	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzidine	ND	UJ	6000	2500	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Chrysene	ND		200	45	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Diallate	ND		390	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Dibenzofuran	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Dimethoate	ND		390	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Dimethyl phthalate	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Dinoseb	ND		390	71	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Diphenylamine	ND		390	51	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Disulfoton	ND		390	300	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Chlorobenzilate	ND		390	63	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Famphur	ND	*	790	190	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	R
Fluoranthene	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Fluorene	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Hexachloropropene	ND		390	100	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1	

Client Sample ID: MW-2022-4 (45-47)
Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6
Matrix: Solid
Percent Solids: 81.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	69	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Isophorone	ND		200	43	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Isosafrole	ND		390	53	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Kepone	ND		790	390	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Naphthalene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Nitrobenzene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Methyl parathion	ND		390	68	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Phenacetin	ND		390	54	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Phenanthrene	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Phenol	ND		200	31	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Phorate	ND		390	110	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
p-Phenylene diamine	ND	*-	960	390	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1 R
Pronamide	ND		390	78	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Pyrene	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Pyridine	ND		390	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Safrole	ND		390	54	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Sulfotepp	ND		390	63	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1
Thionazin	ND		390	69	ug/Kg	☼	04/15/22 07:59	04/21/22 05:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*04/15/22 07:59*	*04/21/22 05:00*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*04/15/22 07:59*	*04/21/22 05:00*	*1*
2-Fluorophenol (Surr)	*83*		*52 - 120*	*04/15/22 07:59*	*04/21/22 05:00*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*04/15/22 07:59*	*04/21/22 05:00*	*1*
Phenol-d5 (Surr)	*87*		*54 - 120*	*04/15/22 07:59*	*04/21/22 05:00*	*1*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*04/15/22 07:59*	*04/21/22 05:00*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
4,4'-DDT	1.2 J B 2.0		2.0	0.47	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1 U

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-196779-1

Client Sample ID: MW-2022-4 (45-47)
Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6
Matrix: Solid
Percent Solids: 81.8

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
cis-Chlordane	ND		2.0	0.99	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Endrin	ND		2.0	0.40	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Endrin aldehyde	**0.76**	**J**	2.0	0.51	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Methoxychlor	**1.5**	**J**	2.0	0.41	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
Toxaphene	ND		20	12	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/14/22 15:21	04/18/22 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*04/14/22 15:21*	*04/18/22 16:08*	*1*
Tetrachloro-m-xylene	*81*		*30 - 124*	*04/14/22 15:21*	*04/18/22 16:08*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	04/14/22 15:32	04/19/22 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*04/14/22 15:32*	*04/19/22 04:27*	*1*
Tetrachloro-m-xylene	*111*		*60 - 154*	*04/14/22 15:32*	*04/19/22 04:27*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.5	ug/Kg	☼	04/15/22 07:55	04/21/22 20:51	1
2,4-D	ND		20	13	ug/Kg	☼	04/15/22 07:55	04/21/22 20:51	1
Silvex (2,4,5-TP)	ND		20	7.3	ug/Kg	☼	04/15/22 07:55	04/21/22 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*04/15/22 07:55*	*04/21/22 20:51*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	22	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1

Client Sample ID: MW-2022-4 (45-47)
Date Collected: 04/13/22 14:50
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-6
Matrix: Solid
Percent Solids: 81.8

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		40	26	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1
Famphur	ND		40	21	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1
Methyl parathion	ND		40	23	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1
Phorate	ND		40	14	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1
Sulfotepp	ND		40	15	ug/Kg	☼	04/19/22 08:59	04/20/22 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*20 - 135*	*04/19/22 08:59*	*04/20/22 18:41*	*1*
Tributyl phosphate	*85*		*20 - 135*	*04/19/22 08:59*	*04/20/22 18:41*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/19/22 08:59*	*04/20/22 18:41*	*1*
Triphenylphosphate	*90*		*33 - 168*	*04/19/22 08:59*	*04/20/22 18:41*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.27~~	~~J I B~~ 6.0 U	6.0	0.053	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,4,6,7,8-HpCDF	~~0.056~~	~~J I B~~ 6.0 U	6.0	0.0062	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,4,7,8,9-HpCDF	~~0.044~~	~~J I B~~ 6.0 U	6.0	0.0079	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,4,7,8-HxCDD	ND		6.0	0.012	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,4,7,8-HxCDF	~~0.060~~	~~J I B~~ 6.0 U	6.0	0.015	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,6,7,8-HxCDD	~~0.039~~	~~J I B~~ 6.0 U	6.0	0.012	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,6,7,8-HxCDF	~~0.038~~	~~J I B~~ 6.0 U	6.0	0.015	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,7,8,9-HxCDD	~~0.027~~	~~J B~~ 6.0 U	6.0	0.013	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,7,8,9-HxCDF	~~0.049~~	~~J I B~~ 6.0 U	6.0	0.019	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,7,8-PeCDD	0.039	~~J I~~ JNX	6.0	0.013	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
1,2,3,7,8-PeCDF	~~0.074~~	~~J B~~ 6.0 U	6.0	0.024	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
2,3,4,6,7,8-HxCDF	0.052	~~J I~~ JNX	6.0	0.013	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
2,3,4,7,8-PeCDF	~~0.064~~	~~J I B~~ 6.0 U	6.0	0.019	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
2,3,7,8-TCDD	ND		1.2	0.015	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
2,3,7,8-TCDF	0.017	J	1.2	0.012	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
OCDD	1.5	J ~~B~~	12	0.018	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
OCDF	~~0.13~~	~~J I B~~ 12 U	12	0.012	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total HpCDD	~~0.27~~	~~J I B~~ 6.0 U	6.0	0.053	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total HpCDF	~~0.10~~	~~J I B~~ 6.0 U	6.0	0.0071	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total HxCDD	~~0.066~~	~~J I B~~ 6.0 U	6.0	0.012	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total HxCDF	~~0.20~~	~~J I B~~ 6.0 U	6.0	0.016	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total PeCDD	0.039	~~J I~~ JNX	6.0	0.013	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total PeCDF	~~0.14~~	~~J I B~~ 6.0 U	6.0	0.022	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total TCDD	ND		1.2	0.015	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1
Total TCDF	0.017	~~J I~~ JNX	1.2	0.012	ng/Kg	☼	04/26/22 10:36	04/27/22 21:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*74*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*73*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*
13C-1,2,3,7,8,9-HxCDD	*76*		*40 - 135*	*04/26/22 10:36*	*04/27/22 21:58*	*1*

Client Sample ID: MW-2022-4 (45-47)

Lab Sample ID: 480-196779-6

Date Collected: 04/13/22 14:50
Matrix: Solid
Date Received: 04/14/22 10:00
Percent Solids: 81.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	71		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-1,2,3,7,8-PeCDD	75		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-1,2,3,7,8-PeCDF	73		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-2,3,4,6,7,8-HxCDF	77		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-2,3,4,7,8-PeCDF	72		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-2,3,7,8-TCDD	81		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-2,3,7,8-TCDF	73		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-OCDD	75		40 - 135	04/26/22 10:36	04/27/22 21:58	1
13C-OCDF	69		40 - 135	04/26/22 10:36	04/27/22 21:58	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	18.3	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Arsenic	**3.8**		2.4	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Barium	**21.7**		0.61	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Beryllium	**0.23**	**J**	0.24	0.034	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Cadmium	**0.11**	**J**	0.24	0.037	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Chromium	**3.8**		0.61	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Cobalt	**7.5**		0.61	0.061	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Copper	**6.2**		1.2	0.26	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Lead	**6.8**		1.2	0.29	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Nickel	**11.4**		6.1	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Selenium	ND		4.9	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Silver	ND		0.73	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Thallium	ND		7.3	0.37	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Tin	ND		2.4	0.52	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Vanadium	**5.3**		0.61	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:52	1
Zinc	**35.3**		2.4	0.78	mg/Kg	☼	04/22/22 16:08	04/28/22 14:30	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	UJ	0.025	0.0056	mg/Kg	☼	04/19/22 11:13	04/19/22 13:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.57	mg/Kg	☼	04/18/22 13:57	04/19/22 13:45	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.5	11.7	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: MW-2022-4 (60-64)

Lab Sample ID: 480-196779-7

Date Collected: 04/13/22 16:10
Matrix: Solid
Date Received: 04/14/22 10:00
Percent Solids: 85.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,1,1-Trichloroethane	ND		5.2	0.38	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.85	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,1,2-Trichloroethane	ND		5.2	0.68	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1

Client Sample ID: MW-2022-4 (60-64)
Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7
Matrix: Solid
Percent Solids: 85.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.2	0.64	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,1-Dichloroethene	ND		5.2	0.64	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,2,3-Trichloropropane	ND		5.2	0.53	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
2-Chloro-1,3-butadiene	ND	UJ	5.2	3.2	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
2-Chloroethyl vinyl ether	ND	UJ	10	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Acetone	~~4.4~~ ~~J~~ 26		26	4.4 U	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Acetonitrile	ND	UJ	52	6.4	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Acrolein	ND		26	8.3	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Acrylonitrile	ND		26	4.7	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Benzene	ND		5.2	0.26	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Bromomethane	ND		5.2	0.47	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Carbon tetrachloride	ND		5.2	0.51	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Chlorobenzene	ND		5.2	0.69	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Chlorodibromomethane	ND		5.2	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Chloroform	0.90	J	5.2	0.32	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Chloromethane	ND		5.2	0.32	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
cis-1,3-Dichloropropene	ND		5.2	0.75	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Dibromomethane	ND		5.2	0.54	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Dichlorobromomethane	ND		5.2	0.70	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Ethylene Dibromide	ND		5.2	0.67	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Methacrylonitrile	ND	UJ	26	6.2	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Methyl methacrylate	ND	UJ	5.2	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
m-Xylene & p-Xylene	ND		10	0.88	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
o-Xylene	ND		5.2	0.68	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Propionitrile	ND	UJ	52	29	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Styrene	ND		5.2	0.26	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Tetrachloroethene	ND		5.2	0.70	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Toluene	ND		5.2	0.40	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
trans-1,2-Dichloroethene	ND		5.2	0.54	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1

Client Sample ID: MW-2022-4 (60-64)
Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7
Matrix: Solid
Percent Solids: 85.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.2	0.64	ug/Kg	☼	04/14/22 12:00	04/14/22 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/14/22 12:00*	*04/14/22 18:21*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/14/22 12:00*	*04/14/22 18:21*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/14/22 12:00*	*04/14/22 18:21*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/14/22 12:00*	*04/14/22 18:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,2,4-Trichlorobenzene	ND		380	28	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,2-Dichlorobenzene	ND		380	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1,4-Naphthoquinone	ND		380	72	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
1-Naphthylamine	ND	* UJ	380	130	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,4,6-Trichlorophenol	ND		200	39	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,6-Dichlorophenol	ND		380	72	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Acetylaminofluorene	ND		380	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Chloronaphthalene	ND		200	32	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Methylnaphthalene	ND		200	39	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Naphthylamine	ND	* UJ	380	130	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Picoline	ND		380	44	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
2-Toluidine	ND		380	94	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
3,3'-Dimethylbenzidine	ND		770	380	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
3-Methylphenol	ND		380	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
3-Nitroaniline	ND		380	55	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
4-Aminobiphenyl	ND	* UJ	380	80	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1

Client Sample ID: MW-2022-4 (60-64)
Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
4-Methylphenol	ND		380	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
4-Nitroquinoline-1-oxide	ND		770	380	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
a,a-Dimethylphenethylamine	ND	*-	380	380	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	R
Acenaphthene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Acenaphthylene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Acetophenone	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Aniline	ND		380	48	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Anthracene	ND		200	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Aramite, Total	ND		380	190	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzidine	ND	UJ	5800	2500	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Benzyl alcohol	ND		380	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
bis (2-chloroisopropyl) ether	ND		200	39	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Butyl benzyl phthalate	ND		200	32	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Chrysene	ND		200	44	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Diallate	ND		380	49	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Dibenzofuran	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Dimethoate	ND		380	48	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Dinoseb	ND		380	68	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Diphenylamine	ND		380	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Disulfoton	ND		380	290	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Chlorobenzilate	ND		380	61	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Ethyl methanesulfonate	ND		380	85	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Famphur	ND	*-	770	190	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	R
Fluoranthene	ND		200	21	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Fluorene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Hexachloropropene	ND		380	97	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1	

Client Sample ID: MW-2022-4 (60-64)
Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		380	67	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Isophorone	ND		200	42	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Isosafrole	ND		380	51	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Kepone	ND		770	380	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Methapyrilene	ND		1700	380	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Methyl methanesulfonate	ND		380	88	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Naphthalene	ND		200	26	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitro-o-toluidine	ND		380	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosodiethylamine	ND		380	89	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosodimethylamine	ND		380	84	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosomethylethylamine	ND		380	88	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosomorpholine	ND		380	86	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosopiperidine	ND		380	78	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
N-Nitrosopyrrolidine	ND		380	58	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
o,o',o''-Triethylphosphorothioate	ND		380	50	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Ethyl Parathion	ND		380	43	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Methyl parathion	ND		380	66	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
p-Dimethylamino azobenzene	ND		380	65	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Pentachlorobenzene	ND		380	80	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Pentachloronitrobenzene	ND		380	97	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Pentachlorophenol	ND		380	200	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Phenacetin	ND		380	52	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Phenol	ND		200	30	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Phorate	ND		380	110	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
p-Phenylene diamine	ND	*	930	380	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1 R
Pronamide	ND		380	75	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Pyrene	ND		200	23	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Pyridine	ND		380	28	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Safrole	ND		380	52	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Sulfotepp	ND		380	61	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1
Thionazin	ND		380	67	ug/Kg	☼	04/15/22 07:59	04/21/22 05:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*04/15/22 07:59*	*04/21/22 05:25*	*1*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*04/15/22 07:59*	*04/21/22 05:25*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*04/15/22 07:59*	*04/21/22 05:25*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*	*04/15/22 07:59*	*04/21/22 05:25*	*1*
Phenol-d5 (Surr)	*75*		*54 - 120*	*04/15/22 07:59*	*04/21/22 05:25*	*1*
p-Terphenyl-d14 (Surr)	*100*		*79 - 130*	*04/15/22 07:59*	*04/21/22 05:25*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
4,4'-DDT	0.99 J B 1.9		1.9	U 0.45	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1

Client Sample ID: MW-2022-4 (60-64)

Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7

Matrix: Solid
Percent Solids: 85.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
cis-Chlordane	ND		1.9	0.97	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Dieldrin	ND		1.9	0.47	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Endrin	ND		1.9	0.38	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Endrin aldehyde	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Endrin ketone	ND	UJ	1.9	0.48	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
gamma-BHC (Lindane)	ND		1.9	0.36	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Methoxychlor	**1.0**	**J**	1.9	0.40	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
Toxaphene	ND		19	11	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1
trans-Chlordane	ND		1.9	0.62	ug/Kg	☼	04/14/22 15:21	04/18/22 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*		*45 - 120*	*04/14/22 15:21*	*04/18/22 16:47*	*1*
Tetrachloro-m-xylene	*69*		*30 - 124*	*04/14/22 15:21*	*04/18/22 16:47*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1
PCB-1221	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1
PCB-1232	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1
PCB-1242	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1
PCB-1248	ND		0.21	0.042	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1
PCB-1254	ND		0.21	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1
PCB-1260	ND		0.21	0.10	mg/Kg	☼	04/14/22 15:32	04/19/22 04:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*04/14/22 15:32*	*04/19/22 04:40*	*1*
Tetrachloro-m-xylene	*115*		*60 - 154*	*04/14/22 15:32*	*04/19/22 04:40*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	04/15/22 07:55	04/21/22 21:21	1
2,4-D	ND		19	12	ug/Kg	☼	04/15/22 07:55	04/21/22 21:21	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	04/15/22 07:55	04/21/22 21:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*85*		*28 - 129*	*04/15/22 07:55*	*04/21/22 21:21*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1

Client Sample ID: MW-2022-4 (60-64)

Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7

Matrix: Solid
Percent Solids: 85.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		38	25	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1
Famphur	ND		38	21	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1
Methyl parathion	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1
Phorate	ND		38	13	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1
Sulfotepp	ND		38	15	ug/Kg	☼	04/19/22 08:59	04/20/22 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*85*		*20 - 135*	*04/19/22 08:59*	*04/20/22 19:12*	*1*
Tributyl phosphate	*85*		*20 - 135*	*04/19/22 08:59*	*04/20/22 19:12*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/19/22 08:59*	*04/20/22 19:12*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/19/22 08:59*	*04/20/22 19:12*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.19~~ ~~J+B~~ 5.6 U		5.6	0.012	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,4,6,7,8-HpCDF	~~0.21~~ ~~J+B~~ 5.6 U		5.6	0.0038	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,4,7,8,9-HpCDF	0.12 ~~J+B~~ JNX		5.6	0.0046	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,4,7,8-HxCDD	~~0.037~~ ~~J+B~~ 5.6 U		5.6	0.0055	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,4,7,8-HxCDF	~~0.085~~ ~~J+B~~ 5.6 U		5.6	0.0093	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,6,7,8-HxCDD	0.081 ~~J+~~ JNX		5.6	0.0052	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,6,7,8-HxCDF	~~0.035~~ ~~J+B~~ 5.6 U		5.6	0.0092	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,7,8,9-HxCDD	~~0.075~~ ~~J+B~~ 5.6 U		5.6	0.0052	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,7,8,9-HxCDF	~~0.11~~ ~~J B~~ 5.6 U		5.6	0.010	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,7,8-PeCDD	ND		5.6	0.010	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
1,2,3,7,8-PeCDF	ND		5.6	0.0073	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
2,3,4,6,7,8-HxCDF	~~0.053~~ ~~J+B~~ 5.6 U		5.6	0.0083	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
2,3,4,7,8-PeCDF	ND		5.6	0.0051	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
2,3,7,8-TCDD	ND		1.1	0.010	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
2,3,7,8-TCDF	~~0.0088~~ ~~J+B~~ 1.1 U		1.1	0.0067	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
OCDD	~~1.2~~ ~~J+B~~ 11 U		11	0.0097	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
OCDF	~~0.13~~ ~~J+B~~ 11 U		11	0.0066	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total HpCDD	~~0.19~~ ~~J+B~~ 5.6 U		5.6	0.012	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total HpCDF	~~0.33~~ ~~J+B~~ 5.6 U		5.6	0.0042	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total HxCDD	~~0.25~~ ~~J+B~~ 5.6 U		5.6	0.0053	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total HxCDF	~~0.28~~ ~~J+B~~ 5.6 U		5.6	0.0093	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total PeCDD	ND		5.6	0.010	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total PeCDF	ND		5.6	0.0062	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total TCDD	ND		1.1	0.010	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1
Total TCDF	~~0.0088~~ ~~J+B~~ 1.1 U		1.1	0.0067	ng/Kg	☼	04/20/22 15:07	04/21/22 22:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*54*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*49*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*53*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,4,7,8-HxCDD	*52*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,4,7,8-HxCDF	*51*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,6,7,8-HxCDD	*54*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,6,7,8-HxCDF	*52*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*
13C-1,2,3,7,8,9-HxCDD	*56*		*40 - 135*	*04/20/22 15:07*	*04/21/22 22:48*	*1*

Client Sample ID: MW-2022-4 (60-64)
Date Collected: 04/13/22 16:10
Date Received: 04/14/22 10:00

Lab Sample ID: 480-196779-7
Matrix: Solid
Percent Solids: 85.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	53		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-1,2,3,7,8-PeCDD	55		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-1,2,3,7,8-PeCDF	50		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-2,3,4,6,7,8-HxCDF	52		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-2,3,4,7,8-PeCDF	53		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-2,3,7,8-TCDD	49		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-2,3,7,8-TCDF	49		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-OCDD	53		40 - 135	04/20/22 15:07	04/21/22 22:48	1
13C-OCDF	52		40 - 135	04/20/22 15:07	04/21/22 22:48	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.47**	**J**	17.6	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Arsenic	**5.0**		2.3	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Barium	**21.4**		0.59	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Beryllium	**0.29**		0.23	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Cadmium	**0.11**	**J**	0.23	0.035	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Chromium	**4.3**		0.59	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Cobalt	**10.5**		0.59	0.059	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Copper	**6.1**		1.2	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Lead	**7.2**		1.2	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Nickel	**13.9**		5.9	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Selenium	ND		4.7	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Silver	ND		0.70	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Thallium	ND		7.0	0.35	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Tin	ND		2.3	0.50	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Vanadium	**5.8**		0.59	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:56	1
Zinc	**35.9**		2.3	0.75	mg/Kg	☼	04/22/22 16:08	04/28/22 14:34	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	UJ	0.023	0.0052	mg/Kg	☼	04/19/22 11:13	04/19/22 13:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.55	mg/Kg	☼	04/18/22 13:57	04/19/22 13:46	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.4	12.2	mg/Kg	☼		04/20/22 15:30	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-197371-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report # 47309R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 8
1.1 Analytical Data Package Documentation 9
1.2 Data Validation Procedures 9
2 Volatile Organic Compound Analyses 11
2.1 Holding Times 11
2.2 Blank Contamination 12
2.3 Mass Spectrometer Tuning 12
2.4 Calibration 12
2.4.1 Initial Calibration 12
2.4.2 Continuing Calibration 13
2.5 Surrogates/System Monitoring Compounds 14
2.6 Internal Standard Performance 14
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 14
2.8 Laboratory Control Sample Analysis 18
2.9 Field Duplicate Analysis 18
2.10 Compound Identification 18
2.11 System Performance and Overall Assessment 19
2.12 Data Validation Checklist 19
3 Semi-volatile Organic Compound Analyses 21
3.1 Holding Times 21
3.2 Blank Contamination 21
3.3 Mass Spectrometer Tuning 21
3.4 Calibration 21
3.4.1 Initial Calibration 22
3.4.2 Continuing Calibration 22
3.5 Surrogates/System Monitoring Compounds 23
3.6 Internal Standard Performance 23
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 23
3.8 Laboratory Control Sample Analysis 26
3.9 Field Duplicate Analysis 27
3.10 Compound Identification 27
3.11 System Performance and Overall Assessment 27

3.12 Data Validation Checklist 28
4 Polychlorinated Biphenyl Analyses 29
4.1 Holding Times 29
4.2 Blank Contamination 30
4.3 System Performance 30
4.4 Calibration 30
4.4.1 Initial Calibration 30
4.4.2 Continuing Calibration 30
4.5 Surrogates/System Monitoring Compounds 30
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 31
4.7 Laboratory Control Sample Analysis 31
4.8 Field Duplicate Analysis 31
4.9 Compound Identification 31
4.10 System Performance and Overall Assessment 31
4.11 Data Validation Checklist 32
5 Pesticide/Herbicide Analyses 33
5.1 Holding Times 33
5.2 Blank Contamination 34
5.3 System Performance 34
5.4 Calibration 35
5.4.1 Initial Calibration 35
5.4.2 Continuing Calibration 35
5.5 Surrogates/System Monitoring Compounds 36
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 37
5.7 Laboratory Control Sample Analysis 38
5.8 Field Duplicate Analysis 38
5.9 Compound Identification 39
5.10 System Performance and Overall Assessment 40
5.11 Data Validation Checklist 40
6 Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans Analysis 41
6.1 Holding Times 41
6.2 Blank Contamination 42
6.3 Mass Spectrometer Tuning 43

6.4 Calibration 44
6.4.1 Initial Calibration 44
6.4.2 Continuing Calibration 44
6.5 Labeled Standard Performance 45
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 45
6.7 Ongoing Precision Result /Laboratory Control Sample Analysis 46
6.8 Field Duplicate Analysis 46
6.9 Compound Identification 47
6.10 System Performance and Overall Assessment 47
6.11 Data Validation Checklist 48
7 Metals Analyses 49
7.1 Holding Times 49
7.2 Blank Contamination 50
7.3 Calibration 50
7.3.1 Initial Calibration and Continuing Calibration 50
7.3.2 Lower Limit of Quantitation Check Standard 51
7.3.3 ICP Interference Control Sample 51
7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 51
7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 51
7.4.2 Laboratory Duplicate Analysis 52
7.5 Field Duplicate Analysis 53
7.6 Laboratory Control Sample Analysis 53
7.7 Serial Dilution 54
7.8 System Performance and Overall Assessment 54
7.9 Data Validation Checklist 54
8 General Chemistry Analyses 56
8.1 Holding Times 56
8.2 Blank Contamination 56
8.3 Calibration 56
8.3.1 Initial Calibration and Continuing Calibration 57
8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 57
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 57
8.4.2 Laboratory Duplicate Analysis 58

8.5 Field Duplicate Analysis 58
8.6 Laboratory Control Sample (LCS) Analysis 58
8.7 System Performance and Overall Assessment 58
8.8 Data Validation Checklist for General Chemistry 59
9 Overall Data Usability 60

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 8
Table 2. Evaluation of Data Package Completeness 9
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 11
Table 4. Holding Time for Method SW-846 8260C 11
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 13
Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications 13
Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 14
Table 8. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 16
Table 9. Samples with Relative Percent Difference Greater than Control Limits 16
Table 10. Relative Percent Difference Evaluation Criteria and Qualifications 18
Table 11. Data validation checklist for VOCs 19
Table 12. Holding Time for Method SW-846 8270D 21
Table 13. Summary of Compounds Outside Specified Calibration Control Limits 22
Table 14. Initial and Continuing Calibration Evaluation Criteria and Qualifications 22
Table 15. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 24
Table 16. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 25
Table 17. Samples with Relative Percent Difference Greater than Control Limits 25
Table 18. Relative Percent Difference Evaluation Criteria and Qualifications 26
Table 19. Samples with Laboratory Control Sample Recoveries Outside Control Limits 26
Table 20. Laboratory Control Sample Recovery Criteria and Qualifications 27
Table 21. Data validation checklist for SVOCs 28
Table 22. Holding Time for Method SW-846 8082A 29
Table 23. Data validation checklist for PCBs 32
Table 24. Holding Time for Method SW-846 8081B/8141B/8151A 33
Table 25. Summary of Holding Time Exceedances 33
Table 26. Summary of Holding Time Qualifications 34

Table 27. Summary of Blank Contamination Qualifications 34
Table 28. Summary of Compounds Outside Specified Calibration Control Limits 35
Table 29. Initial and Continuing Calibration Evaluation Criteria and Qualifications 35
Table 30. Summary of Surrogates Outside Specified Control Limits 36
Table 31. Surrogates Evaluation Criteria and Qualifications 36
Table 32. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit 37
Table 33. Evaluation Criteria for MS/MSD Recoveries 37
Table 34. Samples with Relative Percent Difference Greater than Control Limits 38
Table 35. Relative Percent Difference Evaluation Criteria and Qualifications 38
Table 36. Dual Column Analysis Exhibiting RPD Outside the Control Limit 39
Table 37. Evaluation Criteria for Dual Column Analysis RPD 39
Table 38. Data validation checklist for SW-846 8081B/8141B/8151A 40
Table 39. Holding Time for Method SW-846 8290A 41
Table 40. Summary of Blank Contamination Qualifications 42
Table 41. Summary of Compounds Outside Specified Calibration Control Limits 44
Table 42. Initial and Continuing Calibration Evaluation Criteria and Qualifications 44
Table 43. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit 45
Table 44. Evaluation Criteria for MS/MSD Recoveries 45
Table 45. Samples with Relative Percent Difference Greater than Control Limits 46
Table 46. Relative Percent Difference Evaluation Criteria and Qualifications 46
Table 47. Data validation checklist for PCDD/PCDF 48
Table 48. Holding Time for Method SW-846 6010C/7471B 50
Table 49. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 51
Table 50. Evaluation Criteria for MS/MSD Recoveries 52
Table 51. Samples with Relative Percent Difference Greater than Control Limits 52
Table 52. Relative Percent Difference Evaluation Criteria and Qualifications 52
Table 53. Samples with Laboratory Control Sample Recoveries Outside Control Limits 53
Table 54. Laboratory Control Sample Recovery Criteria and Qualifications 53
Table 55. Samples with serial dilution differences (%D) Outside Control Limits 54
Table 56. Serial dilution Evaluation Criteria and Qualifications 54
Table 57. Data validation checklist for Metals 54
Table 58. Specified Holding Times 56
Table 59. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 57

Table 60. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications..... 57

Table 61. Data validation checklist for General Chemistry 59

Table 62. Overall Summary of Data Usability 60

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197371-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs/HERB/OPC	PCDD/PCDF	MET	MISC
MW2022-5 (0.0-1.0)	480-197371-1	Soil	04/29/22			X	X	X	X	X
MW2022-5 (0.5)	480-197371-2	Soil	04/29/22		X					
MW2022-5 (12.0-16.0)	480-197371-3	Soil	04/29/22			X	X	X	X	X
MW2022-5 (14.0)	480-197371-4	Soil	04/29/22		X					
MW2022-5 (26.0-30.0)	480-197371-5	Soil	04/29/22			X	X	X	X	X
MW2022-5 (29.0)	480-197371-6	Soil	04/29/22		X					
MW2022-5 (45.0-49.0)	480-197371-7	Soil	04/29/22			X	X	X	X	X
MW2022-5 (46.0)	480-197371-8	Soil	04/29/22		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorus Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X	X		
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance
7.It is noted in the case narrative that Chain-of-Custody (COC) was not received for the samples MW2022-5 (12.0-16.0) (480-197371-3), MW2022-5 (26.0-30.0) (480-197371-5) and MW2022-5 (45.0-49.0) (480-197371-7) received at TAPITT on 5/7/22.

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);

- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	4	0	0	4
SVOCs	0	0	0	4	0	0	4
PCBs	0	0	0	4	0	0	4
PEST	0	0	0	4	0	0	4
HERB	0	0	0	4	0	0	4
OPC	0	0	0	4	0	0	4
PCDD/PCDF	0	0	0	4	0	0	4
Metals	0	0	0	4	0	0	4
MISC	0	0	0	4	0	0	4

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Method	Matrix	Holding Time	Preservation
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compound	Criteria
MW2022-5 (0.5) MW2022-5 (14.0) MW2022-5 (29.0) MW2022-5 (46.0)	CCV %D	2-Chloro-1,3-butadiene	31.5%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample MW2022-5 (0.5) exhibiting recoveries outside of the control limits are presented in the following table.

Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
MW2022-5 (0.5)	1,1,1,2-Tetrachloroethane	<LL but >10%	AC

Sample ID	Compounds	MS Recovery	MSD Recovery
	1,1,2,2-Tetrachloroethane	<LL but >10%	AC
	1,2-Dibromo-3-Chloropropane	<LL but >10%	<LL but >10%
	2-Butanone (MEK)	<LL but >10%	<LL but >10%
	2-Hexanone	<LL but >10%	<LL but >10%
	3-Chloro-1-propene	<LL but >10%	<LL but >10%
	4-Methyl-2-pentanone (MIBK)	<LL but >10%	<LL but >10%
	Acetone	<LL but >10%	<LL but >10%
	Acrolein	< 10%	< 10%
	Acrylonitrile	<LL but >10%	<LL but >10%
	Bromoform	<LL but >10%	<LL but >10%
	Carbon tetrachloride	<LL but >10%	<LL but >10%
	Chlorobenzene	<LL but >10%	AC
	Chlorodibromomethane	<LL but >10%	<LL but >10%
	cis-1,3-Dichloropropene	<LL but >10%	<LL but >10%
	Ethyl methacrylate	< 10%	< 10%
	Ethylbenzene	<LL but >10%	<LL but >10%
	Ethylene Dibromide	<LL but >10%	<LL but >10%
	Iodomethane	<LL but >10%	<LL but >10%
	m-Xylene & p-Xylene	<LL but >10%	<LL but >10%
	o-Xylene	<LL but >10%	AC
	Styrene	<LL but >10%	<LL but >10%
	Tetrachloroethene	<LL but >10%	<LL but >10%
	trans-1,3-Dichloropropene	<LL but >10%	<LL but >10%
	trans-1,4-Dichloro-2-butene	<LL but >10%	<LL but >10%
	Trichloroethene	<LL but >10%	AC
	Vinyl acetate	< 10%	< 10%

Notes:
LL Lower control limit

Sample ID	Compounds	MS Recovery	MSD Recovery

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 8. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 9. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compounds
MW2022-5 (0.5)	1,1,1,2-Tetrachloroethane
	1,1,1-Trichloroethane
	1,1,2,2-Tetrachloroethane
	1,1,2-Trichloroethane
	1,1-Dichloroethane
	1,1-Dichloroethene
	1,2,3-Trichloropropane
	1,2-Dibromo-3-Chloropropane
	1,2-Dichloroethane
	1,2-Dichloropropane

Sample ID	Compounds
	2-Butanone (MEK)
	2-Hexanone
	4-Methyl-2-pentanone (MIBK)
	Acetone
	Acrylonitrile
	Benzene
	Bromoform
	Bromomethane
	Carbon disulfide
	Carbon tetrachloride
	Chlorobenzene
	Chlorodibromomethane
	Chloroethane
	Chloroform
	Chloromethane
	cis-1,3-Dichloropropene
	Dibromomethane
	Dichlorobromomethane
	Dichlorodifluoromethane
	Ethylbenzene
	Ethylene Dibromide
	Iodomethane
	Methylene Chloride
	m-Xylene & p-Xylene
	o-Xylene
	Styrene
	Tetrachloroethene

Sample ID	Compounds
	Toluene
	trans-1,2-Dichloroethene
	trans-1,3-Dichloropropene
	trans-1,4-Dichloro-2-butene
	Trichloroethene
	Trichlorofluoromethane
	Vinyl chloride

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 10. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate sample was not collected within this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS or MS/MSD. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

Table 11. Data validation checklist for VOCs

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
C. Trip blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 13. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compound	Criteria
MW2022-5 (0.0-1.0) MW2022-5 (12.0-16.0) MW2022-5 (26.0-30.0) MW2022-5 (45.0-49.0)	ICV%D	Benzidine	-27.6%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 14. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample MW2022-5 (0.0-1.0) exhibiting recoveries outside of the control limits are presented in the following table.

Table 15. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
MW2022-5 (0.0-1.0)	1,3-Dinitrobenzene	AC	> UL
	1,4-Dioxane	< 10%	< 10%
	1,4-Naphthoquinone	AC	> UL
	2,4-Dinitrotoluene	> UL	> UL
	2,6-Dichlorophenol	AC	> UL
	2-Chloronaphthalene	AC	> UL
	2-Toluidine	< 10%	< 10%
	4-Aminobiphenyl	< 10%	< 10%
	4-Chloro-3-methylphenol	AC	> UL
	Benzo[a]anthracene	> UL	> UL
	Benzo[a]pyrene	> UL	> UL
	Benzo[g,h,i]perylene	AC	> UL
	Chrysene	AC	> UL
	Diethyl phthalate	AC	> UL
	Ethyl methanesulfonate	< 10%	AC
	Fluoranthene	> UL	> UL
	Indeno[1,2,3-cd]pyrene	AC	> UL
	N-Nitro-o-toluidine	> UL	> UL
	N-Nitrosodiethylamine	AC	< 10%
	N-Nitrosodimethylamine	< 10%	< 10%
	N-Nitrosomethylethylamine	< 10%	< 10%
	Phenanthrene	AC	> UL
	Sulfotepp	AC	> UL
	Thionazin	> UL	> UL

Notes:

AC Acceptable
UL Upper limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 16. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 17. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compounds
MW2022-5 (0.0-1.0)	1,2-Dichlorobenzene
	1,3,5-Trinitrobenzene
	1,4-Naphthoquinone
	2,3,4,6-Tetrachlorophenol
	2,6-Dinitrotoluene
	2-Nitroaniline
	3 & 4 Methylphenol
	3-Methylphenol
	4-Chloro-3-methylphenol
	4-Chlorophenyl phenyl ether
	4-Methylphenol

Sample ID	Compounds
	Chrysene
	Dibenzofuran
	Diethyl phthalate
	Chlorobenzilate
	Fluorene
	Isophorone
	N-Nitrosodi-n-propylamine
	N-Nitrosopiperidine
	Safrole
	Sulfotepp

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 18. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 19. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW2022-5 (0.0-1.0) MW2022-5 (12.0-16.0) MW2022-5 (26.0-30.0) MW2022-5 (45.0-49.0)	Prep Batch: 624196	Famphur	< 10%
		Pentachlorophenol	> UL

Note:

UL Upper limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 20. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate sample was not collected within this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

Table 21. Data validation checklist for SVOCs

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample MW2022-5 (0.0-1.0) exhibited recoveries and RPDs within the control limits.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate sample was not collected within this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

Table 23. Data validation checklist for PCBs

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 24. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water /Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

The analyses that exceeded the holding are presented in the following table.

Table 25. Summary of Holding Time Exceedances

Sample Locations	Method	Holding Time	Criteria
MW2022-5 (0.0-1.0)	SW-846 8141B	Sample was extracted 56th date from the date of collection	7 days from collection to extraction
MW2022-5 (12.0-16.0) MW2022-5 (26.0-30.0) MW2022-5 (45.0-49.0)	SW-846 8141B	Sample was extracted 10h date from the date of collection	

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 26. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 27. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW2022-5 (12.0-16.0) MW2022-5 (26.0-30.0) MW2022-5 (45.0-49.0)	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All Compounds associated with calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 28. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Method	Initial/Continuing	Compound	Criteria
MW2022-5 (0.0-1.0)	8141B	CCV %D	Dimethoate	-19.9%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified as below.

Table 29. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 20%or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >15% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >15% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Table 30. Summary of Surrogates Outside Specified Control Limits

Sample Locations	Method	Surrogate	Recovery
MW2022-5 (0.0-1.0)	8081B	DCB Decachlorobiphenyl	D
		Tetrachloro-m-xylene	D

Note:

D Diluted

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table 31. Surrogates Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Surrogates diluted below the calibration curve due to the high concentration of a target compounds	Non-detect	UJ[1]
	Detect	J[1]

Note:

[1] A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample MW2022-5 (0.0-1.0) for the analytical method SW-846 8081B,8082A, 8141B,8151A and on sample MW2022-5 (12.0-16.0) for analytical method 8141B exhibiting recoveries outside of the control limits are presented in the following table.

Table 32. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit

Sample ID	Method	Compounds	MS Recovery	MSD Recovery
MW2022-5 (0.0-1.0)	SW-846 8081B	4,4'-DDT	> UL	> UL
		beta-BHC	AC	< 10%
		cis-Chlordane	> UL	> UL
		Dieldrin	AC	< 10%
		Endosulfan I	< 10%	< 10%
		Endrin aldehyde	AC	< 10%
		Endrin ketone	< 10%	< 10%
		gamma-BHC (Lindane)	< LL but > 10%	AC
		Heptachlor	< 10%	< 10%
		Methoxychlor	< LL but > 10%	AC
		trans-Chlordane	> UL	AC
MW2022-5 (0.0-1.0)	SW-846 8141B	Dimethoate	< LL but > 10%	< LL but > 10%

Note:
UL Upper limit
AC Acceptable
LL Lower limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 33. Evaluation Criteria for MS/MSD Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J

Control Limit	Sample Result	Qualification
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Detect	No Action
	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 34. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Method	Compounds
MW2022-5 (0.0-1.0)	SW-846 8081B	4,4'-DDE
		Aldrin
		gamma-BHC (Lindane)
		Heptachlor epoxide
		trans-Chlordane

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 35. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent

sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Table 36. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Method	Compounds	RPD
MW2022-5 (12.0-16.0)	8081B	4,4'-DDT	36.4%
MW2022-5 (45.0-49.0)		Endrin aldehyde	39.7%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 37. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (PCB sample results less than the RL)	U

When the PCB sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the PCB cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

Note:

If there is a qualification of an Aroclor and it is at least 10% of the Total PCBs, the qualifier “J” needs to be added to the Total PCB results.

If an Aroclor is qualified as “JN” and contributes more than 50% to the overall Total PCBs result, then the Total PCBs result will be qualified as estimate “J”.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

Table 38. Data validation checklist for SW-846 8081B/8141B/8151A

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X	X		
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
Dilution Factor		X		X	
Moisture Content		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 39. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 40. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW2022-5 (26.0-30.0) Prep Batch: 252306	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL
MW2022-5 (0.0-1.0) Prep Batch: 253183	1,2,3,7,8-PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL
MW2022-5 (12.0-16.0) Prep Batch: 254010	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)		
MW2022-5 (45.0-49.0) Prep Batch :254010	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	U” at the RL

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 41. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compound	Criteria
MW2022-5 (0.0-1.0)	%RSD	2,3,7,8-TCDF	15.1%
MW2022-5 (26.0-30.0)		2,3,7,8-TCDD	16.7%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified as below.

Table 42. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 15 % or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

ALL labeled standards exhibiting recoveries within the control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample MW2022-5 (0.0-1.0) exhibiting recoveries outside of the control limits are presented in the following table.

Table 43. MS/MSD Analysis for Sample Exhibiting Recoveries Outside the Control Limit

Sample ID	Compound	MS Recovery	MSD Recovery
MW2022-5 (0.0-1.0)	OCDD	AC	< LL but > 10%

Notes:
AC = Acceptable
LL = Lower limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 44. Evaluation Criteria for MS/MSD Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
	Detect	No Action

Control Limit	Sample Result	Qualification
Parent sample concentration > four times the MS/MSD spiking solution concentration (D).	Non-detect	

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 45. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compound
MW2022-5 (0.0-1.0)	OCDD

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 46. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

6.7 Ongoing Precision Result /Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

Table 47. Data validation checklist for PCDD/PCDF

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X	X		
Initial / Continuing calibration %Ds		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio ≥ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 48. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analyte Copper 0.584(mg/Kg) were detected in the associated QA blanks; however, the associated sample results were greater than the BAL. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

7.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

7.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

7.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

7.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample MW2022-5 (0.0-1.0) exhibiting recoveries outside of the control limits are presented in the following table.

Table 49. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analytes	MS Recovery	MSD Recovery
MW2022-5 (0.0-1.0)	Arsenic	>125%	AC
	Lead	>125%	AC
	Zinc	AC	63%

Note:

AC = Acceptable

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified.

Table 50. Evaluation Criteria for MS/MSD Recoveries

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

Samples associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit are presented in the following table.

Table 51. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Analyte	MS/MSD RPD
MW2022-5 (0.0-1.0)	Arsenic	117%

The criteria used to evaluate MS/MSD RPD are presented in the following table. In the case of a MS/MSD RPD deviation, the sample results are qualified.

Table 52. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
>35% (soil)	Non-detect	UJ
	Detect	J

7.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD RPD exceedances are documented in the Section 7.4.

7.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

7.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits, with the exception of the analytes associated with sample locations, as presented in the following table.

Table 53. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Analyte	LCS Recovery
MW2022-5 (0.0-1.0) MW2022-5 (12.0-16.0) MW2022-5 (26.0-30.0) MW2022-5 (45.0-49.0)	624717	Antimony	66.4%

The criteria used to evaluate LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified.

Table 54. Laboratory Control Sample Recovery Criteria and Qualifications

Control limit	Sample Result	Qualification
LCS (soil) percent recovery < lower limit	Non-detect	UJ
	Detect	J
LCS (soil) percent recovery > upper limit	Non-detect	No Action
	Detect	J

7.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample

The serial dilution was performed on samples MW2022-5 (0.0-1.0). Serial dilution analysis exhibited acceptable results with the exceptions noted in the table below.

Table 55. Samples with serial dilution differences (%D) Outside Control Limits

Sample ID	Analytes	Serial Dilution (%D)
MW2022-5 (0.0-1.0)	Zinc	22%

The criteria used to evaluate the serial dilution are presented in the following table. In the case of a serial dilution deviation, the sample results are qualified as documented in the table below.

Table 56. Serial dilution Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> 10%	Non-detect	UJ
	Detect	J

7.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.9 Data Validation Checklist

Table 57. Data validation checklist for Metals

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)					
Atomic Absorption – Manual Cold Vapor (CV)					

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 58. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample MW2022-5 (0.0-1.0) exhibiting recoveries outside of the control limits are presented in the following table.

Table 59. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery	MSD Recovery
MW2022-5 (0.0-1.0)	Cyanide	41%	<10%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte cyanide associated with this SDG.

Table 60. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J

Control limit	Sample Result	Qualification
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

8.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for waters and within laboratory established acceptance limits for soil.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

8.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.8 Data Validation Checklist for General Chemistry

Table 61. Data validation checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 62. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.6%	3
SVOCs	97.8%	11
PCBs	100%	0
PEST	93.5%	6
HERB	100%	0
OPC	75%	7
PCDD/PCDF	100%	0
Metals	100%	0
MISC	87.5%	1

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Vinayak Hegde

SIGNATURE: 

DATE: November 8, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 8, 2022

Appendix A

Chain of Custody

Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: R. McDermott	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 551-237-1409	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 3
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

480-197371 Chain of Custody

I - Ice, J - DI Water, K - EDTA, L - EDA, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW 2022-5 (0.0-1.0)	4-29-22	1105	C	S			X	X	X	X										4	
MW 2022-5 (0.5)	4-29-22	1104	G	S							X									4	
MW 2022-5 (0.0-1.0) MS	4-29-22	1105	C	S			X	X	X	X										4	
MW 2022-5 (0.5) MS	4-29-22	1104	G	S							X									4	
MW 2022-5 (0.0-1.0) MSD	4-29-22	1105	C	S			X	X	X	X										4	
MW 2022-5 (0.5) MSD	4-29-22	1104	G	S							X									4	
MW 2022-5 (12.0-16.0)	4-29-22	1328	C	S			X	X	X	X										4	
MW 2022-5 (14.0)	4-29-22	1327	G	S							X									4	
MW 2022-5 (26.0-30.0)	4-29-22	1427	C	S			X	X	X	X										4	
MW 2022-5 (29.0)	4-29-22	1425	G	S							X									4	
MW 2022-5 (45.0-49.0)	4-29-22	1504	C	S			X	X	X	X										4	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	R. McDermott	4-29-2022/1610	ARCADIS	C Walker	4/30/22 1000	TAB
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 3.6

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Daniel Meandro	Phone: 551-237-1409	Schove, John R		480-171716-37198.1
Company: ARCADIS U.S. Inc	PWSID:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: NY	Page: Page 2 of 2
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			Job #:
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW2022-5(46.0)	4-29-22	1502	G	S							X									4	

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, (IV), Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4-29-2022/1610	Company ANA	Received by:	Date/Time: 4/30/22 1000	Company TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW2022-5 (0.0-1.0)

Date Collected: 04/29/22 11:05
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-1

Matrix: Solid
Percent Solids: 93.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,2,4,5-Tetrachlorobenzene	ND		3500	600	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,2,4-Trichlorobenzene	ND		6900	500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,2-Dichlorobenzene	ND	F2 UJ	6900	480	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,2-Diphenylhydrazine	ND		6900	400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,3,5-Trinitrobenzene	ND	F2 UJ	6900	290	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,3-Dichlorobenzene	ND		6900	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,3-Dinitrobenzene	ND	F1	6900	830	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,4-Dichlorobenzene	ND		6900	540	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1,4-Dioxane	ND	F1	2100	1100	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	R
1,4-Naphthoquinone	ND	F2 F1 UJ	6900	1300	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
1-Naphthylamine	ND		6900	2400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,3,4,6-Tetrachlorophenol	ND	F2 UJ	3500	730	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,4,5-Trichlorophenol	ND		3500	960	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,4,6-Trichlorophenol	ND		3500	710	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,4-Dichlorophenol	ND		3500	380	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,4-Dimethylphenol	ND		3500	850	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,4-Dinitrophenol	ND		35000	16000	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,4-Dinitrotoluene	ND	F1	3500	730	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,6-Dichlorophenol	ND	F1	6900	1300	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2,6-Dinitrotoluene	ND	F2 UJ	3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Acetylaminofluorene	ND		6900	900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Chloronaphthalene	ND	F1	3500	580	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Chlorophenol	ND		6900	650	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Methylnaphthalene	ND		3500	710	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Methylphenol	ND		3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Naphthylamine	ND		6900	2400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Nitroaniline	ND	F2 UJ	6900	520	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Nitrophenol	ND		3500	1000	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Picoline	ND		6900	790	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
2-Toluidine	ND	F1	6900	1700	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	R
3 & 4 Methylphenol	ND	F2 UJ	6900	540	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
3,3'-Dichlorobenzidine	ND		6900	4200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
3,3'-Dimethylbenzidine	ND		14000	6900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
3-Methylcholanthrene	ND		6900	1100	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
3-Methylphenol	ND	F2 UJ	6900	540	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
3-Nitroaniline	ND		6900	980	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4,6-Dinitro-2-methylphenol	ND		6900	3500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Aminobiphenyl	ND	F1	6900	1400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	R
4-Bromophenyl phenyl ether	ND		3500	500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Chloro-3-methylphenol	ND	F2 F1 UJ	3500	880	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Chloroaniline	ND		3500	880	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Chlorophenyl phenyl ether	ND	F2 UJ	3500	440	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Methylphenol	ND	F2 UJ	6900	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Nitroaniline	ND		6900	1900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Nitrophenol	ND		6900	2500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
4-Nitroquinoline-1-oxide	ND		14000	6900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
7,12-Dimethylbenz(a)anthracene	ND		6900	1000	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
a,a-Dimethylphenethylamine	ND		6900	6900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Acenaphthene	ND		3500	520	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	

Client Sample ID: MW2022-5 (0.0-1.0)
Date Collected: 04/29/22 11:05
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-1
Matrix: Solid
Percent Solids: 93.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		3500	460	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Acetophenone	ND		3500	480	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Aniline	ND		6900	850	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Anthracene	ND		3500	880	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Aramite, Total	ND		6900	3300	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzidine	ND	UJ	100000	44000	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzo[a]anthracene	ND	F1	3500	350	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzo[a]pyrene	ND	F1	3500	520	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzo[b]fluoranthene	ND		3500	560	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzo[g,h,i]perylene	ND	F1	3500	380	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzo[k]fluoranthene	ND		3500	460	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Benzyl alcohol	ND		6900	480	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
bis (2-chloroisopropyl) ether	ND		3500	710	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Bis(2-chloroethoxy)methane	ND		3500	750	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Bis(2-chloroethyl)ether	ND		3500	460	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Bis(2-ethylhexyl) phthalate	ND		3500	1200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Butyl benzyl phthalate	ND		3500	580	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Chrysene	ND	F2 F1	3500	790	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	UJ
Diallate	ND		6900	880	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Dibenz(a,h)anthracene	ND		3500	630	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Dibenzofuran	ND	F2	3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	UJ
Diethyl phthalate	ND	F2 F1	3500	460	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	UJ
Dimethoate	ND		6900	850	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Dimethyl phthalate	ND		3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Di-n-butyl phthalate	ND		3500	600	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Di-n-octyl phthalate	ND		3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Dinoseb	ND		6900	1200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Diphenylamine	ND		6900	900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Disulfoton	ND		6900	5200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Chlorobenzilate	ND	F2	6900	1100	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	UJ
Ethyl methanesulfonate	ND	F1	6900	1500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	R
Famphur	ND	*	14000	3300	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	R
Fluoranthene	ND	F1	3500	380	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Fluorene	ND	F2	3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	UJ
Hexachlorobenzene	ND		3500	480	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Hexachlorobutadiene	ND		3500	520	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Hexachlorocyclopentadiene	ND		3500	480	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Hexachloroethane	ND		3500	460	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Hexachloropropene	ND		6900	1800	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Indeno[1,2,3-cd]pyrene	ND	F1	3500	440	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Isodrin	ND		6900	1200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Isophorone	ND	F2	3500	750	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	UJ
Isosafrole	ND		6900	920	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Kepone	ND		14000	6900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Methapyrilene	ND		31000	6900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Methyl methanesulfonate	ND		6900	1600	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Naphthalene	ND		3500	460	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
Nitrobenzene	ND		3500	400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	
N-Nitro-o-toluidine	ND	F1	6900	900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20	

Client Sample ID: MW2022-5 (0.0-1.0)

Date Collected: 04/29/22 11:05
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-1

Matrix: Solid
Percent Solids: 93.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	F1	6900	1600	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosodimethylamine	ND	F1	6900	1500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosodi-n-butylamine	ND		6900	1900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosodi-n-propylamine	ND	F2	3500	600	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosodiphenylamine	ND		3500	2900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosomethylethylamine	ND	F1	6900	1600	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosomorpholine	ND		6900	1500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosopiperidine	ND	F2	6900	1400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
N-Nitrosopyrrolidine	ND		6900	1000	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
o,o',o''-Triethylphosphorothioate	ND		6900	900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Ethyl Parathion	ND		6900	770	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Methyl parathion	ND		6900	1200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
p-Dimethylamino azobenzene	ND		6900	1200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Pentachlorobenzene	ND		6900	1400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Pentachloronitrobenzene	ND		6900	1800	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Pentachlorophenol	ND	*1	6900	3500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Phenacetin	ND		6900	940	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Phenanthrene	ND	F1	3500	520	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Phenol	ND		3500	540	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Phorate	ND		6900	1900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
p-Phenylene diamine	ND		17000	6900	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Pronamide	ND		6900	1400	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Pyrene	ND		3500	420	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Pyridine	ND		6900	500	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Safrole	ND	F2	6900	940	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Sulfotepp	ND	F2 F1	6900	1100	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20
Thionazin	ND	F1	6900	1200	ug/Kg	☼	05/02/22 15:39	05/04/22 23:49	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*140*	*S1+*	*54 - 120*	*05/02/22 15:39*	*05/04/22 23:49*	*20*
2-Fluorobiphenyl (Surr)	*92*		*60 - 120*	*05/02/22 15:39*	*05/04/22 23:49*	*20*
2-Fluorophenol (Surr)	*100*		*52 - 120*	*05/02/22 15:39*	*05/04/22 23:49*	*20*
Nitrobenzene-d5 (Surr)	*104*		*53 - 120*	*05/02/22 15:39*	*05/04/22 23:49*	*20*
Phenol-d5 (Surr)	*96*		*54 - 120*	*05/02/22 15:39*	*05/04/22 23:49*	*20*
p-Terphenyl-d14 (Surr)	*114*		*79 - 130*	*05/02/22 15:39*	*05/04/22 23:49*	*20*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		35	6.9	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
4,4'-DDE	ND	F2	35	7.4	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
4,4'-DDT	ND	F1	35	8.3	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Aldrin	ND	F2	35	8.7	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
alpha-BHC	ND		35	6.4	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
beta-BHC	ND	F1	35	6.4	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Chlordane (technical)	ND		350	79	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Chlorobenzilate	ND		350	120	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
cis-Chlordane	ND	F1	35	18	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
delta-BHC	ND		35	6.6	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Dieldrin	ND	F1	35	8.5	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Endosulfan I	ND	F1	35	6.8	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20

Client Sample ID: MW2022-5 (0.0-1.0)

Date Collected: 04/29/22 11:05
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-1

Matrix: Solid
Percent Solids: 93.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND	UJ	35	6.4	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Endosulfan sulfate	ND		35	6.6	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Endrin	ND		35	7.0	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Endrin aldehyde	ND	F1	35	9.0	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20 R
Endrin ketone	ND	F1	35	8.7	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20 R
gamma-BHC (Lindane)	ND	F1 F2 UJ	35	6.5	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Heptachlor	ND	F1	35	7.7	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20 R
Heptachlor epoxide	ND	F2 UJ	35	9.1	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Methoxychlor	19	J F1 J	35	7.2	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
Toxaphene	ND	UJ	350	210	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20
trans-Chlordane	ND	F1 F2 UJ	35	11	ug/Kg	☼	05/02/22 15:34	05/03/22 10:37	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*0*	*S1-*	*45 - 120*	*05/02/22 15:34*	*05/03/22 10:37*	*20*
Tetrachloro-m-xylene	*0*	*S1-*	*30 - 124*	*05/02/22 15:34*	*05/03/22 10:37*	*20*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.044	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1
PCB-1221	ND		0.23	0.044	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1
PCB-1232	ND		0.23	0.044	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1
PCB-1242	ND		0.23	0.044	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1
PCB-1248	ND		0.23	0.044	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	05/03/22 15:49	05/04/22 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*65 - 174*	*05/03/22 15:49*	*05/04/22 15:34*	*1*
Tetrachloro-m-xylene	*121*		*60 - 154*	*05/03/22 15:49*	*05/04/22 15:34*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	05/05/22 08:40	05/06/22 18:22	1
2,4-D	ND		18	11	ug/Kg	☼	05/05/22 08:40	05/06/22 18:22	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	05/05/22 08:40	05/06/22 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*42*		*28 - 129*	*05/05/22 08:40*	*05/06/22 18:22*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H F1	35	20	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1 R
Disulfoton	ND	H	35	23	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1
Famphur	ND	H	35	19	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1
Methyl parathion	ND	H	35	20	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1
Ethyl Parathion	ND	H	35	19	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1
Phorate	ND	H	35	12	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1
Sulfotepp	ND	H	35	14	ug/Kg	☼	06/24/22 08:17	06/27/22 05:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*62*		*20 - 135*	*06/24/22 08:17*	*06/27/22 05:43*	*1*

Client Sample ID: MW2022-5 (0.0-1.0)
Date Collected: 04/29/22 11:05
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-1
Matrix: Solid
Percent Solids: 93.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	59		20 - 135	06/24/22 08:17	06/27/22 05:43	1
Triphenylphosphate	64		33 - 168	06/24/22 08:17	06/27/22 05:43	1
Triphenylphosphate	64		33 - 168	06/24/22 08:17	06/27/22 05:43	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	32	B	5.3	0.077	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,4,6,7,8-HpCDF	7.8	B	5.3	0.042	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,4,7,8,9-HpCDF	0.49	J B	5.3	0.054	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,4,7,8-HxCDD	0.24	J I	5.3	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,4,7,8-HxCDF	0.51	J B	5.3	0.036	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,6,7,8-HxCDD	0.76	J B	5.3	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,6,7,8-HxCDF	0.26	J B	5.3	0.035	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,7,8,9-HxCDD	0.35	J B	5.3	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,7,8,9-HxCDF	ND		5.3	0.040	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,7,8-PeCDD	0.15	J I	5.3	0.022	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
1,2,3,7,8-PeCDF	0.081	J B	5.3	0.031	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
2,3,4,6,7,8-HxCDF	0.45	J B	5.3	0.034	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
2,3,4,7,8-PeCDF	0.62	J I	5.3	0.022	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
2,3,7,8-TCDD	0.23	J	1.1	0.0073	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
2,3,7,8-TCDF	0.082	J I B	1.1	0.016	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
OCDD	360	F2 F1 B	11	0.13	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
OCDF	45	B	11	0.068	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total HpCDD	32	B	5.3	0.077	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total HpCDF	8.3	B	5.3	0.048	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total HxCDD	1.4	J I B	5.3	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total HxCDF	1.2	J B	5.3	0.036	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total PeCDD	0.15	J I	5.3	0.022	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total PeCDF	0.70	J I B	5.3	0.026	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total TCDD	0.23	J I	1.1	0.0073	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1
Total TCDF	0.082	J I B	1.1	0.016	ng/Kg	☼	05/09/22 15:35	05/10/22 14:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	78		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,4,6,7,8-HpCDF	75		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,4,7,8,9-HpCDF	76		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,4,7,8-HxCDD	83		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,6,7,8-HxCDD	83		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,6,7,8-HxCDF	80		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,7,8,9-HxCDD	84		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,7,8,9-HxCDF	80		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,7,8-PeCDD	60		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-1,2,3,7,8-PeCDF	64		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-2,3,4,6,7,8-HxCDF	81		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-2,3,4,7,8-PeCDF	71		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-2,3,7,8-TCDD	77		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-2,3,7,8-TCDF	77		40 - 135	05/09/22 15:35	05/10/22 14:59	1
13C-OCDD	67		40 - 135	05/09/22 15:35	05/10/22 14:59	1

Client Sample ID: MW2022-5 (0.0-1.0)

Lab Sample ID: 480-197371-1
Date Collected: 04/29/22 11:05
Matrix: Solid
Date Received: 04/30/22 10:00
Percent Solids: 93.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	65		40 - 135	05/09/22 15:35	05/10/22 14:59	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	16.7	0.45	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Arsenic	**5.9**	~~F1 F2~~ J	2.2	0.45	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Barium	**24.8**		0.56	0.12	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Beryllium	**0.24**		0.22	0.031	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Cadmium	**0.063**	J	0.22	0.033	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Chromium	**6.0**		0.56	0.22	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Cobalt	**7.7**	~~F2~~	0.56	0.056	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Copper	**13.1**	~~B~~	1.1	0.23	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Lead	**12.8**	~~F1~~ J	1.1	0.27	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Nickel	**13.0**		5.6	0.26	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Selenium	ND		4.5	0.45	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Silver	ND		0.67	0.22	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Thallium	ND		6.7	0.33	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Tin	ND		2.2	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Vanadium	**11.5**		0.56	0.12	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1
Zinc	**38.4**	~~F1~~ J	2.2	0.71	mg/Kg	☼	05/05/22 13:54	05/12/22 20:43	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.010**	J	0.022	0.0051	mg/Kg	☼	05/06/22 08:32	05/06/22 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~F1~~	~~0.92~~	~~0.45~~	~~mg/Kg~~	☼	~~05/03/22 14:22~~	~~05/03/22 16:37~~	~~1~~ R

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.7	10.7	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: MW2022-5 (0.5)

Lab Sample ID: 480-197371-2
Date Collected: 04/29/22 11:04
Matrix: Solid
Date Received: 04/30/22 10:00
Percent Solids: 89.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	F1 F2 UJ	6.4	0.64	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,1,1-Trichloroethane	ND	F2 UJ	6.4	0.47	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,1,2,2-Tetrachloroethane	ND	F1 F2 UJ	6.4	1.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,1,2-Trichloroethane	ND	F2	6.4	0.84	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,1-Dichloroethane	ND	F2	6.4	0.79	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,1-Dichloroethene	ND	F2	6.4	0.79	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,2,3-Trichloropropane	ND	F2	6.4	0.66	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,2-Dibromo-3-Chloropropane	ND	F1 F2 UJ	6.4	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,2-Dichloroethane	ND	F2 UJ	6.4	0.32	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
1,2-Dichloropropane	ND	F2 UJ	6.4	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
2-Butanone (MEK)	ND	F1 F2 UJ	32	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
2-Chloro-1,3-butadiene	ND	UJ	6.4	4.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1

Client Sample ID: MW2022-5 (0.5)

Date Collected: 04/29/22 11:04
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-2

Matrix: Solid
Percent Solids: 89.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	F2 UJ	13	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
2-Hexanone	ND	F1 F2 UJ	32	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
3-Chloro-1-propene	ND	F1 UJ	6.4	3.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
4-Methyl-2-pentanone (MIBK)	ND	F1 F2 UJ	32	2.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Acetone	ND	F1 F2 UJ	32	5.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Acetonitrile	ND	UJ	64	7.9	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
~~Acrolein~~	~~ND~~	~~F1~~	~~32~~	~~10~~	~~ug/Kg~~	☼	~~04/30/22 14:00~~	~~05/03/22 23:11~~	~~1~~ R
Acrylonitrile	ND	F1 F2 UJ	32	5.8	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Benzene	ND	F2 UJ	6.4	0.32	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Bromoform	ND	F1 F2 UJ	6.4	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Bromomethane	ND	F2	6.4	0.58	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Carbon disulfide	ND	F2	6.4	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Carbon tetrachloride	ND	F1 F2 UJ	6.4	0.62	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Chlorobenzene	ND	F1 F2 UJ	6.4	0.85	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Chlorodibromomethane	ND	F1 F2 UJ	6.4	0.82	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Chloroethane	ND	F2	6.4	1.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Chloroform	ND	F2	6.4	0.40	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Chloromethane	ND	F2	6.4	0.39	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
cis-1,3-Dichloropropene	ND	F1 F2 UJ	6.4	0.93	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Dibromomethane	ND	F2	6.4	0.66	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Dichlorobromomethane	ND	F2	6.4	0.86	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Dichlorodifluoromethane	ND	F2	6.4	0.53	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
~~Ethyl methacrylate~~	~~ND~~	~~F1~~	~~6.4~~	~~2.2~~	~~ug/Kg~~	☼	~~04/30/22 14:00~~	~~05/03/22 23:11~~	~~1~~ R
Ethylbenzene	ND	F1 F2 UJ	6.4	0.44	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Ethylene Dibromide	ND	F1 F2	6.4	0.83	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Iodomethane	ND	F1 F2	6.4	0.31	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Methacrylonitrile	ND	UJ	32	7.6	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Methyl methacrylate	ND	UJ	6.4	1.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Methylene Chloride	ND	F2 UJ	6.4	3.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
m-Xylene & p-Xylene	**1.4**	~~J F1 F2~~ J	13	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
o-Xylene	**1.1**	~~J F1 F2~~ J	6.4	0.84	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Propionitrile	ND	UJ	64	36	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Styrene	ND	F1 F2 UJ	6.4	0.32	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Tetrachloroethene	ND	F1 F2 UJ	6.4	0.86	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Toluene	ND	F2	6.4	0.49	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
trans-1,2-Dichloroethene	ND	F2	6.4	0.66	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
trans-1,3-Dichloropropene	ND	F1 F2 UJ	6.4	2.8	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
trans-1,4-Dichloro-2-butene	ND	F1 F2	6.4	1.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Trichloroethene	ND	F1 F2	6.4	1.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
Trichlorofluoromethane	ND	F2	6.4	0.61	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1
~~Vinyl acetate~~	~~ND~~	~~F1~~	~~13~~	~~3.2~~	~~ug/Kg~~	☼	~~04/30/22 14:00~~	~~05/03/22 23:11~~	~~1~~ R
Vinyl chloride	ND	F2 UJ	6.4	0.79	ug/Kg	☼	04/30/22 14:00	05/03/22 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*64 - 126*	*04/30/22 14:00*	*05/03/22 23:11*	*1*
4-Bromofluorobenzene (Surr)	*90*		*72 - 126*	*04/30/22 14:00*	*05/03/22 23:11*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*	*04/30/22 14:00*	*05/03/22 23:11*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*04/30/22 14:00*	*05/03/22 23:11*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197371-1

Client Sample ID: MW2022-5 (12.0-16.0)
Date Collected: 04/29/22 13:28
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-3
Matrix: Solid
Percent Solids: 87.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,2-Diphenylhydrazine	ND		370	22	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,3,5-Trinitrobenzene	ND		370	16	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,3-Dichlorobenzene	ND		370	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,4-Dichlorobenzene	ND		370	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,4-Dioxane	ND		110	62	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1,4-Naphthoquinone	ND		370	70	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,3,4,6-Tetrachlorophenol	ND		190	40	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,4,5-Trichlorophenol	ND		190	52	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,4,6-Trichlorophenol	ND		190	39	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,4-Dinitrophenol	ND		1900	890	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,4-Dinitrotoluene	ND		190	40	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,6-Dichlorophenol	ND		370	70	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2,6-Dinitrotoluene	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Acetylaminofluorene	ND		370	49	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Chloronaphthalene	ND		190	32	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Methylnaphthalene	ND		190	39	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Methylphenol	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Picoline	ND		370	43	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
2-Toluidine	ND		370	92	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
3 & 4 Methylphenol	ND		370	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
3,3'-Dichlorobenzidine	ND		370	230	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
3,3'-Dimethylbenzidine	ND		750	370	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
3-Methylphenol	ND		370	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Aminobiphenyl	ND		370	78	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Chloro-3-methylphenol	ND		190	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Chloroaniline	ND		190	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Methylphenol	ND		370	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Nitrophenol	ND		370	140	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
4-Nitroquinoline-1-oxide	ND		750	370	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
a,a-Dimethylphenethylamine	ND		370	370	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Acenaphthene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1

Client Sample ID: MW2022-5 (12.0-16.0)
Date Collected: 04/29/22 13:28
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-3
Matrix: Solid
Percent Solids: 87.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Acetophenone	ND		190	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Aniline	ND		370	47	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Anthracene	ND		190	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Aramite, Total	ND		370	180	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzidine	ND	UJ	5700	2400	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
bis (2-chloroisopropyl) ether	ND		190	39	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Bis(2-chloroethoxy)methane	ND		190	41	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Butyl benzyl phthalate	ND		190	32	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Chrysene	ND		190	43	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Diallate	ND		370	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Dibenzofuran	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Dimethoate	ND		370	47	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Dimethyl phthalate	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Di-n-octyl phthalate	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Dinoseb	ND		370	67	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Diphenylamine	ND		370	49	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Disulfoton	ND		370	280	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Chlorobenzilate	ND		370	60	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Ethyl methanesulfonate	ND		370	83	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Famphur	ND	*	750	180	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1 R
Fluoranthene	ND		190	20	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Fluorene	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Hexachloroethane	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Hexachloropropene	ND		370	95	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Isodrin	ND		370	66	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Isophorone	ND		190	41	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Isosafrole	ND		370	50	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Kepone	ND		750	370	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Methapyrilene	ND		1700	370	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Methyl methanesulfonate	ND		370	86	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Naphthalene	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Nitrobenzene	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitro-o-toluidine	ND		370	49	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1

Client Sample ID: MW2022-5 (12.0-16.0)
Date Collected: 04/29/22 13:28
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-3
Matrix: Solid
Percent Solids: 87.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		370	87	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosodimethylamine	ND		370	82	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosomethylethylamine	ND		370	86	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosomorpholine	ND		370	84	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosopiperidine	ND		370	76	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
N-Nitrosopyrrolidine	ND		370	57	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
o,o',o''-Triethylphosphorothioate	ND		370	49	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Ethyl Parathion	ND		370	42	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Methyl parathion	ND		370	65	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
p-Dimethylamino azobenzene	ND		370	64	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Pentachlorobenzene	ND		370	78	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Pentachloronitrobenzene	ND		370	95	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Pentachlorophenol	ND	*+	370	190	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Phenacetin	ND		370	51	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Phenanthrene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Phenol	ND		190	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Phorate	ND		370	100	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
p-Phenylene diamine	ND		910	370	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Pronamide	ND		370	74	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Pyrene	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Pyridine	ND		370	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Safrole	ND		370	51	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Sulfotepp	ND		370	60	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1
Thionazin	ND		370	66	ug/Kg	☼	05/02/22 15:39	05/05/22 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*	*05/02/22 15:39*	*05/05/22 00:12*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*05/02/22 15:39*	*05/05/22 00:12*	*1*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*05/02/22 15:39*	*05/05/22 00:12*	*1*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*	*05/02/22 15:39*	*05/05/22 00:12*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*05/02/22 15:39*	*05/05/22 00:12*	*1*
p-Terphenyl-d14 (Surr)	*109*		*79 - 130*	*05/02/22 15:39*	*05/05/22 00:12*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
4,4'-DDT	~~1.2~~ ~~J B~~		1.9	U 0.44	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
cis-Chlordane	ND		1.9	0.93	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1

Client Sample ID: MW2022-5 (12.0-16.0)

Date Collected: 04/29/22 13:28
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-3

Matrix: Solid
Percent Solids: 87.4

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Endrin	ND		1.9	0.37	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
Toxaphene	ND		19	11	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	05/02/22 15:34	05/03/22 10:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*45 - 120*	*05/02/22 15:34*	*05/03/22 10:57*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*05/02/22 15:34*	*05/03/22 10:57*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	05/03/22 15:49	05/04/22 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*65 - 174*	*05/03/22 15:49*	*05/04/22 15:47*	*1*
Tetrachloro-m-xylene	*114*		*60 - 154*	*05/03/22 15:49*	*05/04/22 15:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.0	ug/Kg	☼	05/05/22 08:40	05/06/22 18:52	1
2,4-D	ND		19	12	ug/Kg	☼	05/05/22 08:40	05/06/22 18:52	1
Silvex (2,4,5-TP)	ND		19	6.7	ug/Kg	☼	05/05/22 08:40	05/06/22 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*05/05/22 08:40*	*05/06/22 18:52*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	38	21	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1
Disulfoton	ND	H	38	25	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1
Famphur	ND	H	38	20	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1
Methyl parathion	ND	H	38	22	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1
Ethyl Parathion	ND	H	38	21	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1
Phorate	ND	H	38	13	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1
Sulfotepp	ND	H	38	15	ug/Kg	☼	05/09/22 10:30	05/10/22 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*68*		*20 - 135*	*05/09/22 10:30*	*05/10/22 12:23*	*1*

Client Sample ID: MW2022-5 (12.0-16.0)
Date Collected: 04/29/22 13:28
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-3
Matrix: Solid
Percent Solids: 87.4

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	69		20 - 135	05/09/22 10:30	05/10/22 12:23	1
Triphenylphosphate	80		33 - 168	05/09/22 10:30	05/10/22 12:23	1
Triphenylphosphate	84		33 - 168	05/09/22 10:30	05/10/22 12:23	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.74~~	~~J I B~~	5.7	U	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,4,6,7,8-HpCDF	~~0.31~~	~~J B~~	5.7	U	0.0099	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,4,7,8,9-HpCDF	~~0.036~~	~~J I B~~	5.7	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,4,6,7,8-HxCDD	ND		5.7		0.0094	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,4,7,8-HxCDF	~~0.047~~	~~J I B~~	5.7	U	0.0071	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,6,7,8-HxCDD	~~0.068~~	~~J I B~~	5.7	U	0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,6,7,8-HxCDF	~~0.052~~	~~J B~~	5.7	U	0.0075	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,7,8,9-HxCDD	~~0.039~~	~~J I B~~	5.7	U	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,7,8,9-HxCDF	ND		5.7		0.0083	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,7,8-PeCDD	ND		5.7		0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
1,2,3,7,8-PeCDF	~~0.026~~	~~J I B~~	5.7	U	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
2,3,4,6,7,8-HxCDF	~~0.037~~	~~J I B~~	5.7	U	0.0063	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
2,3,4,7,8-PeCDF	~~0.024~~	~~J I B~~	5.7	U	0.0087	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
2,3,7,8-TCDD	ND		1.1		0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
2,3,7,8-TCDF	ND		1.1		0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
OCDD	~~2.8~~	~~J B~~	11	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
OCDF	~~0.98~~	~~J B~~	11	U	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total HpCDD	~~0.74~~	~~J I B~~	5.7	U	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total HpCDF	~~0.35~~	~~J I B~~	5.7	U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total HxCDD	~~0.11~~	~~J I B~~	5.7	U	0.0098	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total HxCDF	~~0.14~~	~~J I B~~	5.7	U	0.0073	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total PeCDD	ND		5.7		0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total PeCDF	~~0.050~~	~~J I B~~	5.7	U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total TCDD	ND		1.1		0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1
Total TCDF	ND		1.1		0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 01:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	66		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,4,6,7,8-HpCDF	66		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,4,7,8,9-HpCDF	69		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,4,7,8-HxCDD	70		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,4,7,8-HxCDF	69		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,6,7,8-HxCDD	73		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,6,7,8-HxCDF	72		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,7,8,9-HxCDD	69		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,7,8,9-HxCDF	72		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,7,8-PeCDD	71		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-1,2,3,7,8-PeCDF	64		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-2,3,4,6,7,8-HxCDF	70		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-2,3,4,7,8-PeCDF	71		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-2,3,7,8-TCDD	84		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-2,3,7,8-TCDF	63		40 - 135	05/11/22 11:05	05/13/22 01:44	1
13C-OCDD	81		40 - 135	05/11/22 11:05	05/13/22 01:44	1

Client Sample ID: MW2022-5 (12.0-16.0)

Lab Sample ID: 480-197371-3
Matrix: Solid
Percent Solids: 87.4

Date Collected: 04/29/22 13:28
Date Received: 04/30/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	72		40 - 135	05/11/22 11:05	05/13/22 01:44	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	17.0	0.45	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Arsenic	**3.7**		2.3	0.45	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Barium	**16.9**	~~J+~~	0.57	0.12	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Beryllium	**0.16**	**J**	0.23	0.032	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Cadmium	**0.050**	**J**	0.23	0.034	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Chromium	**4.1**		0.57	0.23	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Cobalt	**4.9**		0.57	0.057	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Copper	**6.4**	~~B~~	1.1	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Lead	**6.4**		1.1	0.27	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Nickel	**9.2**		5.7	0.26	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Selenium	ND		4.5	0.45	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Silver	ND		0.68	0.23	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Thallium	ND		6.8	0.34	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Tin	**1.8**	**J**	2.3	0.49	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Vanadium	**5.4**		0.57	0.12	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1
Zinc	**25.7**		2.3	0.72	mg/Kg	☼	05/05/22 13:54	05/12/22 21:15	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0053	mg/Kg	☼	05/06/22 08:32	05/06/22 11:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	05/03/22 14:22	05/03/22 16:41	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.9	11.9	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: MW2022-5 (14.0)

Lab Sample ID: 480-197371-4
Matrix: Solid
Percent Solids: 90.0

Date Collected: 04/29/22 13:27
Date Received: 04/30/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.48	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,1,1-Trichloroethane	ND		4.8	0.35	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,1,2,2-Tetrachloroethane	ND		4.8	0.78	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,1,2-Trichloroethane	ND		4.8	0.63	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,1-Dichloroethane	ND		4.8	0.59	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,1-Dichloroethene	ND		4.8	0.59	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,2,3-Trichloropropane	ND		4.8	0.49	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,2-Dibromo-3-Chloropropane	ND		4.8	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,2-Dichloroethane	ND		4.8	0.24	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
2-Butanone (MEK)	ND		24	1.8	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
2-Chloro-1,3-butadiene	ND	UJ	4.8	3.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1

Client Sample ID: MW2022-5 (14.0)
Date Collected: 04/29/22 13:27
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-4
Matrix: Solid
Percent Solids: 90.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	9.6	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
3-Chloro-1-propene	ND		4.8	2.3	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Acetone	ND		24	4.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Acetonitrile	ND	UJ	48	5.9	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Acrolein	ND		24	7.6	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Acrylonitrile	ND		24	4.3	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Benzene	ND		4.8	0.24	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Bromomethane	ND		4.8	0.43	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Carbon tetrachloride	ND		4.8	0.47	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Chlorobenzene	ND		4.8	0.64	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Chlorodibromomethane	ND		4.8	0.62	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Chloroethane	ND		4.8	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Chloroform	ND		4.8	0.30	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Chloromethane	ND		4.8	0.29	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
cis-1,3-Dichloropropene	ND		4.8	0.69	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Dibromomethane	ND		4.8	0.50	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Dichlorobromomethane	ND		4.8	0.65	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Dichlorodifluoromethane	ND		4.8	0.40	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Ethyl methacrylate	ND		4.8	1.6	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Ethylbenzene	ND		4.8	0.33	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Ethylene Dibromide	ND		4.8	0.62	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Iodomethane	ND		4.8	0.23	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Methacrylonitrile	ND	UJ	24	5.7	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Methyl methacrylate	ND	UJ	4.8	1.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Methylene Chloride	ND		4.8	2.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
m-Xylene & p-Xylene	ND		9.6	0.81	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
o-Xylene	ND		4.8	0.63	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Propionitrile	ND	UJ	48	27	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Styrene	ND		4.8	0.24	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Tetrachloroethene	ND		4.8	0.65	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Toluene	ND		4.8	0.36	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
trans-1,2-Dichloroethene	ND		4.8	0.50	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
trans-1,3-Dichloropropene	ND		4.8	2.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
trans-1,4-Dichloro-2-butene	ND		4.8	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Trichloroethene	ND		4.8	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Trichlorofluoromethane	ND		4.8	0.46	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Vinyl acetate	ND		9.6	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1
Vinyl chloride	ND		4.8	0.59	ug/Kg	☼	04/30/22 14:00	05/03/22 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/30/22 14:00*	*05/03/22 23:35*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*04/30/22 14:00*	*05/03/22 23:35*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*	*04/30/22 14:00*	*05/03/22 23:35*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*04/30/22 14:00*	*05/03/22 23:35*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197371-1

Client Sample ID: MW2022-5 (26.0-30.0)
Date Collected: 04/29/22 14:27
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-5
Matrix: Solid
Percent Solids: 83.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1,4-Naphthoquinone	ND		390	73	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,6-Dichlorophenol	ND		390	73	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Picoline	ND		390	45	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
2-Toluidine	ND		390	96	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1

Client Sample ID: MW2022-5 (26.0-30.0)
Date Collected: 04/29/22 14:27
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-5
Matrix: Solid
Percent Solids: 83.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Acetophenone	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Aniline	ND		390	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Anthracene	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzidine	ND	UJ	5900	2500	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Chrysene	ND		200	45	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Diallate	ND		390	50	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Dimethoate	ND		390	48	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Di-n-butyl phthalate	39	J	200	34	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Dinoseb	ND		390	70	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Disulfoton	ND		390	300	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Ethyl methanesulfonate	ND		390	86	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
~~Famphur~~	~~ND~~	~~*~~	~~780~~	~~190~~	~~ug/Kg~~	~~☼~~	~~05/02/22 15:39~~	~~05/05/22 00:36~~	~~1~~ R
Fluoranthene	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Fluorene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Hexachloropropene	ND		390	99	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Isodrin	ND		390	69	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Isophorone	ND		200	43	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Isosafrole	ND		390	52	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Kepone	ND		780	390	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Methapyrilene	ND		1800	390	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Methyl methanesulfonate	ND		390	90	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Naphthalene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Nitrobenzene	ND		200	22	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1

Client Sample ID: MW2022-5 (26.0-30.0)
Date Collected: 04/29/22 14:27
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-5
Matrix: Solid
Percent Solids: 83.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	91	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosomethylethylamine	ND		390	90	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosomorpholine	ND		390	87	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosopiperidine	ND		390	79	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Methyl parathion	ND		390	67	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Pentachloronitrobenzene	ND		390	99	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Phenacetin	ND		390	53	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Phenol	ND		200	31	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Phorate	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Pronamide	ND		390	77	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Pyrene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Pyridine	ND		390	28	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Safrole	ND		390	53	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1
Thionazin	ND		390	69	ug/Kg	☼	05/02/22 15:39	05/05/22 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*05/02/22 15:39*	*05/05/22 00:36*	*1*
2-Fluorobiphenyl (Surr)	*92*		*60 - 120*	*05/02/22 15:39*	*05/05/22 00:36*	*1*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*05/02/22 15:39*	*05/05/22 00:36*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 120*	*05/02/22 15:39*	*05/05/22 00:36*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*05/02/22 15:39*	*05/05/22 00:36*	*1*
p-Terphenyl-d14 (Surr)	*103*		*79 - 130*	*05/02/22 15:39*	*05/05/22 00:36*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
4,4'-DDT	~~0.96~~ ~~J B~~		1.9	U 0.45	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Aldrin	ND		1.9	0.47	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
cis-Chlordane	ND		1.9	0.96	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1

Client Sample ID: MW2022-5 (26.0-30.0)

Date Collected: 04/29/22 14:27
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-5

Matrix: Solid
Percent Solids: 83.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Endrin	ND		1.9	0.38	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Endrin ketone	ND		1.9	0.47	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Methoxychlor	ND		1.9	0.39	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
Toxaphene	ND		19	11	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1
trans-Chlordane	ND		1.9	0.61	ug/Kg	☼	05/02/22 15:34	05/03/22 11:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*74*		*45 - 120*	*05/02/22 15:34*	*05/03/22 11:16*	*1*
Tetrachloro-m-xylene	*69*		*30 - 124*	*05/02/22 15:34*	*05/03/22 11:16*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.047	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1
PCB-1221	ND		0.24	0.047	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1
PCB-1232	ND		0.24	0.047	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1
PCB-1242	ND		0.24	0.047	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1
PCB-1248	ND		0.24	0.047	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	05/03/22 15:49	05/04/22 16:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*65 - 174*	*05/03/22 15:49*	*05/04/22 16:00*	*1*
Tetrachloro-m-xylene	*124*		*60 - 154*	*05/03/22 15:49*	*05/04/22 16:00*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/05/22 08:40	05/06/22 19:21	1
2,4-D	ND		20	12	ug/Kg	☼	05/05/22 08:40	05/06/22 19:21	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/05/22 08:40	05/06/22 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*78*		*28 - 129*	*05/05/22 08:40*	*05/06/22 19:21*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1
Disulfoton	ND	H	39	26	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1
Famphur	ND	H	39	21	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1
Methyl parathion	ND	H	39	23	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1
Ethyl Parathion	ND	H	39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1
Phorate	ND	H	39	13	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1
Sulfotepp	ND	H	39	15	ug/Kg	☼	05/09/22 10:30	05/10/22 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*75*		*20 - 135*	*05/09/22 10:30*	*05/10/22 13:57*	*1*

Client Sample ID: MW2022-5 (26.0-30.0)
Date Collected: 04/29/22 14:27
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-5
Matrix: Solid
Percent Solids: 83.9

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	74		20 - 135	05/09/22 10:30	05/10/22 13:57	1
Triphenylphosphate	82		33 - 168	05/09/22 10:30	05/10/22 13:57	1
Triphenylphosphate	87		33 - 168	05/09/22 10:30	05/10/22 13:57	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.2	J B	5.9	U	0.013	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,4,6,7,8-HpCDF	0.36	J B	5.9	U	0.0022	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,4,7,8,9-HpCDF	0.18	J I B	5.9		0.0030	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,4,7,8-HxCDD	0.17	J B	5.9	U	0.0036	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,4,7,8-HxCDF	0.10	J I B	5.9	U	0.0052	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,6,7,8-HxCDD	0.11	J I B	5.9	U	0.0033	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,6,7,8-HxCDF	0.15	J I B	5.9		0.0051	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,7,8,9-HxCDD	0.15	J B	5.9	U	0.0035	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,7,8,9-HxCDF	0.12	J I B	5.9	U	0.0053	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,7,8-PeCDD	ND		5.9		0.0086	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
1,2,3,7,8-PeCDF	0.075	J I B	5.9	U	0.0049	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
2,3,4,6,7,8-HxCDF	0.14	J B	5.9		0.0046	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
2,3,4,7,8-PeCDF	0.11	J I B	5.9		0.0040	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
2,3,7,8-TCDD	ND	UJ	1.2		0.0059	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
2,3,7,8-TCDF	0.037	J I B	1.2	U	0.0040	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
OCDD	7.8	J B	12	U	0.012	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
OCDF	1.9	J B	12	U	0.0045	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total HpCDD	1.2	J B	5.9	U	0.013	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total HpCDF	0.54	J I B	5.9		0.0026	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total HxCDD	0.43	J I B	5.9		0.0034	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total HxCDF	0.51	J I B	5.9		0.0051	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total PeCDD	ND		5.9		0.0086	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total PeCDF	0.19	J I B	5.9	U	0.0045	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total TCDD	ND		1.2		0.0059	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1
Total TCDF	0.037	J I B	1.2	U	0.0040	ng/Kg	☼	05/05/22 15:00	05/09/22 22:32	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	92		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,4,6,7,8-HpCDF	88		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,4,7,8,9-HpCDF	92		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,4,7,8-HxCDD	82		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,6,7,8-HxCDD	88		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,6,7,8-HxCDF	82		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,7,8,9-HxCDD	86		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,7,8,9-HxCDF	91		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,7,8-PeCDD	60		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-1,2,3,7,8-PeCDF	66		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-2,3,4,6,7,8-HxCDF	86		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-2,3,4,7,8-PeCDF	64		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-2,3,7,8-TCDD	76		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-2,3,7,8-TCDF	75		40 - 135	05/05/22 15:00	05/09/22 22:32	1
13C-OCDD	81		40 - 135	05/05/22 15:00	05/09/22 22:32	1

Client Sample ID: MW2022-5 (26.0-30.0)

Lab Sample ID: 480-197371-5
Date Collected: 04/29/22 14:27
Matrix: Solid
Date Received: 04/30/22 10:00
Percent Solids: 83.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	78		40 - 135	05/05/22 15:00	05/09/22 22:32	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	17.9	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Arsenic	**3.2**		2.4	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Barium	**23.2**	~~J+~~	0.60	0.13	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Beryllium	**0.21**	J	0.24	0.033	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Cadmium	**0.039**	J	0.24	0.036	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Chromium	**6.2**		0.60	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Cobalt	**6.3**		0.60	0.060	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Copper	**8.2**	~~B~~	1.2	0.25	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Lead	**7.1**		1.2	0.29	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Nickel	**11.5**		6.0	0.27	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Selenium	ND		4.8	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Silver	ND		0.72	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Thallium	ND		7.2	0.36	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Tin	ND		2.4	0.51	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Vanadium	**7.6**		0.60	0.13	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1
Zinc	**33.4**		2.4	0.76	mg/Kg	☼	05/05/22 13:54	05/12/22 21:19	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0055	mg/Kg	☼	05/06/22 08:32	05/06/22 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.55	mg/Kg	☼	05/03/22 14:22	05/03/22 16:42	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.3	12.1	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: MW2022-5 (29.0)

Lab Sample ID: 480-197371-6
Date Collected: 04/29/22 14:25
Matrix: Solid
Date Received: 04/30/22 10:00
Percent Solids: 91.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.82	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,1,2-Trichloroethane	ND		5.1	0.66	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,1-Dichloroethane	ND		5.1	0.62	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,1-Dichloroethene	ND		5.1	0.62	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,2-Dichloroethane	ND		5.1	0.26	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
1,2-Dichloropropane	ND		5.1	2.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
2-Butanone (MEK)	ND		25	1.9	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
2-Chloro-1,3-butadiene	ND	UJ	5.1	3.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1

Client Sample ID: MW2022-5 (29.0)
Date Collected: 04/29/22 14:25
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-6
Matrix: Solid
Percent Solids: 91.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	10	2.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
3-Chloro-1-propene	ND		5.1	2.4	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.7	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Acetone	ND		25	4.3	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Acetonitrile	ND	UJ	51	6.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Acrolein	ND		25	8.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Acrylonitrile	ND		25	4.6	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Benzene	ND		5.1	0.25	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Bromoform	ND		5.1	2.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Carbon disulfide	ND		5.1	2.5	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Carbon tetrachloride	ND		5.1	0.49	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Chlorobenzene	ND		5.1	0.67	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Chlorodibromomethane	ND		5.1	0.65	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Chloroethane	ND		5.1	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Chloroform	ND		5.1	0.31	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
cis-1,3-Dichloropropene	ND		5.1	0.73	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Dibromomethane	ND		5.1	0.52	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Dichlorobromomethane	ND		5.1	0.68	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Ethyl methacrylate	ND		5.1	1.7	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Ethylene Dibromide	ND		5.1	0.65	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Methacrylonitrile	ND	UJ	25	6.0	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Methyl methacrylate	ND	UJ	5.1	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Methylene Chloride	ND		5.1	2.3	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
m-Xylene & p-Xylene	ND		10	0.85	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
o-Xylene	ND		5.1	0.66	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Propionitrile	ND	UJ	51	28	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Styrene	ND		5.1	0.25	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Tetrachloroethene	ND		5.1	0.68	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Toluene	ND		5.1	0.38	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
trans-1,2-Dichloroethene	ND		5.1	0.52	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
trans-1,3-Dichloropropene	ND		5.1	2.2	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
trans-1,4-Dichloro-2-butene	ND		5.1	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Trichlorofluoromethane	ND		5.1	0.48	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1
Vinyl chloride	ND		5.1	0.62	ug/Kg	☼	04/30/22 14:00	05/03/22 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*04/30/22 14:00*	*05/03/22 23:59*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/30/22 14:00*	*05/03/22 23:59*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*	*04/30/22 14:00*	*05/03/22 23:59*	*1*
Toluene-d8 (Surr)	*91*		*71 - 125*	*04/30/22 14:00*	*05/03/22 23:59*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197371-1

Client Sample ID: MW2022-5 (45.0-49.0)
Date Collected: 04/29/22 15:04
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-7
Matrix: Solid
Percent Solids: 88.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,4-Dichlorobenzene	ND		360	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1,4-Naphthoquinone	ND		360	68	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,4,6-Trichlorophenol	ND		190	37	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,4-Dinitrophenol	ND		1800	860	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,6-Dichlorophenol	ND		360	68	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Methylnaphthalene	ND		190	37	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Methylphenol	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Nitroaniline	ND		360	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Picoline	ND		360	42	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
2-Toluidine	ND		360	89	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
3 & 4 Methylphenol	ND		360	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
3,3'-Dimethylbenzidine	ND		730	360	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
3-Methylcholanthrene	ND		360	61	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
3-Methylphenol	ND		360	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
3-Nitroaniline	ND		360	52	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4,6-Dinitro-2-methylphenol	ND		360	190	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Aminobiphenyl	ND		360	76	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Bromophenyl phenyl ether	ND		190	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Chloro-3-methylphenol	ND		190	46	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Chloroaniline	ND		190	46	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Methylphenol	ND		360	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Nitroaniline	ND		360	98	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
4-Nitroquinoline-1-oxide	ND		730	360	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
7,12-Dimethylbenz(a)anthracene	ND		360	54	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Acenaphthene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1

Client Sample ID: MW2022-5 (45.0-49.0)

Date Collected: 04/29/22 15:04
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-7

Matrix: Solid
Percent Solids: 88.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Acetophenone	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Aniline	ND		360	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Anthracene	ND		190	46	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Aramite, Total	ND		360	180	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzidine	ND	UJ	5500	2300	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
bis (2-chloroisopropyl) ether	ND		190	37	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Bis(2-ethylhexyl) phthalate	ND		190	64	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Chrysene	ND		190	42	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Diallate	ND		360	46	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Dibenzofuran	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Dimethoate	ND		360	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Dinoseb	ND		360	65	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Diphenylamine	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Disulfoton	ND		360	280	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Ethyl methanesulfonate	ND		360	80	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
~~Famphur~~	~~ND~~	~~*-~~	~~730~~	~~180~~	~~ug/Kg~~	~~☼~~	~~05/02/22 15:39~~	~~05/05/22 01:00~~	~~1~~ R
Fluoranthene	ND		190	20	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Fluorene	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Hexachloroethane	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Hexachloropropene	ND		360	92	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Isodrin	ND		360	64	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Isophorone	ND		190	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Isosafrole	ND		360	48	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Kepone	ND		730	360	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Methapyrilene	ND		1700	360	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Methyl methanesulfonate	ND		360	84	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Naphthalene	ND		190	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Nitrobenzene	ND		190	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1

Client Sample ID: MW2022-5 (45.0-49.0)
Date Collected: 04/29/22 15:04
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-7
Matrix: Solid
Percent Solids: 88.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	85	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosodimethylamine	ND		360	79	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosodi-n-butylamine	ND		360	99	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosomethylethylamine	ND		360	84	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosomorpholine	ND		360	81	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosopiperidine	ND		360	74	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
N-Nitrosopyrrolidine	ND		360	55	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Ethyl Parathion	ND		360	41	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Methyl parathion	ND		360	63	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
p-Dimethylamino azobenzene	ND		360	62	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Pentachlorobenzene	ND		360	76	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Pentachloronitrobenzene	ND		360	92	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Pentachlorophenol	ND	*1	360	190	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Phenacetin	ND		360	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Phenanthrene	ND		190	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Phenol	ND		190	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Phorate	ND		360	100	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
p-Phenylene diamine	ND		880	360	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Pronamide	ND		360	72	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Pyrene	ND		190	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Pyridine	ND		360	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Safrole	ND		360	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Sulfotepp	ND		360	58	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1
Thionazin	ND		360	64	ug/Kg	☼	05/02/22 15:39	05/05/22 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*54 - 120*	*05/02/22 15:39*	*05/05/22 01:00*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*05/02/22 15:39*	*05/05/22 01:00*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*05/02/22 15:39*	*05/05/22 01:00*	*1*
Nitrobenzene-d5 (Surr)	*94*		*53 - 120*	*05/02/22 15:39*	*05/05/22 01:00*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*05/02/22 15:39*	*05/05/22 01:00*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*05/02/22 15:39*	*05/05/22 01:00*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL		MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8		0.36	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
4,4'-DDE	ND		1.8		0.39	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
4,4'-DDT	~~1.0~~ ~~J B~~		1.8	U	0.43	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Aldrin	ND		1.8		0.45	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
alpha-BHC	ND		1.8		0.33	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
beta-BHC	ND		1.8		0.33	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Chlordane (technical)	ND		18		4.1	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Chlorobenzilate	ND		18		6.2	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
cis-Chlordane	ND		1.8		0.92	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
delta-BHC	ND		1.8		0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Dieldrin	ND		1.8		0.44	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Endosulfan I	ND		1.8		0.35	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1

Client Sample ID: MW2022-5 (45.0-49.0)

Date Collected: 04/29/22 15:04
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-7

Matrix: Solid
Percent Solids: 88.6

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Endrin	ND		1.8	0.37	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Endrin aldehyde	**0.61**	**J**	1.8	0.47	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Heptachlor epoxide	ND		1.8	0.48	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Methoxychlor	ND		1.8	0.38	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
Toxaphene	ND		18	11	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1
trans-Chlordane	ND		1.8	0.59	ug/Kg	☼	05/02/22 15:34	05/03/22 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*82*		*45 - 120*	*05/02/22 15:34*	*05/03/22 11:36*	*1*
Tetrachloro-m-xylene	*91*		*30 - 124*	*05/02/22 15:34*	*05/03/22 11:36*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1
PCB-1254	ND		0.21	0.099	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1
PCB-1260	ND		0.21	0.099	mg/Kg	☼	05/03/22 15:49	05/04/22 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*05/03/22 15:49*	*05/04/22 16:14*	*1*
Tetrachloro-m-xylene	*130*		*60 - 154*	*05/03/22 15:49*	*05/04/22 16:14*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	5.9	ug/Kg	☼	05/05/22 08:40	05/06/22 19:51	1
2,4-D	ND		19	12	ug/Kg	☼	05/05/22 08:40	05/06/22 19:51	1
Silvex (2,4,5-TP)	ND		19	6.7	ug/Kg	☼	05/05/22 08:40	05/06/22 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*05/05/22 08:40*	*05/06/22 19:51*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	37	21	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1
Disulfoton	ND	H	37	24	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1
Famphur	ND	H	37	20	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1
Methyl parathion	ND	H	37	21	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1
Ethyl Parathion	ND	H	37	20	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1
Phorate	ND	H	37	12	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1
Sulfotepp	ND	H	37	14	ug/Kg	☼	05/09/22 10:30	05/10/22 14:29	1

UJ

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*20 - 135*	*05/09/22 10:30*	*05/10/22 14:29*	*1*

Client Sample ID: MW2022-5 (45.0-49.0)

Date Collected: 04/29/22 15:04
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-7

Matrix: Solid
Percent Solids: 88.6

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*86*		*20 - 135*	*05/09/22 10:30*	*05/10/22 14:29*	*1*
Triphenylphosphate	*92*		*33 - 168*	*05/09/22 10:30*	*05/10/22 14:29*	*1*
Triphenylphosphate	*98*		*33 - 168*	*05/09/22 10:30*	*05/10/22 14:29*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.75~~	~~J B~~	5.5	U	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,4,6,7,8-HpCDF	~~0.39~~	~~J B~~	5.5	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,4,7,8,9-HpCDF	~~0.084~~	~~J I B~~	5.5	U	0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,4,7,8-HxCDD	~~0.078~~	~~J I B~~	5.5	U	0.0089	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,4,7,8-HxCDF	~~0.12~~	~~J I B~~	5.5	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,6,7,8-HxCDD	~~0.085~~	~~J B~~	5.5	U	0.0092	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,6,7,8-HxCDF	0.091	~~J I B~~ JNX	5.5		0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,7,8,9-HxCDD	~~0.045~~	~~J I B~~	5.5	U	0.0098	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,7,8,9-HxCDF	~~0.071~~	~~J I B~~	5.5	U	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,7,8-PeCDD	0.087	~~J I~~ JNX	5.5		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
1,2,3,7,8-PeCDF	~~0.14~~	~~J I B~~	5.5	U	0.0088	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
2,3,4,6,7,8-HxCDF	~~0.090~~	~~J I B~~	5.5	U	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
2,3,4,7,8-PeCDF	~~0.10~~	~~J B~~	5.5	U	0.0060	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
2,3,7,8-TCDD	0.017	~~J I~~ JNX	1.1		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
2,3,7,8-TCDF	ND		1.1		0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
OCDD	~~2.6~~	~~J B~~	11	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
OCDF	~~1.7~~	~~J B~~	11	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total HpCDD	~~0.75~~	~~J I B~~	5.5	U	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total HpCDF	~~0.47~~	~~J I B~~	5.5		0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total HxCDD	~~0.21~~	~~J I B~~	5.5		0.0093	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total HxCDF	~~0.37~~	~~J I B~~	5.5		0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total PeCDD	0.087	~~J I~~ JNX	5.5		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total PeCDF	~~0.24~~	~~J I B~~	5.5	U	0.0074	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total TCDD	0.017	~~J I~~ JNX	1.1		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1
Total TCDF	ND		1.1		0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 03:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*69*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*70*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,7,8,9-HxCDD	*70*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,7,8,9-HxCDF	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-2,3,4,6,7,8-HxCDF	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-2,3,7,8-TCDD	*89*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-2,3,7,8-TCDF	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*
13C-OCDD	*78*		*40 - 135*	*05/11/22 11:05*	*05/13/22 03:21*	*1*

Client Sample ID: MW2022-5 (45.0-49.0)

Lab Sample ID: 480-197371-7

Date Collected: 04/29/22 15:04
Matrix: Solid
Date Received: 04/30/22 10:00
Percent Solids: 88.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-OCDF	71		40 - 135	05/11/22 11:05	05/13/22 03:21	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	17.8	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Arsenic	**2.9**		2.4	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Barium	**14.3**	~~J+~~	0.59	0.13	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Beryllium	**0.16**	**J**	0.24	0.033	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Cadmium	ND		0.24	0.036	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Chromium	**3.8**		0.59	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Cobalt	**3.9**		0.59	0.059	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Copper	**5.0**	~~B~~	1.2	0.25	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Lead	**5.1**		1.2	0.29	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Nickel	**7.3**		5.9	0.27	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Selenium	ND		4.8	0.48	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Silver	ND		0.71	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Thallium	ND		7.1	0.36	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Tin	ND		2.4	0.51	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Vanadium	**4.9**		0.59	0.13	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1
Zinc	**22.5**		2.4	0.76	mg/Kg	☼	05/05/22 13:54	05/12/22 21:22	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0050	mg/Kg	☼	05/06/22 08:32	05/06/22 11:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	05/03/22 14:22	05/03/22 16:44	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.2	11.5	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: MW2022-5 (46.0)

Lab Sample ID: 480-197371-8

Date Collected: 04/29/22 15:02
Matrix: Solid
Date Received: 04/30/22 10:00
Percent Solids: 85.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.56	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,1,1-Trichloroethane	ND		5.6	0.41	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.91	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,1,2-Trichloroethane	ND		5.6	0.73	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,1-Dichloroethane	ND		5.6	0.68	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,1-Dichloroethene	ND		5.6	0.68	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,2,3-Trichloropropane	ND		5.6	0.57	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,2-Dibromo-3-Chloropropane	ND		5.6	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,2-Dichloroethane	ND		5.6	0.28	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
1,2-Dichloropropane	ND		5.6	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
2-Butanone (MEK)	ND		28	2.0	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
2-Chloro-1,3-butadiene	ND	UJ	5.6	3.5	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1

Client Sample ID: MW2022-5 (46.0)
Date Collected: 04/29/22 15:02
Date Received: 04/30/22 10:00

Lab Sample ID: 480-197371-8
Matrix: Solid
Percent Solids: 85.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND	UJ	11	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
2-Hexanone	ND		28	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
3-Chloro-1-propene	ND		5.6	2.7	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
4-Methyl-2-pentanone (MIBK)	ND		28	1.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Acetone	ND		28	4.7	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Acetonitrile	ND	UJ	56	6.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Acrolein	ND		28	8.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Acrylonitrile	ND		28	5.0	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Benzene	ND		5.6	0.27	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Bromoform	ND		5.6	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Bromomethane	ND		5.6	0.50	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Carbon disulfide	ND		5.6	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Carbon tetrachloride	ND		5.6	0.54	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Chlorobenzene	ND		5.6	0.74	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Chlorodibromomethane	ND		5.6	0.71	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Chloroethane	ND		5.6	1.3	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Chloroform	ND		5.6	0.34	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Chloromethane	ND		5.6	0.34	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
cis-1,3-Dichloropropene	ND		5.6	0.80	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Dibromomethane	ND		5.6	0.57	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Dichlorobromomethane	ND		5.6	0.75	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Dichlorodifluoromethane	ND		5.6	0.46	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Ethyl methacrylate	ND		5.6	1.9	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Ethylbenzene	ND		5.6	0.39	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Ethylene Dibromide	ND		5.6	0.72	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Iodomethane	ND		5.6	0.27	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Methacrylonitrile	ND	UJ	28	6.6	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Methyl methacrylate	ND	UJ	5.6	1.2	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Methylene Chloride	ND		5.6	2.6	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
m-Xylene & p-Xylene	ND		11	0.94	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
o-Xylene	ND		5.6	0.73	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Propionitrile	ND	UJ	56	31	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Styrene	ND		5.6	0.28	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Tetrachloroethene	ND		5.6	0.75	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Toluene	ND		5.6	0.42	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
trans-1,2-Dichloroethene	ND		5.6	0.58	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
trans-1,3-Dichloropropene	ND		5.6	2.5	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
trans-1,4-Dichloro-2-butene	ND		5.6	1.3	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Trichloroethene	ND		5.6	1.2	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Trichlorofluoromethane	ND		5.6	0.53	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Vinyl acetate	ND		11	2.8	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1
Vinyl chloride	ND		5.6	0.68	ug/Kg	☼	04/30/22 14:00	05/04/22 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*04/30/22 14:00*	*05/04/22 00:23*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*04/30/22 14:00*	*05/04/22 00:23*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*04/30/22 14:00*	*05/04/22 00:23*	*1*
Toluene-d8 (Surr)	*91*		*71 - 125*	*04/30/22 14:00*	*05/04/22 00:23*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-198313-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47310R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 8
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 12
2.4.2 Continuing Calibration 12
2.5 Surrogates/System Monitoring Compounds 13
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 14
2.8 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 14
2.9 Field Duplicate Analysis 15
2.10 Compound Identification 15
2.11 System Performance and Overall Assessment 16
2.12 Data Validation Checklist 16
3 Semi-volatile Organic Compound Analyses 17
3.1 Holding Times 17
3.2 Blank Contamination 18
3.3 Mass Spectrometer Tuning 18
3.4 Calibration 18
3.4.1 Initial Calibration 18
3.4.2 Continuing Calibration 19
3.5 Surrogates/System Monitoring Compounds 20
3.6 Internal Standard Performance 20
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 20
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 20
3.9 Field Duplicate Analysis 22
3.10 Compound Identification 22
3.11 System Performance and Overall Assessment 22

3.12 Data Validation Checklist 22
4 Polychlorinated Biphenyl Analyses 24
4.1 Holding Times 24
4.2 Blank Contamination 25
4.3 System Performance 25
4.4 Calibration 25
4.4.1 Initial Calibration 25
4.4.2 Continuing Calibration 25
4.5 Surrogates/System Monitoring Compounds 25
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 26
4.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 26
4.8 Field Duplicate Analysis 26
4.9 Compound Identification 27
4.10 System Performance and Overall Assessment 27
4.11 Data Validation Checklist 27
5 Pesticide/Herbicide Analyses 28
5.1 Holding Times 28
5.2 Blank Contamination 29
5.3 System Performance 29
5.4 Calibration 29
5.4.1 Initial Calibration 30
5.4.2 Continuing Calibration 30
5.5 Surrogates/System Monitoring Compounds 31
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 31
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 32
5.8 Field Duplicate Analysis 33
5.9 Compound Identification 33
5.10 System Performance and Overall Assessment 34
5.11 Data Validation Checklist 34
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 36
6.1 Holding Times 36
6.2 Blank Contamination 36
6.3 Mass Spectrometer Tuning 37

6.4 Calibration 37
6.4.1 Initial Calibration 37
6.4.2 Continuing Calibration 37
6.5 Labeled Standard Performance 37
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 37
6.7 Ongoing Precision Result /Laboratory Control Sample Analysis 38
6.8 Field Duplicate Analysis 38
6.9 Compound Identification 39
6.10 System Performance and Overall Assessment 39
6.11 Data Validation Checklist 40
7 Metals Analyses 41
7.1 Holding Times 41
7.2 Blank Contamination 42
7.3 Calibration 42
7.3.1 Initial Calibration and Continuing Calibration 42
7.3.2 Lower Limit of Quantitation Check Standard 42
7.3.3 ICP Interference Control Sample 43
7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 43
7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 43
7.4.2 Laboratory Duplicate Analysis 44
7.5 Field Duplicate Analysis 44
7.6 Laboratory Control Sample Analysis 45
7.7 Serial Dilution 45
7.8 System Performance and Overall Assessment 46
7.9 Data Validation Checklist 46
8 General Chemistry Analyses 47
8.1 Holding Times 47
8.2 Blank Contamination 48
8.3 Calibration 48
8.3.1 Initial Calibration and Continuing Calibration 48
8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 48
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 48
8.4.2 Laboratory Duplicate Analysis 49

8.5 Field Duplicate Analysis 49
8.6 Laboratory Control Sample (LCS) Analysis 49
8.7 System Performance and Overall Assessment 49
8.8 Data Validation Checklist for General Chemistry 50
9 Overall Data Usability 51

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 11
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications 12
Table 7. Summary of Samples with Internal Standard Responses Outside Control Limits 13
Table 8. Internal Standard Response Evaluation Criteria and Qualifications 14
Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits 15
Table 10. Laboratory Control Sample Recovery Criteria and Qualifications 15
Table 11. Field Duplicate Sample Results 15
Table 12. Holding Time for Method SW-846 8270D 18
Table 13. Summary of Compounds Outside Specified Calibration Control Limits 19
Table 14. Initial and Continuing Calibration Evaluation Criteria and Qualifications 19
Table 15. Samples with Laboratory Control Sample Recoveries Outside Control Limits 21
Table 16. Laboratory Control Sample Recovery Criteria and Qualifications 21
Table 17. Samples with Relative Percent Difference Greater than Control Limits 21
Table 18. Relative Percent Difference Evaluation Criteria and Qualifications 22
Table 19. Field Duplicate Sample Results 22
Table 20. Holding Time for Method SW-846 8082A 24
Table 21. Field Duplicate Sample Results 26
Table 22. Holding Time for Method SW-846 8081B/8141B/8151A 28
Table 23. Summary of Holding Time Exceedances 29
Table 24. Summary of Holding Time Qualifications 29
Table 25. Summary of Compounds Outside Specified Calibration Control Limits 30
Table 26. Initial and Continuing Calibration Evaluation Criteria and Qualifications 30

Table 27. Samples with Relative Percent Difference Greater than Control Limits 31
Table 28. Relative Percent Difference Evaluation Criteria and Qualifications 32
Table 29. Samples with Relative Percent Difference Greater than Control Limits 32
Table 30. Relative Percent Difference Evaluation Criteria and Qualifications 33
Table 31. Field Duplicate Sample Results 33
Table 32. Dual Column Analysis Exhibiting RPD Outside the Control Limit 33
Table 33. Evaluation Criteria for Dual Column Analysis RPD 34
Table 34. Holding Time for Method SW-846 8290A 36
Table 35. Summary of Blank Contamination Qualifications 36
Table 36. Field Duplicate Sample Results 38
Table 37. Holding Time for Method SW-846 6010C/7471B 41
Table 38. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 43
Table 39. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 44
Table 40. Field Duplicate Sample Results 44
Table 41. Samples with serial dilution differences (%D) Outside Control Limits 45
Table 42. Serial dilution Evaluation Criteria and Qualifications 46
Table 43. Specified Holding Times 47
Table 44. Field Duplicate Sample Results 49
Table 45. Overall Summary of Data Usability 51

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-198313-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-2 (0-1)	480-198313-1	Soil	05/24/22		X	X	X	X	X	X
MW-2022-2 (12-22)	480-198313-2	Soil	05/24/22			X	X	X	X	X
MW-2022-2 (14)	480-198313-3	Soil	05/24/22		X					
MW-2022-2 (26-32)	480-198313-4	Soil	05/24/22			X	X	X	X	X
MW-2022-2 (28)	480-198313-5	Soil	05/24/22		X					
MW-2022-2 (33-37)	480-198313-6	Soil	05/24/22			X	X	X	X	X
MW-2022-2 (34)	480-198313-7	Soil	05/24/22		X					
DUP-5-052422	480-198313-8	Soil	05/24/22	MW-2022-2 (0-1)	X	X	X	X	X	X
FB-052422	480-198313-9	Water	05/24/22		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and

- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence

audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	4	1	1	6
SVOCs	0	0	0	4	1	1	6
PCBs	0	0	0	4	1	1	6
PEST	0	0	0	4	1	1	6
HERB	0	0	0	4	1	1	6
PCDD/PCDF	0	0	0	4	1	1	6
Metals	0	0	0	4	1	1	6
MISC	0	0	0	4	1	1	6

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were non-detect. No other qualification of the sample results was required.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
MW-2022-2 (0-1)	CCV %D	Acrolein	-29.7%
MW-2022-2 (14)			
MW-2022-2 (28)			
MW-2022-2 (34)			
DUP-5-052422			
FB-052422	CCV %D	Acrolein	-33.9%
		Acetone	+27.8%
		trans-1,4-Dichloro-2-butene	-41.3%
		1,2-Dibromo-3-Chloropropane	-25.6%
		Acetonitrile	+34.6%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J

Initial/Continuing	Criteria	Sample Result	Qualification
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:
[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits with the exceptions noted in the table below.

Table 7. Summary of Samples with Internal Standard Responses Outside Control Limits

Sample ID	Internal Standard	Response
DUP-5-052422	1,4-Dichlorobenzene-d4	< LL but > 25%

Note:
LL – Lower control limit

The criteria used to evaluate the internal standard responses are presented in the following table. In the case of an internal standard deviation, the compounds quantitated under the deviant internal standard are qualified as documented in the table below.

Table 8. Internal Standard Response Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No action
	Detect	J
< the lower control limit (LL) but > 25%	Non-detect	UJ
	Detect	J
< 25%	Non-detect	R
	Detect	J

Note:
Sample results were not qualified as rejected (R) due to the deviations listed above.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
FB-052422	628289	Vinyl acetate	>UL

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 10. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 11. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	All target compounds	U	U	AC

Note:
U – Non detect
AC – Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS or MS/MSD. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks		X	X		
C. Trip blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were non-detect. No other qualification of the sample results was required.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 13. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
MW-2022-2 (0-1) MW-2022-2 (12-22) MW-2022-2 (26-32) MW-2022-2 (33-37) DUP-5-052422	ICV %D	Benzidine	-27.2%
	CCV %D	Methapyrilene	-33.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 14. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on samples from this SDG.

3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 15. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Preparation Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-2 (0-1) MW-2022-2 (12-22) MW-2022-2 (26-32) MW-2022-2 (33-37) DUP-5-052422	627839	4-Aminobiphenyl	< LL but >10%	--
		4-Nitroquinoline-1-oxide	< LL but >10%	--
		Famphur	< 10%	--
		Kepone	< 10%	--
		Methapyrilene	< LL but >10%	--
		N-Nitrosomorpholine	< LL but >10%	--
		N-Nitrosopiperidine	< LL but >10%	--
FB-052422	627913	1,3-Dichlorobenzene	AC	< LL but >10%
		1,4-Dichlorobenzene	AC	< LL but >10%
		Famphur	< LL but >10%	< LL but >10%
		Kepone	< LL but >10%	< LL but >10%
		p-Phenylene diamine	< 10%	< 10%

Note:
LL Lower control limit

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 16. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Table 17. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Preparation Batch	Compound
FB-052422	627913	a,a-Dimethylphenethylamine
		Benzidine
		Famphur

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 18. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 19. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	Benzyl alcohol	54 J	520 U	AC

Note:
U – Non detect
AC – Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on samples from this SDG.

4.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. Results for duplicate samples are summarized in the following table.

Table 21. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	All target compounds	U	U	AC

Note:
U – Non detect
AC – Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X		X	
LCS %R		X		X	
LCS Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8141B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria with the exceptions noted in the table below.

Table 23. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
FB-052422	17 Days	7 Days

Sample results associated with sample FB-052422 analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 24. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No other qualification of the sample results was required.

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at

the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 55. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
FB-052422	CCV %D	Methoxychlor	-18.1%
MW-2022-2 (0-1) MW-2022-2 (12-22) MW-2022-2 (26-32) MW-2022-2 (33-37) DUP-5-052422 FB-052422	ICV %D	2,4-D	-15.1%
		Silvex (2,4,5-TP)	-15.6%
DUP-5-052422	CCV %D	2,4-D	+21.5%
		2,4,5-T	+15.8%
MW-2022-2 (0-1) MW-2022-2 (12-22)	CCV %D	Dimethoate	-30.7%
		Methyl parathion	-24.6%
		Ethyl Parathion	-26.4%
MW-2022-2 (26-32) MW-2022-2 (33-37) DUP-5-052422	CCV %D	Dimethoate	-25.7%
		Methyl parathion	-29.8%
		Ethyl Parathion	-35.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 66. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 20%or a correlation coefficient <0.99	Non-detect	UJ

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	J
Continuing Calibration	%D >15% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >15% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-2 (12-22) for herbicides and on sample DUP-5-052422 for organochlorine pesticides. The MS/MSD analysis exhibited acceptable recoveries.

Samples associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 27. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compound
DUP-5-052422	beta-BHC

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 28. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

Samples associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Table 29. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compound
FB-052422	4,4'-DDE
	alpha-BHC
	beta-BHC
	cis-Chlordane
	delta-BHC
	Dieldrin
	Endrin
	gamma-BHC (Lindane)
	Heptachlor epoxide

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 30. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 31. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	Heptachlor	2.3 U	0.82 J	AC
	Methoxychlor	2.3 U	0.76 J	AC

Note:
U – Non detect
AC – Acceptable
The calculated differences between the parent sample and field duplicate were acceptable.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit with the exceptions noted in the table below.

Table 32. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Compound	RPD
DUP-5-052422	Heptachlor	116.8%
	Methoxychlor	25.1%
FB-052422	Endrin aldehyde	66.9%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 33. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (PCB sample results less than the RL)	U

When the sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide/herbicide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
B. Equipment blanks/Field blanks		X	X		
LCS %R		X		X	
LCS Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 34. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 35. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-2 (12-22) MW-2022-2 (26-32) MW-2022-2 (33-37)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDD	Detected sample results <RL and <BAL	“U” at the RL

Notes:

MB – Method blank
RL – Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on samples from this SDG.

6.7 Ongoing Precision Result /Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 36. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (ng/Kg)	Duplicate Result (ng/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	1,2,3,4,6,7,8-HpCDD	430	110	119%
	1,2,3,4,6,7,8-HpCDF	98	27	NC
	1,2,3,4,7,8,9-HpCDF	5.7 J	1.9 J	AC
	1,2,3,4,7,8-HxCDD	6.5 J	2.2 J	AC
	1,2,3,4,7,8-HxCDF	4.1 J	2.2 J	AC
	1,2,3,6,7,8-HxCDD	12	3.4 J	AC
	1,2,3,6,7,8-HxCDF	3.5 J	2.0 J	AC
	1,2,3,7,8,9-HxCDD	15	4.5 J	AC
	1,2,3,7,8,9-HxCDF	0.52 J	0.32 J	AC
	1,2,3,7,8-PeCDD	5.2 J	1.5 J	AC
	1,2,3,7,8-PeCDF	0.92 J	1.1 J	AC
	2,3,4,6,7,8-HxCDF	5.2 J	2.1 J	AC
	2,3,4,7,8-PeCDF	2.4 J	1.8 J	AC
	2,3,7,8-TCDD	1.8	1.7	AC

Sample ID / Duplicate ID	Compound	Sample Result (ng/Kg)	Duplicate Result (ng/Kg)	RPD
	2,3,7,8-TCDF	1.6	1.6 U	AC
	OCDD	3800	820	129%
	OCDF	520	110	130%
	Total HpCDD	430	110	119%
	Total HpCDF	100	29	NC
	Total HxCDD	34	10	NC
	Total HxCDF	13	6.6 J	AC
	Total PeCDD	5.2 J	1.5 J	AC
	Total PeCDF	3.3 J	2.9 J	AC
	Total TCDD	1.8	1.7	AC
	Total TCDF	1.6	1.6 U	AC

Notes:
U non-detect
AC Acceptable

The compound 1,2,3,4,6,7,8-HpCDD, OCDD, OCDF and Total HpCDD associated with samples MW-2022-2 (0-1) and DUP-5-052422 exhibited a field duplicate RPD greater than the control limit. Further the compounds 1,2,3,4,6,7,8-HpCDF, Total HpCDF and Total HxCDD associated with samples MW-2022-2 (0-1) and DUP-5-052422 exhibited a field duplicate difference greater than the control limit. The associated sample results were qualified as estimated (J).

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks		X	X		
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X	X		
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio $\geq$ 10:1		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 37. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

Method	Matrix	Holding Time	Preservation
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

7.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

7.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

7.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was performed on samples MW-2022-2 (0-1) and FB-052422. The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 38. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analytes	MS Recovery	MSD Recovery
MW-2022-2 (0-1)	Antimony	< LL but > 30%	< LL but > 30%
	Arsenic	< LL but > 30%	< LL but > 30%
	Beryllium	< LL but > 30%	< LL but > 30%
	Cadmium	< LL but > 30%	< LL but > 30%
	Selenium	< LL but > 30%	< LL but > 30%
	Silver	< LL but > 30%	< LL but > 30%
	Zinc	< LL but > 30%	AC

Note:
AC – Acceptable
LL – Lower control limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below. The qualifiers were also applied to sample DUP-5-052422 which is the duplicate sample collected from MW-2022-2 (0-1).

Table 39. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 30%	Non-detect	UJ
	Detect	J
< 30%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

7.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

The laboratory duplicate analysis was not performed on samples from this SDG.

7.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 40. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	Arsenic	5.8	6.4	AC
	Barium	74.5	82.7	10%
	Beryllium	0.81	0.92	AC
	Cadmium	0.27 J	0.32	AC

Sample ID / Duplicate ID	Analytes	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD
	Chromium	13.2	14.8	11%
	Cobalt	10.5	11.9	13%
	Copper	12.7	15.2	18%
	Lead	26.5	29.4	10%
	Nickel	17.5	19.5	AC
	Tin	1.5 J	1.5 J	AC
	Vanadium	20.2	22.3	10%
	Zinc	67.0	76.1	13%
	Mercury	0.099	0.11	AC

Note:
AC Acceptable

The calculated differences and RPDs between the parent sample and field duplicate were acceptable.

7.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits.

7.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample

The serial dilution was performed on samples MW-2022-2 (0-1) and FB-052422. Serial dilution analysis exhibited acceptable results with the exceptions noted in the table below.

Table 41. Samples with serial dilution differences (%D) Outside Control Limits

Sample ID	Analytes	Serial Dilution (%D)
MW-2022-2 (0-1)	Barium	34%
	Vanadium	30%
	Zinc	36%

The criteria used to evaluate the serial dilution are presented in the following table. In the case of a serial dilution deviation, the sample results are qualified as documented in the table below.

Table 42. Serial dilution Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> 10%	Non-detect	UJ
	Detect	J

7.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.9 Data Validation Checklist

METALS; SW-846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	

METALS; SW-846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
ICP Serial Dilution %D		X	X		
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 43. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on samples from this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on samples from this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 44. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD
MW-2022-2 (0-1) / DUP-5-052422	Cyanide, Total	U	U	AC
	Sulfide	U	U	AC

Note:
AC Acceptable
The calculated differences between the parent sample and field duplicate were acceptable.

8.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soil.

The LCS analysis exhibited recoveries within the control limits.

8.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

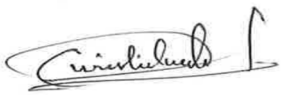
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 45. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	99.7%	1
SVOCs	98.4%	12
PCBs	100%	0
PEST	96.1%	7
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 02, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 4, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
	P. McDermott	Schove, John R		480-171716-37198.1
Client Contact	**Phone**	**E-Mail**	**State of Origin**	**Page**
Mr. Daniel Meandro	551-237-1409	John.Schove@et.eurofinsus.com	MA	Page 1 of 1
Company	**PWSID**			**Job #**
ARCADIS U.S. Inc				
Address	**Due Date Requested:**			
One Lincoln Center 110 West Fayette St, Suite 300				
City	**TAT Requested (days):**			
Syracuse	Standard			
State, Zip	**Compliance Project:** Δ Yes Δ No			
NY, 13202				
Phone	**PO #**			
315-671-9374(Tel)	30103563.0001			
Email	**WO #**			
daniel.meandro@arcadis.com	WA-EUROFINS-30103563-2022-			
Project Name	**Project #**			
GE Woods Pond Parcel	48024970			
Site	**SSOW#**			
GE Lee				

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

480-198313 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatile	8270D - Appendix IX Semi-V	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pes	8151A - Appendix IX He	8082A - Appendix IX P	SM4500_S2_F - Sulfi	Total Number of c	Special Instructions/Note:
Preservation Code:							N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-2(0-1)	5-24-2022	0825	C	S			X	X	X	X	X									8	
MW-2022-2(12-22)		1029	G				X	X	X	X										4	
MW-2022-2(14)		1029	G								X									4	
MW-2022-2(26-32)		1305	G				X	X	X	X										4	
MW-2022-2(28)		1305	G								X									4	
MW-2022-2(33-37)		1355	G				X	X	X	X										4	
MW-2022-2(34)		1355	G								X									4	
DUP-6-052422		—	C				X	X	X	X	X									8	
FB-052422	5-24-22	1600	G	W					X	X		X	X	X	X	X	X	X	X	18	

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5-24-2022/1650	ANA	[signature]	5/25/22 0800	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks
		3.7 2.9 # ICE

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

SDD

Chain of Custody Record

480-198313 Chain of Custody

ins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et eurofinsus c	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-198313-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 6/8/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2022-2 (0-1) (480-198313-1)	5/24/22	08 25 Eastern		Solid			X		1	
MW-2022-2 (12-22) (480-198313-2)	5/24/22	10 29 Eastern		Solid			X		1	
MW-2022-2 (26-32) (480-198313-4)	5/24/22	13 05 Eastern		Solid			X		1	
MW-2022-2 (33-37) (480-198313-6)	5/24/22	13 55 Eastern		Solid			X		1	
DUP-5-052422 (480-198313-8)	5/24/22	Eastern		Solid			X		1	
FB-052422 (480-198313-9)	5/24/22	16:00 Eastern		Water				X	2	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
[signature]	5/26/22 1800	TAB	[signature]	5-27-22 900	BETAPH

Custody Seals Intact: Δ Yes Δ No	Custody Seal No:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

06/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

T200 8141 SDD 1386

Chain of Custody Record

Environment Testing America

480-198313 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et eurofins
Company: Eurofins Environment Testing Northeast,		Accreditations Required (: State - Massachusetts
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 6/8/2022	
City: Pittsburgh	TAT Requested (days):	
State, Zip: PA, 15238		
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:	
Email:	WO #:	
Project Name: GE Woods Pond Parcel	Project #: 48024970	
Site:	SSOW#:	

1

...8313-1

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2022-2 (0-1) (480-198313-1)	5/24/22	08 25 Eastern		Solid			X		1	do not recur
MW-2022-2 (12-22) (480-198313-2)	5/24/22	10 29 Eastern		Solid			X		1	
MW-2022-2 (26-32) (480-198313-4)	5/24/22	13 05 Eastern		Solid			X		1	
MW-2022-2 (33-37) (480-198313-6)	5/24/22	13 55 Eastern		Solid			X		1	
DUP-5-052422 (480-198313-8)	5/24/22	Eastern		Solid			X		1	
FB-052422 (480-198313-9)	5/24/22	16:00 Eastern		Water				X	2	Rec'd out of H.T.

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
[signature]	5/26/22 1800	JAB	[signature]	5-27-22 900	EETAPH
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

06/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-72609.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-198313-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/8/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2022-2 (0-1) (480-198313-1)	5/24/22	08:25 Eastern		Solid			X		1	
MW-2022-2 (12-22) (480-198313-2)	5/24/22	10:29 Eastern		Solid			X		1	
MW-2022-2 (26-32) (480-198313-4)	5/24/22	13:05 Eastern		Solid			X		1	
MW-2022-2 (33-37) (480-198313-6)	5/24/22	13:55 Eastern		Solid			X		1	
DUP-5-052422 (480-198313-8)	5/24/22	Eastern		Solid			X		1	
FB-052422 (480-198313-9)	5/24/22	16:00 Eastern		Water				X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/26/22 1800	TAB			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	5/27/22 10:20	

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 2.1-4.4

Client Sample ID: MW-2022-2 (0-1)
Date Collected: 05/24/22 08:25
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-1
Matrix: Solid
Percent Solids: 70.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.2	0.72	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,1,1-Trichloroethane	ND		7.2	0.52	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,1,2,2-Tetrachloroethane	ND		7.2	1.2	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,1,2-Trichloroethane	ND		7.2	0.94	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,1-Dichloroethane	ND		7.2	0.88	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,1-Dichloroethene	ND		7.2	0.88	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,2,3-Trichloropropane	ND		7.2	0.74	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,2-Dibromo-3-Chloropropane	ND		7.2	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,2-Dichloroethane	ND		7.2	0.36	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
1,2-Dichloropropane	ND		7.2	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
2-Butanone (MEK)	ND		36	2.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
2-Chloro-1,3-butadiene	ND	UJ	7.2	4.5	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
2-Chloroethyl vinyl ether	ND	UJ	14	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
2-Hexanone	ND		36	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
3-Chloro-1-propene	ND		7.2	3.5	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
4-Methyl-2-pentanone (MIBK)	ND		36	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Acetone	ND		36	6.1	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Acetonitrile	ND	UJ	72	8.8	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Acrolein	ND	UJ	36	11	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Acrylonitrile	ND		36	6.5	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Benzene	ND		7.2	0.35	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Bromoform	ND		7.2	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Bromomethane	ND		7.2	0.65	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Carbon disulfide	ND		7.2	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Carbon tetrachloride	ND		7.2	0.70	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Chlorobenzene	ND		7.2	0.95	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Chlorodibromomethane	ND		7.2	0.93	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Chloroethane	ND		7.2	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Chloroform	ND		7.2	0.45	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Chloromethane	ND		7.2	0.44	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
cis-1,3-Dichloropropene	ND		7.2	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Dibromomethane	ND		7.2	0.74	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Dichlorobromomethane	ND		7.2	0.97	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Dichlorodifluoromethane	ND		7.2	0.60	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Ethyl methacrylate	ND		7.2	2.5	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Ethylbenzene	ND		7.2	0.50	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Ethylene Dibromide	ND		7.2	0.93	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Iodomethane	ND		7.2	0.35	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Methacrylonitrile	ND	UJ	36	8.5	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Methyl methacrylate	ND	UJ	7.2	1.5	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Methylene Chloride	ND		7.2	3.3	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
m-Xylene & p-Xylene	ND		14	1.2	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
o-Xylene	ND		7.2	0.94	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Propionitrile	ND	UJ	72	40	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Styrene	ND		7.2	0.36	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Tetrachloroethene	ND		7.2	0.97	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Toluene	ND		7.2	0.55	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
trans-1,2-Dichloroethene	ND		7.2	0.75	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
trans-1,3-Dichloropropene	ND		7.2	3.2	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1

Client Sample ID: MW-2022-2 (0-1)
Lab Sample ID: 480-198313-1
Date Collected: 05/24/22 08:25
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 70.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		7.2	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Trichloroethene	ND		7.2	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Trichlorofluoromethane	ND		7.2	0.68	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Vinyl acetate	ND		14	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1
Vinyl chloride	ND		7.2	0.88	ug/Kg	☼	05/25/22 16:00	05/25/22 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*05/25/22 16:00*	*05/25/22 21:36*	*1*
4-Bromofluorobenzene (Surr)	*87*		*72 - 126*	*05/25/22 16:00*	*05/25/22 21:36*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*05/25/22 16:00*	*05/25/22 21:36*	*1*
Toluene-d8 (Surr)	*102*		*71 - 125*	*05/25/22 16:00*	*05/25/22 21:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		240	41	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,2,4-Trichlorobenzene	ND		460	34	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,2-Dichlorobenzene	ND		460	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,2-Diphenylhydrazine	ND		460	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,3,5-Trinitrobenzene	ND		460	19	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,3-Dichlorobenzene	ND		460	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,3-Dinitrobenzene	ND		460	56	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,4-Dichlorobenzene	ND		460	36	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,4-Dioxane	ND		140	77	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1,4-Naphthoquinone	ND		460	87	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
1-Naphthylamine	ND		460	160	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,3,4,6-Tetrachlorophenol	ND		240	49	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,4,5-Trichlorophenol	ND		240	65	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,4,6-Trichlorophenol	ND		240	48	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,4-Dichlorophenol	ND		240	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,4-Dimethylphenol	ND		240	58	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,4-Dinitrophenol	ND		2300	1100	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,4-Dinitrotoluene	ND		240	49	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,6-Dichlorophenol	ND		460	87	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2,6-Dinitrotoluene	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Acetylaminofluorene	ND		460	60	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Chloronaphthalene	ND		240	39	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Chlorophenol	ND		460	43	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Methylnaphthalene	ND		240	48	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Methylphenol	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Naphthylamine	ND		460	160	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Nitroaniline	ND		460	35	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Nitrophenol	ND		240	67	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Picoline	ND		460	53	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
2-Toluidine	ND		460	110	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
3 & 4 Methylphenol	ND		460	36	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
3,3'-Dichlorobenzidine	ND		460	280	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
3,3'-Dimethylbenzidine	ND		930	460	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
3-Methylcholanthrene	ND		460	77	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
3-Methylphenol	ND		460	36	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
3-Nitroaniline	ND		460	66	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1

Client Sample ID: MW-2022-2 (0-1)
Lab Sample ID: 480-198313-1
Date Collected: 05/24/22 08:25
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 70.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		460	240	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Aminobiphenyl	ND	* UJ	460	97	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Bromophenyl phenyl ether	ND		240	34	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Chloro-3-methylphenol	ND		240	59	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Chloroaniline	ND		240	59	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Chlorophenyl phenyl ether	ND		240	29	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Methylphenol	ND		460	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Nitroaniline	ND		460	120	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Nitrophenol	ND		460	170	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
4-Nitroquinoline-1-oxide	ND	* UJ	930	460	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
7,12-Dimethylbenz(a)anthracene	ND		460	69	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
a,a-Dimethylphenethylamine	ND		460	460	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Acenaphthene	ND		240	35	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Acenaphthylene	ND		240	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Acetophenone	ND		240	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Aniline	ND		460	58	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Anthracene	ND		240	59	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Aramite, Total	ND		460	220	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzidine	ND	UJ	7000	3000	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzo[a]anthracene	ND		240	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzo[a]pyrene	ND		240	35	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzo[b]fluoranthene	ND		240	38	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzo[g,h,i]perylene	ND		240	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzo[k]fluoranthene	ND		240	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Benzyl alcohol	**54**	**J**	460	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
bis (2-chloroisopropyl) ether	ND		240	48	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Bis(2-chloroethoxy)methane	ND		240	50	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Bis(2-chloroethyl)ether	ND		240	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Bis(2-ethylhexyl) phthalate	ND		240	81	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Butyl benzyl phthalate	ND		240	39	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Chrysene	ND		240	53	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Diallate	ND		460	59	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Dibenz(a,h)anthracene	ND		240	42	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Dibenzofuran	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Diethyl phthalate	ND		240	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Dimethoate	ND		460	58	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Dimethyl phthalate	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Di-n-butyl phthalate	240 U	~~180~~ ~~J B~~	240	41	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Di-n-octyl phthalate	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Dinoseb	ND		460	83	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Diphenylamine	ND		460	60	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Disulfoton	ND		460	350	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Chlorobenzilate	ND		460	74	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Ethyl methanesulfonate	ND		460	100	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
~~Famphur~~	~~ND~~	~~*~~	~~930~~	~~220~~	~~ug/Kg~~	~~☼~~	~~05/26/22 15:43~~	~~05/27/22 21:13~~	R 1
Fluoranthene	ND		240	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Fluorene	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Hexachlorobenzene	ND		240	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Hexachlorobutadiene	ND		240	35	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1

Client Sample ID: MW-2022-2 (0-1)
Date Collected: 05/24/22 08:25
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-1
Matrix: Solid
Percent Solids: 70.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		240	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Hexachloroethane	ND		240	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Hexachloropropene	ND		460	120	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Indeno[1,2,3-cd]pyrene	ND		240	29	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Isodrin	ND		460	81	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Isophorone	ND		240	50	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Isosafrole	ND		460	62	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Kepone	ND	*-	4600	460	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	R 1
Methapyrilene	ND	*- UJ	2100	460	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Methyl methanesulfonate	ND		460	110	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Naphthalene	ND		240	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Nitrobenzene	ND		240	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitro-o-toluidine	ND		460	60	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosodiethylamine	ND		460	110	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosodimethylamine	ND		460	100	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosodi-n-butylamine	ND		460	130	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosodi-n-propylamine	ND		240	41	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosodiphenylamine	ND		240	190	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosomethylethylamine	ND		460	110	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosomorpholine	ND	*- UJ	460	100	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosopiperidine	ND	*- UJ	460	94	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
N-Nitrosopyrrolidine	ND		460	70	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
o,o',o''-Triethylphosphorothioate	ND		460	60	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Ethyl Parathion	ND		460	52	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Methyl parathion	ND		460	80	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
p-Dimethylamino azobenzene	ND		460	79	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Pentachlorobenzene	ND		460	97	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Pentachloronitrobenzene	ND		460	120	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Pentachlorophenol	ND		460	240	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Phenacetin	ND		460	63	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Phenanthrene	ND		240	35	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Phenol	ND		240	36	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Phorate	ND		460	130	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
p-Phenylene diamine	ND		1100	460	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Pronamide	ND		460	91	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Pyrene	ND		240	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Pyridine	ND		460	34	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Safrole	ND		460	63	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Sulfotepp	ND		460	74	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1
Thionazin	ND		460	81	ug/Kg	☼	05/26/22 15:43	05/27/22 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*05/26/22 15:43*	*05/27/22 21:13*	*1*
2-Fluorobiphenyl (Surr)	*78*		*60 - 120*	*05/26/22 15:43*	*05/27/22 21:13*	*1*
2-Fluorophenol (Surr)	*64*		*52 - 120*	*05/26/22 15:43*	*05/27/22 21:13*	*1*
Nitrobenzene-d5 (Surr)	*66*		*53 - 120*	*05/26/22 15:43*	*05/27/22 21:13*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*05/26/22 15:43*	*05/27/22 21:13*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*05/26/22 15:43*	*05/27/22 21:13*	*1*

Client Sample ID: MW-2022-2 (0-1)
Date Collected: 05/24/22 08:25
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-1
Matrix: Solid
Percent Solids: 70.4

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.3	0.45	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
4,4'-DDE	ND		2.3	0.48	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
4,4'-DDT	ND		2.3	0.54	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Aldrin	ND		2.3	0.57	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
alpha-BHC	ND		2.3	0.42	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
beta-BHC	ND	UJ	2.3	0.42	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Chlordane (technical)	ND		23	5.1	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Chlorobenzilate	ND		23	7.8	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
cis-Chlordane	ND		2.3	1.1	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
delta-BHC	ND		2.3	0.43	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Dieldrin	ND		2.3	0.55	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Endosulfan I	ND		2.3	0.44	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Endosulfan II	ND		2.3	0.42	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Endosulfan sulfate	ND		2.3	0.43	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Endrin	ND		2.3	0.46	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Endrin aldehyde	ND		2.3	0.59	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Endrin ketone	ND		2.3	0.57	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
gamma-BHC (Lindane)	ND		2.3	0.42	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Heptachlor	ND		2.3	0.50	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Heptachlor epoxide	ND		2.3	0.60	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Methoxychlor	ND		2.3	0.47	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
Toxaphene	ND		23	13	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1
trans-Chlordane	ND		2.3	0.73	ug/Kg	☼	05/31/22 15:49	06/01/22 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*70*		*45 - 120*	*05/31/22 15:49*	*06/01/22 14:42*	*1*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*05/31/22 15:49*	*06/01/22 14:42*	*1*
Tetrachloro-m-xylene	*61*		*30 - 124*	*05/31/22 15:49*	*06/01/22 14:42*	*1*
Tetrachloro-m-xylene	*69*		*30 - 124*	*05/31/22 15:49*	*06/01/22 14:42*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.32	0.062	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1
PCB-1221	ND		0.32	0.062	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1
PCB-1232	ND		0.32	0.062	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1
PCB-1242	ND		0.32	0.062	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1
PCB-1248	ND		0.32	0.062	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1
PCB-1254	ND		0.32	0.15	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1
PCB-1260	ND		0.32	0.15	mg/Kg	☼	05/25/22 16:18	05/26/22 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:04*	*1*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:04*	*1*
Tetrachloro-m-xylene	*86*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:04*	*1*
Tetrachloro-m-xylene	*94*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:04*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		24	7.5	ug/Kg	☼	05/27/22 11:23	06/01/22 18:12	1
2,4-D	ND	UJ	24	15	ug/Kg	☼	05/27/22 11:23	06/01/22 18:12	1

Client Sample ID: MW-2022-2 (0-1)
Date Collected: 05/24/22 08:25
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-1
Matrix: Solid
Percent Solids: 70.4

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND	UJ	24	8.5	ug/Kg	☼	05/27/22 11:23	06/01/22 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*66*		*28 - 129*	*05/27/22 11:23*	*06/01/22 18:12*	*1*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*05/27/22 11:23*	*06/01/22 18:12*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	47	26	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1
Disulfoton	ND		47	31	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1
Famphur	ND		47	25	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1
Methyl parathion	ND	UJ	47	27	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1
Ethyl Parathion	ND	UJ	47	26	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1
Phorate	ND		47	16	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1
Sulfotepp	ND		47	18	ug/Kg	☼	05/30/22 12:52	06/01/22 10:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*20 - 135*	*05/30/22 12:52*	*06/01/22 10:24*	*1*
Tributyl phosphate	*86*		*20 - 135*	*05/30/22 12:52*	*06/01/22 10:24*	*1*
Triphenylphosphate	*92*		*33 - 168*	*05/30/22 12:52*	*06/01/22 10:24*	*1*
Triphenylphosphate	*89*		*33 - 168*	*05/30/22 12:52*	*06/01/22 10:24*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**430**	B J	6.9	0.18	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,4,6,7,8-HpCDF	**98**	J	6.9	0.23	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,4,7,8,9-HpCDF	**5.7**	J	6.9	0.34	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,4,7,8-HxCDD	**6.5**	J	6.9	0.045	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,4,7,8-HxCDF	**4.1**	J	6.9	0.17	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,6,7,8-HxCDD	**12**		6.9	0.043	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,6,7,8-HxCDF	**3.5**	J	6.9	0.17	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,7,8,9-HxCDD	**15**		6.9	0.047	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,7,8,9-HxCDF	**0.52**	J	6.9	0.23	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,7,8-PeCDD	**5.2**	~~J~~ JNX	6.9	0.055	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
1,2,3,7,8-PeCDF	**0.92**	J	6.9	0.073	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
2,3,4,6,7,8-HxCDF	**5.2**	J	6.9	0.20	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
2,3,4,7,8-PeCDF	**2.4**	J	6.9	0.057	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
2,3,7,8-TCDD	**1.8**		1.4	0.0056	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
2,3,7,8-TCDF	**1.6**		1.4	0.038	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
OCDD	**3800**	B J	14	0.26	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
OCDF	**520**	B J	14	0.17	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total HpCDD	**430**	B J	6.9	0.18	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total HpCDF	**100**	J	6.9	0.28	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total HxCDD	**34**	J	6.9	0.045	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total HxCDF	**13**		6.9	0.19	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total PeCDD	**5.2**	~~J~~ JNX	6.9	0.055	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total PeCDF	**3.3**	J	6.9	0.065	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total TCDD	**1.8**		1.4	0.0056	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1
Total TCDF	**1.6**		1.4	0.038	ng/Kg	☼	06/01/22 12:57	06/04/22 10:32	1

Client Sample ID: MW-2022-2 (0-1)
Date Collected: 05/24/22 08:25
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-1
Matrix: Solid
Percent Solids: 70.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	65		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,4,6,7,8-HpCDF	59		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,4,7,8,9-HpCDF	60		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,4,7,8-HxCDD	57		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,4,7,8-HxCDF	57		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,6,7,8-HxCDD	62		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,6,7,8-HxCDF	63		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,7,8,9-HxCDD	60		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,7,8,9-HxCDF	56		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,7,8-PeCDD	66		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-1,2,3,7,8-PeCDF	61		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-2,3,4,6,7,8-HxCDF	49		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-2,3,4,7,8-PeCDF	61		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-2,3,7,8-TCDD	57		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-2,3,7,8-TCDF	65		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-OCDD	73		40 - 135	06/01/22 12:57	06/04/22 10:32	1
13C-OCDF	72		40 - 135	06/01/22 12:57	06/04/22 10:32	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	F1 UJ	21.2	0.56	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Arsenic	**5.8**	**F1** J	2.8	0.56	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Barium	**74.5**	J	0.71	0.16	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Beryllium	**0.81**	**F1** J	0.28	0.040	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Cadmium	**0.27**	**J F1** J	0.28	0.042	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Chromium	**13.2**		0.71	0.28	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Cobalt	**10.5**		0.71	0.071	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Copper	**12.7**		1.4	0.30	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Lead	**26.5**		1.4	0.34	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Nickel	**17.5**		7.1	0.32	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Selenium	ND	F1 UJ	5.6	0.56	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Silver	ND	F1 UJ	0.85	0.28	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Thallium	ND		8.5	0.42	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Tin	**1.5**	**J**	2.9	0.62	mg/Kg	☼	06/03/22 10:50	06/06/22 14:57	1
Vanadium	**20.2**	J	0.71	0.16	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1
Zinc	**67.0**	**F1** UJ	2.8	0.90	mg/Kg	☼	05/31/22 17:05	06/01/22 21:03	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.099**		0.027	0.0063	mg/Kg	☼	05/26/22 10:10	05/26/22 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.12	0.057	mg/Kg	☼	06/02/22 19:45	06/03/22 09:43	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		26.3	15.0	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: MW-2022-2 (12-22)
Date Collected: 05/24/22 10:29
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-2
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1,4-Naphthoquinone	ND		360	68	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,3,4,6-Tetrachlorophenol	ND		190	38	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,4,5-Trichlorophenol	ND		190	50	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,4,6-Trichlorophenol	ND		190	37	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,4-Dinitrophenol	ND		1800	860	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,4-Dinitrotoluene	ND		190	38	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,6-Dichlorophenol	ND		360	68	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Methylnaphthalene	ND		190	37	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Methylphenol	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Picoline	ND		360	42	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
2-Toluidine	ND		360	89	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
3-Methylphenol	ND		360	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4,6-Dinitro-2-methylphenol	ND		360	190	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Aminobiphenyl	ND	* UJ	360	75	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Bromophenyl phenyl ether	ND		190	26	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Chloro-3-methylphenol	ND		190	46	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Chloroaniline	ND		190	46	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Methylphenol	ND		360	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
4-Nitroquinoline-1-oxide	ND	* UJ	720	360	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
7,12-Dimethylbenz(a)anthracene	ND		360	54	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Acenaphthene	ND		190	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1

Client Sample ID: MW-2022-2 (12-22)
Date Collected: 05/24/22 10:29
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-2
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Acetophenone	ND		190	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Aniline	ND		360	45	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Anthracene	ND		190	46	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Aramite, Total	ND		360	180	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzidine	ND	UJ	5500	2300	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzo[a]pyrene	ND		190	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
bis (2-chloroisopropyl) ether	ND		190	37	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Bis(2-chloroethoxy)methane	ND		190	39	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Bis(2-ethylhexyl) phthalate	ND		190	63	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Chrysene	ND		190	42	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Diallate	ND		360	46	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Dibenzofuran	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Dimethoate	ND		360	45	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Di-n-butyl phthalate	190 U	~~150 J B~~	190	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Dinoseb	ND		360	65	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Diphenylamine	ND		360	47	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Disulfoton	ND		360	270	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Ethyl methanesulfonate	ND		360	80	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
~~Famphur~~	~~ND~~	~~*-~~	~~720~~	~~180~~	~~ug/Kg~~	☼	~~05/26/22 15:43~~	~~05/27/22 21:37~~	R 1
Fluoranthene	ND		190	20	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Fluorene	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Hexachlorobutadiene	ND		190	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Hexachloroethane	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Hexachloropropene	ND		360	92	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Isodrin	ND		360	63	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Isophorone	ND		190	39	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Isosafrole	ND		360	48	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
~~Kepone~~	~~ND~~	~~*-~~	~~3600~~	~~360~~	~~ug/Kg~~	☼	~~05/26/22 15:43~~	~~05/27/22 21:37~~	R 1
Methapyrilene	ND	UJ	1600	360	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Naphthalene	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Nitrobenzene	ND		190	21	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1

Client Sample ID: MW-2022-2 (12-22)
Date Collected: 05/24/22 10:29
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-2
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosodimethylamine	ND		360	79	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosomorpholine	ND	*- UJ	360	81	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosopiperidine	ND	*- UJ	360	73	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
N-Nitrosopyrrolidine	ND		360	55	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Methyl parathion	ND		360	62	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Pentachloronitrobenzene	ND		360	92	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Pentachlorophenol	ND		360	190	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Phenacetin	ND		360	49	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Phenanthrene	ND		190	27	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Phenol	ND		190	28	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Phorate	ND		360	100	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
p-Phenylene diamine	ND		880	360	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Pronamide	ND		360	71	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Pyrene	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Pyridine	ND		360	26	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Safrole	ND		360	49	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Sulfotepp	ND		360	58	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1
Thionazin	ND		360	63	ug/Kg	☼	05/26/22 15:43	05/27/22 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*05/26/22 15:43*	*05/27/22 21:37*	*1*
2-Fluorobiphenyl (Surr)	*70*		*60 - 120*	*05/26/22 15:43*	*05/27/22 21:37*	*1*
2-Fluorophenol (Surr)	*63*		*52 - 120*	*05/26/22 15:43*	*05/27/22 21:37*	*1*
Nitrobenzene-d5 (Surr)	*67*		*53 - 120*	*05/26/22 15:43*	*05/27/22 21:37*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*05/26/22 15:43*	*05/27/22 21:37*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*05/26/22 15:43*	*05/27/22 21:37*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
4,4'-DDT	ND		1.9	0.43	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
alpha-BHC	**0.46**	**J**	1.9	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
beta-BHC	ND		1.9	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Chlorobenzilate	ND		19	6.2	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
cis-Chlordane	ND		1.9	0.92	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
delta-BHC	ND		1.9	0.34	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1

Client Sample ID: MW-2022-2 (12-22)
Date Collected: 05/24/22 10:29
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-2
Matrix: Solid
Percent Solids: 89.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Endrin	ND		1.9	0.37	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Endrin aldehyde	ND		1.9	0.47	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
Toxaphene	ND		19	11	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	05/31/22 15:49	06/01/22 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*64*		*45 - 120*	*05/31/22 15:49*	*06/01/22 15:01*	*1*
DCB Decachlorobiphenyl	*74*		*45 - 120*	*05/31/22 15:49*	*06/01/22 15:01*	*1*
Tetrachloro-m-xylene	*63*		*30 - 124*	*05/31/22 15:49*	*06/01/22 15:01*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*05/31/22 15:49*	*06/01/22 15:01*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.052	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1
PCB-1221	ND		0.27	0.052	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1
PCB-1232	ND		0.27	0.052	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1
PCB-1242	ND		0.27	0.052	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1
PCB-1248	ND		0.27	0.052	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1
PCB-1254	ND		0.27	0.12	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1
PCB-1260	ND		0.27	0.12	mg/Kg	☼	05/25/22 16:18	05/26/22 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:17*	*1*
DCB Decachlorobiphenyl	*94*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:17*	*1*
Tetrachloro-m-xylene	*90*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:17*	*1*
Tetrachloro-m-xylene	*92*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:17*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	05/27/22 11:23	06/01/22 16:43	1
2,4-D	ND	UJ	18	12	ug/Kg	☼	05/27/22 11:23	06/01/22 16:43	1
Silvex (2,4,5-TP)	ND	UJ	18	6.6	ug/Kg	☼	05/27/22 11:23	06/01/22 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*05/27/22 11:23*	*06/01/22 16:43*	*1*
2,4-Dichlorophenylacetic acid	*52*		*28 - 129*	*05/27/22 11:23*	*06/01/22 16:43*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	36	20	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1
Disulfoton	ND		36	24	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1
Famphur	ND		36	19	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1
Methyl parathion	ND	UJ	36	21	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1
Ethyl Parathion	ND	UJ	36	20	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1

Client Sample ID: MW-2022-2 (12-22)
Date Collected: 05/24/22 10:29
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-2
Matrix: Solid
Percent Solids: 89.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		36	12	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/30/22 12:52	06/01/22 10:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*20 - 135*	*05/30/22 12:52*	*06/01/22 10:55*	*1*
Tributyl phosphate	*84*		*20 - 135*	*05/30/22 12:52*	*06/01/22 10:55*	*1*
Triphenylphosphate	*89*		*33 - 168*	*05/30/22 12:52*	*06/01/22 10:55*	*1*
Triphenylphosphate	*87*		*33 - 168*	*05/30/22 12:52*	*06/01/22 10:55*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.6 U ~~0.39~~	~~J I B~~	5.6	0.021	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,4,6,7,8-HpCDF	**0.12**	~~J I~~ JNX	5.6	0.0056	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,4,7,8,9-HpCDF	ND		5.6	0.0080	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,4,7,8-HxCDD	ND		5.6	0.015	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,4,7,8-HxCDF	ND		5.6	0.017	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,6,7,8-HxCDD	**0.097**	**J**	5.6	0.015	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,6,7,8-HxCDF	**0.092**	**J**	5.6	0.017	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,7,8,9-HxCDD	ND		5.6	0.017	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,7,8,9-HxCDF	ND		5.6	0.021	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,7,8-PeCDD	ND		5.6	0.016	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
1,2,3,7,8-PeCDF	**0.052**	~~J I~~ JNX	5.6	0.0089	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
2,3,4,6,7,8-HxCDF	ND		5.6	0.015	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
2,3,4,7,8-PeCDF	ND		5.6	0.0062	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
2,3,7,8-TCDD	ND		1.1	0.0050	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
2,3,7,8-TCDF	ND		1.1	0.0053	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
OCDD	11 U ~~2.6~~	~~J B~~	11	0.027	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
OCDF	11 U ~~0.37~~	~~J I B~~	11	0.021	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total HpCDD	5.6 U ~~0.39~~	~~J I B~~	5.6	0.021	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total HpCDF	**0.12**	~~J I~~ JNX	5.6	0.0068	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total HxCDD	**0.097**	**J**	5.6	0.016	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total HxCDF	**0.092**	**J**	5.6	0.018	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total PeCDD	ND		5.6	0.11	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total PeCDF	**0.052**	~~J I~~ JNX	5.6	0.0076	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total TCDD	ND		1.1	0.0050	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1
Total TCDF	ND		1.1	0.0053	ng/Kg	☼	06/01/22 12:57	06/04/22 11:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*43*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*45*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*52*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*46*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*51*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,7,8,9-HxCDD	*56*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-1,2,3,7,8-PeCDF	*51*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*

Client Sample ID: MW-2022-2 (12-22)
Lab Sample ID: 480-198313-2

Date Collected: 05/24/22 10:29
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 89.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*52*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-2,3,7,8-TCDD	*49*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-2,3,7,8-TCDF	*45*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-OCDD	*45*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*
13C-OCDF	*45*		*40 - 135*	*06/01/22 12:57*	*06/04/22 11:20*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.0	0.43	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Arsenic	**6.5**		2.1	0.43	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Barium	**42.8**		0.53	0.12	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Beryllium	**0.36**		0.21	0.030	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Cadmium	**0.13**	**J**	0.21	0.032	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Chromium	**7.1**		0.53	0.21	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Cobalt	**9.8**		0.53	0.053	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Copper	**10.1**		1.1	0.22	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Lead	**13.6**		1.1	0.26	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Nickel	**17.3**		5.3	0.25	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Selenium	ND		4.3	0.43	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Silver	ND		0.64	0.21	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Thallium	ND		6.4	0.32	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Tin	**1.3**	**J**	2.3	0.50	mg/Kg	☼	06/03/22 10:50	06/06/22 15:17	1
Vanadium	**10**		0.53	0.12	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1
Zinc	**49.2**		2.1	0.68	mg/Kg	☼	05/31/22 17:05	06/01/22 21:22	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.018**	**J**	0.023	0.0053	mg/Kg	☼	05/26/22 10:10	05/26/22 14:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.093	0.045	mg/Kg	☼	06/02/22 19:45	06/03/22 09:44	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.4	12.2	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: MW-2022-2 (14)
Lab Sample ID: 480-198313-3

Date Collected: 05/24/22 10:29
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 86.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.44	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,1,1-Trichloroethane	ND		4.4	0.32	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,1,2,2-Tetrachloroethane	ND		4.4	0.72	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,1,2-Trichloroethane	ND		4.4	0.57	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,1-Dichloroethane	ND		4.4	0.54	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,1-Dichloroethene	ND		4.4	0.54	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,2,3-Trichloropropane	ND		4.4	0.45	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,2-Dibromo-3-Chloropropane	ND		4.4	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1

Client Sample ID: MW-2022-2 (14)
Date Collected: 05/24/22 10:29
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-3
Matrix: Solid
Percent Solids: 86.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		4.4	0.22	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
1,2-Dichloropropane	ND		4.4	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
2-Chloro-1,3-butadiene	ND	UJ	4.4	2.7	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
2-Chloroethyl vinyl ether	ND	UJ	8.8	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
3-Chloro-1-propene	ND		4.4	2.1	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Acetone	ND		22	3.7	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Acetonitrile	ND	UJ	44	5.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Acrolein	ND	UJ	22	7.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Acrylonitrile	ND		22	4.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Benzene	ND		4.4	0.22	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Bromoform	ND		4.4	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Bromomethane	ND		4.4	0.40	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Carbon disulfide	ND		4.4	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Carbon tetrachloride	ND		4.4	0.43	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Chlorobenzene	ND		4.4	0.58	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Chlorodibromomethane	ND		4.4	0.57	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Chloroethane	ND		4.4	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Chloroform	**0.81**	**J**	4.4	0.27	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Chloromethane	ND		4.4	0.27	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
cis-1,3-Dichloropropene	ND		4.4	0.64	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Dibromomethane	ND		4.4	0.46	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Dichlorobromomethane	ND		4.4	0.59	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Dichlorodifluoromethane	ND		4.4	0.37	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Ethyl methacrylate	ND		4.4	1.5	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Ethylbenzene	ND		4.4	0.30	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Ethylene Dibromide	ND		4.4	0.57	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Iodomethane	ND		4.4	0.21	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Methacrylonitrile	ND	UJ	22	5.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Methyl methacrylate	ND	UJ	4.4	0.93	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Methylene Chloride	ND		4.4	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
m-Xylene & p-Xylene	ND		8.8	0.74	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
o-Xylene	ND		4.4	0.58	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Propionitrile	ND	UJ	44	25	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Styrene	ND		4.4	0.22	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Tetrachloroethene	ND		4.4	0.59	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Toluene	ND		4.4	0.33	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
trans-1,2-Dichloroethene	ND		4.4	0.46	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
trans-1,3-Dichloropropene	ND		4.4	1.9	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
trans-1,4-Dichloro-2-butene	ND		4.4	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Trichloroethene	ND		4.4	0.97	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Trichlorofluoromethane	ND		4.4	0.42	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Vinyl acetate	ND		8.8	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1
Vinyl chloride	ND		4.4	0.54	ug/Kg	☼	05/25/22 16:00	05/25/22 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*05/25/22 16:00*	*05/25/22 22:01*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*05/25/22 16:00*	*05/25/22 22:01*	*1*

Client Sample ID: MW-2022-2 (14)
Lab Sample ID: 480-198313-3

Date Collected: 05/24/22 10:29
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 86.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*05/25/22 16:00*	*05/25/22 22:01*	*1*
Toluene-d8 (Surr)	*91*		*71 - 125*	*05/25/22 16:00*	*05/25/22 22:01*	*1*

Client Sample ID: MW-2022-2 (26-32)
Lab Sample ID: 480-198313-4

Date Collected: 05/24/22 13:05
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 91.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,2,4-Trichlorobenzene	ND		350	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,2-Dichlorobenzene	ND		350	25	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,3,5-Trinitrobenzene	ND		350	15	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,3-Dinitrobenzene	ND		350	43	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,4-Dichlorobenzene	ND		350	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1,4-Naphthoquinone	ND		350	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,4-Dinitrophenol	ND		1800	840	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,6-Dichlorophenol	ND		350	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Acetylaminofluorene	ND		350	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Methylphenol	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Nitroaniline	ND		350	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Picoline	ND		350	40	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
2-Toluidine	ND		350	86	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
3 & 4 Methylphenol	ND		350	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
3-Methylcholanthrene	ND		350	59	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
3-Methylphenol	ND		350	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Aminobiphenyl	ND	UJ	350	74	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1

Client Sample ID: MW-2022-2 (26-32)
Lab Sample ID: 480-198313-4

Date Collected: 05/24/22 13:05
Matrix: Solid

Date Received: 05/25/22 10:00
Percent Solids: 91.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		180	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Methylphenol	ND		350	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Nitroaniline	ND		350	95	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
4-Nitroquinoline-1-oxide	ND	*- UJ	700	350	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Acenaphthene	ND		180	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Acenaphthylene	ND		180	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Acetophenone	ND		180	25	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Aniline	ND		350	44	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Anthracene	ND		180	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Aramite, Total	ND		350	170	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzidine	ND	UJ	5300	2300	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Benzyl alcohol	ND		350	25	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Bis(2-ethylhexyl) phthalate	78	J	180	62	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Chrysene	ND		180	40	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Diallate	ND		350	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Dibenzofuran	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Dimethoate	ND		350	44	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Di-n-butyl phthalate	180 U	~~130~~ ~~J B~~	180	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Dinoseb	ND		350	63	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Diphenylamine	ND		350	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Disulfoton	ND		350	270	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Chlorobenzilate	ND		350	56	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Ethyl methanesulfonate	ND		350	78	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Famphur	ND	*-	700	170	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	R 1
Fluoranthene	ND		180	19	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Fluorene	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Hexachloroethane	ND		180	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Hexachloropropene	ND		350	90	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1

Client Sample ID: MW-2022-2 (26-32)
Date Collected: 05/24/22 13:05
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-4
Matrix: Solid
Percent Solids: 91.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		350	62	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Isophorone	ND		180	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Isosafrole	ND		350	47	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
~~Kepone~~	~~ND~~	~~*-~~	~~3500~~	~~350~~	~~ug/Kg~~	~~☼~~	~~05/26/22 15:43~~	~~05/27/22 22:02~~	R 1
Methapyrilene	ND	*- UJ	1600	350	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Methyl methanesulfonate	ND		350	81	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Naphthalene	ND		180	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Nitrobenzene	ND		180	20	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitro-o-toluidine	ND		350	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosodiethylamine	ND		350	82	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosodimethylamine	ND		350	77	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosodi-n-butylamine	ND		350	96	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosomethylethylamine	ND		350	81	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosomorpholine	ND	*- UJ	350	79	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosopiperidine	ND	*- UJ	350	71	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
o,o',o''-Triethylphosphorothioate	ND		350	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Methyl parathion	ND		350	61	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
p-Dimethylamino azobenzene	ND		350	60	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Pentachlorobenzene	ND		350	74	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Pentachloronitrobenzene	ND		350	90	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Phenacetin	ND		350	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Phenanthrene	ND		180	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Phenol	ND		180	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Phorate	ND		350	97	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
p-Phenylene diamine	ND		850	350	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Pronamide	ND		350	69	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Pyrene	ND		180	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Pyridine	ND		350	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Safrole	ND		350	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Sulfotepp	ND		350	56	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1
Thionazin	ND		350	62	ug/Kg	☼	05/26/22 15:43	05/27/22 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*05/26/22 15:43*	*05/27/22 22:02*	*1*
2-Fluorobiphenyl (Surr)	*71*		*60 - 120*	*05/26/22 15:43*	*05/27/22 22:02*	*1*
2-Fluorophenol (Surr)	*65*		*52 - 120*	*05/26/22 15:43*	*05/27/22 22:02*	*1*
Nitrobenzene-d5 (Surr)	*66*		*53 - 120*	*05/26/22 15:43*	*05/27/22 22:02*	*1*
Phenol-d5 (Surr)	*68*		*54 - 120*	*05/26/22 15:43*	*05/27/22 22:02*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*05/26/22 15:43*	*05/27/22 22:02*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.34	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
4,4'-DDE	ND		1.8	0.37	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
4,4'-DDT	ND		1.8	0.41	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1

Client Sample ID: MW-2022-2 (26-32)
Date Collected: 05/24/22 13:05
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-4
Matrix: Solid
Percent Solids: 91.6

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.44	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Chlordane (technical)	ND		18	3.9	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
cis-Chlordane	ND		1.8	0.88	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Endrin	ND		1.8	0.35	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Endrin aldehyde	ND		1.8	0.45	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Heptachlor	ND		1.8	0.38	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Methoxychlor	ND		1.8	0.36	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
Toxaphene	ND		18	10	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1
trans-Chlordane	ND		1.8	0.56	ug/Kg	☼	05/31/22 15:49	06/01/22 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*69*		*45 - 120*	*05/31/22 15:49*	*06/01/22 15:21*	*1*
DCB Decachlorobiphenyl	*75*		*45 - 120*	*05/31/22 15:49*	*06/01/22 15:21*	*1*
Tetrachloro-m-xylene	*72*		*30 - 124*	*05/31/22 15:49*	*06/01/22 15:21*	*1*
Tetrachloro-m-xylene	*62*		*30 - 124*	*05/31/22 15:49*	*06/01/22 15:21*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.048	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1
PCB-1221	ND		0.24	0.048	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1
PCB-1232	ND		0.24	0.048	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1
PCB-1242	ND		0.24	0.048	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1
PCB-1248	ND		0.24	0.048	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	05/25/22 16:18	05/26/22 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*109*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:31*	*1*
DCB Decachlorobiphenyl	*116*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:31*	*1*
Tetrachloro-m-xylene	*107*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:31*	*1*
Tetrachloro-m-xylene	*110*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:31*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	05/27/22 11:23	06/01/22 18:42	1
2,4-D	ND	UJ	18	11	ug/Kg	☼	05/27/22 11:23	06/01/22 18:42	1
Silvex (2,4,5-TP)	ND	UJ	18	6.4	ug/Kg	☼	05/27/22 11:23	06/01/22 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*60*		*28 - 129*	*05/27/22 11:23*	*06/01/22 18:42*	*1*

Client Sample ID: MW-2022-2 (26-32)
Date Collected: 05/24/22 13:05
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-4
Matrix: Solid
Percent Solids: 91.6

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	*64*		*28 - 129*	*05/27/22 11:23*	*06/01/22 18:42*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	36	20	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1
Disulfoton	ND		36	24	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1
Famphur	ND		36	19	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1
Methyl parathion	ND	UJ	36	21	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1
Ethyl Parathion	ND	UJ	36	20	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1
Phorate	ND		36	12	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/30/22 12:52	06/01/22 12:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*57*		*20 - 135*	*05/30/22 12:52*	*06/01/22 12:29*	*1*
Tributyl phosphate	*52*		*20 - 135*	*05/30/22 12:52*	*06/01/22 12:29*	*1*
Triphenylphosphate	*96*		*33 - 168*	*05/30/22 12:52*	*06/01/22 12:29*	*1*
Triphenylphosphate	*91*		*33 - 168*	*05/30/22 12:52*	*06/01/22 12:29*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.3 U	~~0.17~~	~~J I B~~	5.3	0.021	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,4,6,7,8-HpCDF		ND		5.3	0.0079	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,4,7,8,9-HpCDF		ND		5.3	0.012	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,4,7,8-HxCDD		ND		5.3	0.0066	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,4,7,8-HxCDF		**0.091**	**J I** JNX	5.3	0.012	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,6,7,8-HxCDD		**0.094**	**J I** JNX	5.3	0.0069	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,6,7,8-HxCDF		**0.14**	**J I** JNX	5.3	0.013	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,7,8,9-HxCDD		ND		5.3	0.0072	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,7,8,9-HxCDF		**0.064**	**J I** JNX	5.3	0.017	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,7,8-PeCDD		**0.081**	**J I** JNX	5.3	0.0049	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
1,2,3,7,8-PeCDF		ND		5.3	0.017	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
2,3,4,6,7,8-HxCDF		**0.11**	**J I** JNX	5.3	0.012	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
2,3,4,7,8-PeCDF		**0.099**	**J I** JNX	5.3	0.012	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
2,3,7,8-TCDD		ND		1.1	0.0070	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
2,3,7,8-TCDF		ND		1.1	0.0038	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
OCDD	11 U	~~0.85~~	~~J I B~~	11	0.023	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
OCDF	11U	~~0.089~~	~~J B~~	11	0.0037	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total HpCDD	5.3 U	~~0.17~~	~~J I B~~	5.3	0.021	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total HpCDF		ND		5.3	0.0099	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total HxCDD		**0.094**	**J I** JNX	5.3	0.0069	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total HxCDF		**0.41**	**J I** JNX	5.3	0.014	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total PeCDD		**0.081**	**J I** JNX	5.3	0.0049	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total PeCDF		**0.099**	**J I** JNX	5.3	0.015	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total TCDD		ND		1.1	0.0070	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1
Total TCDF		ND		1.1	0.057	ng/Kg	☼	06/01/22 12:57	06/04/22 12:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*57*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*48*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*

Client Sample ID: MW-2022-2 (26-32)
Date Collected: 05/24/22 13:05
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-4
Matrix: Solid
Percent Solids: 91.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*59*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*49*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,6,7,8-HxCDF	*55*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,7,8,9-HxCDD	*63*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,7,8,9-HxCDF	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-2,3,4,7,8-PeCDF	*54*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-2,3,7,8-TCDD	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-2,3,7,8-TCDF	*43*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-OCDD	*64*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*
13C-OCDF	*57*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:09*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.1	0.46	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Arsenic	**2.9**		2.3	0.46	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Barium	**11.3**		0.57	0.13	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Beryllium	**0.27**		0.23	0.032	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Cadmium	**0.046**	**J**	0.23	0.034	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Chromium	**4.0**		0.57	0.23	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Cobalt	**4.2**		0.57	0.057	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Copper	**4.6**		2.3	0.49	mg/Kg	☼	06/03/22 10:50	06/07/22 14:43	2
Lead	**4.7**		1.1	0.27	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Nickel	**7.5**		5.7	0.26	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Selenium	ND		4.6	0.46	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Silver	ND		0.69	0.23	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Thallium	ND		6.9	0.34	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Tin	**0.50**	**J**	2.3	0.50	mg/Kg	☼	06/03/22 10:50	06/06/22 15:21	1
Vanadium	**5.0**		0.57	0.13	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1
Zinc	**16.9**		2.3	0.73	mg/Kg	☼	05/31/22 17:05	06/01/22 21:38	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0047	mg/Kg	☼	05/26/22 10:10	05/26/22 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.091	0.044	mg/Kg	☼	06/02/22 19:45	06/03/22 09:46	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.0	11.4	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: MW-2022-2 (28)
Date Collected: 05/24/22 13:05
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-5
Matrix: Solid
Percent Solids: 71.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.48	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,1,1-Trichloroethane	ND		4.8	0.35	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,1,2,2-Tetrachloroethane	ND		4.8	0.77	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,1,2-Trichloroethane	ND		4.8	0.62	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,1-Dichloroethane	ND		4.8	0.58	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,1-Dichloroethene	ND		4.8	0.58	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,2,3-Trichloropropane	ND		4.8	0.49	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,2-Dibromo-3-Chloropropane	ND		4.8	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,2-Dichloroethane	ND		4.8	0.24	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
2-Butanone (MEK)	ND		24	1.7	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
2-Chloro-1,3-butadiene	ND	UJ	4.8	3.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
2-Chloroethyl vinyl ether	ND	UJ	9.5	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
3-Chloro-1-propene	ND		4.8	2.3	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Acetone	ND		24	4.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Acetonitrile	ND	UJ	48	5.8	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Acrolein	ND	UJ	24	7.5	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Acrylonitrile	ND		24	4.3	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Benzene	ND		4.8	0.23	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Bromomethane	ND		4.8	0.43	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Carbon tetrachloride	ND		4.8	0.46	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Chlorobenzene	ND		4.8	0.63	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Chlorodibromomethane	ND		4.8	0.61	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Chloroethane	ND		4.8	1.1	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Chloroform	ND		4.8	0.29	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Chloromethane	ND		4.8	0.29	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
cis-1,3-Dichloropropene	ND		4.8	0.69	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Dibromomethane	ND		4.8	0.49	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Dichlorobromomethane	ND		4.8	0.64	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Dichlorodifluoromethane	ND		4.8	0.39	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Ethyl methacrylate	ND		4.8	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Ethylbenzene	ND		4.8	0.33	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Ethylene Dibromide	ND		4.8	0.61	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Iodomethane	ND		4.8	0.23	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Methacrylonitrile	ND	UJ	24	5.6	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Methyl methacrylate	ND	UJ	4.8	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Methylene Chloride	ND		4.8	2.2	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
m-Xylene & p-Xylene	ND		9.5	0.80	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
o-Xylene	ND		4.8	0.62	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Propionitrile	ND	UJ	48	27	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Styrene	ND		4.8	0.24	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Tetrachloroethene	ND		4.8	0.64	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Toluene	ND		4.8	0.36	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
trans-1,2-Dichloroethene	ND		4.8	0.49	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
trans-1,3-Dichloropropene	ND		4.8	2.1	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1

Client Sample ID: MW-2022-2 (28)
Lab Sample ID: 480-198313-5

Date Collected: 05/24/22 13:05
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 71.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.8	1.1	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Trichloroethene	ND		4.8	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Trichlorofluoromethane	ND		4.8	0.45	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Vinyl acetate	ND		9.5	2.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1
Vinyl chloride	ND		4.8	0.58	ug/Kg	☼	05/25/22 16:00	05/25/22 22:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*05/25/22 16:00*	*05/25/22 22:25*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*05/25/22 16:00*	*05/25/22 22:25*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*05/25/22 16:00*	*05/25/22 22:25*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*05/25/22 16:00*	*05/25/22 22:25*	*1*

Client Sample ID: MW-2022-2 (33-37)
Lab Sample ID: 480-198313-6

Date Collected: 05/24/22 13:55
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,4-Dinitrophenol	ND		1800	870	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,6-Dichlorophenol	ND		370	69	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Chlorophenol	ND		370	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Methylphenol	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Picoline	ND		370	42	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
2-Toluidine	ND		370	90	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1

Client Sample ID: MW-2022-2 (33-37)
Date Collected: 05/24/22 13:55
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-6
Matrix: Solid
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		730	370	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
3-Methylphenol	ND		370	29	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Aminobiphenyl	ND	*- UJ	370	77	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Methylphenol	ND		370	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
4-Nitroquinoline-1-oxide	ND	*- UJ	730	370	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
a,a-Dimethylphenethylamine	ND		370	370	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Acenaphthene	ND		190	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Acenaphthylene	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Acetophenone	ND		190	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Aniline	ND		370	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Anthracene	ND		190	47	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Aramite, Total	ND		370	180	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzidine	ND	UJ	5600	2400	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Bis(2-ethylhexyl) phthalate	**890**		190	65	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Chrysene	ND		190	42	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Diallate	ND		370	47	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Dibenzofuran	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Dimethoate	ND		370	46	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Di-n-butyl phthalate	190 U	~~140 J B~~	190	32	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Dinoseb	ND		370	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Diphenylamine	ND		370	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Disulfoton	ND		370	280	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Ethyl methanesulfonate	ND		370	81	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
~~Famphur~~	~~ND~~	~~*-~~	~~730~~	~~180~~	~~ug/Kg~~	~~☼~~	~~05/26/22 15:43~~	~~05/27/22 22:26~~ R	1

Client Sample ID: MW-2022-2 (33-37)
Date Collected: 05/24/22 13:55
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-6
Matrix: Solid
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		190	20	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Fluorene	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Hexachloroethane	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Hexachloropropene	ND		370	93	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Isodrin	ND		370	65	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Isophorone	ND		190	40	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Isosafrole	ND		370	49	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Kepone	ND	*-	3700	370	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	R 1
Methapyrilene	ND	*- UJ	1700	370	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Naphthalene	ND		190	24	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Nitrobenzene	ND		190	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosodiethylamine	ND		370	86	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosodimethylamine	ND		370	80	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosomorpholine	ND	*- UJ	370	82	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosopiperidine	ND	*- UJ	370	75	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Methyl parathion	ND		370	63	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
p-Dimethylamino azobenzene	ND		370	62	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Pentachlorobenzene	ND		370	77	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Pentachloronitrobenzene	ND		370	93	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Phenacetin	ND		370	50	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Phenanthrene	ND		190	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Phenol	ND		190	29	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Phorate	ND		370	100	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
p-Phenylene diamine	ND		890	370	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Pronamide	ND		370	72	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Pyrene	ND		190	22	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Pyridine	ND		370	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Safrole	ND		370	50	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Sulfotepp	ND		370	59	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1
Thionazin	ND		370	65	ug/Kg	☼	05/26/22 15:43	05/27/22 22:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*05/26/22 15:43*	*05/27/22 22:26*	*1*
2-Fluorobiphenyl (Surr)	*79*		*60 - 120*	*05/26/22 15:43*	*05/27/22 22:26*	*1*
2-Fluorophenol (Surr)	*68*		*52 - 120*	*05/26/22 15:43*	*05/27/22 22:26*	*1*
Nitrobenzene-d5 (Surr)	*69*		*53 - 120*	*05/26/22 15:43*	*05/27/22 22:26*	*1*

Client Sample ID: MW-2022-2 (33-37)
Date Collected: 05/24/22 13:55
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-6
Matrix: Solid
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*74*		*54 - 120*	*05/26/22 15:43*	*05/27/22 22:26*	*1*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*05/26/22 15:43*	*05/27/22 22:26*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
4,4'-DDT	**0.60**	**J B**	1.9	0.43	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
alpha-BHC	**0.41**	**J**	1.9	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
beta-BHC	ND		1.9	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Chlorobenzilate	ND		19	6.2	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
cis-Chlordane	ND		1.9	0.92	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Endosulfan II	ND		1.9	0.33	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Endrin	ND		1.9	0.37	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Endrin aldehyde	**0.51**	**J**	1.9	0.47	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
Toxaphene	ND		19	11	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	05/31/22 15:49	06/01/22 15:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*61*		*45 - 120*	*05/31/22 15:49*	*06/01/22 15:40*	*1*
DCB Decachlorobiphenyl	*68*		*45 - 120*	*05/31/22 15:49*	*06/01/22 15:40*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*05/31/22 15:49*	*06/01/22 15:40*	*1*
Tetrachloro-m-xylene	*61*		*30 - 124*	*05/31/22 15:49*	*06/01/22 15:40*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	05/25/22 16:18	05/26/22 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*104*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:44*	*1*
DCB Decachlorobiphenyl	*112*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:44*	*1*
Tetrachloro-m-xylene	*102*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:44*	*1*
Tetrachloro-m-xylene	*104*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:44*	*1*

Client Sample ID: MW-2022-2 (33-37)
Date Collected: 05/24/22 13:55
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-6
Matrix: Solid
Percent Solids: 88.9

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.8	ug/Kg	☼	05/27/22 11:23	06/01/22 19:12	1
2,4-D	ND	UJ	18	11	ug/Kg	☼	05/27/22 11:23	06/01/22 19:12	1
Silvex (2,4,5-TP)	ND	UJ	18	6.6	ug/Kg	☼	05/27/22 11:23	06/01/22 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*66*		*28 - 129*	*05/27/22 11:23*	*06/01/22 19:12*	*1*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*05/27/22 11:23*	*06/01/22 19:12*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	37	21	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1
Disulfoton	ND		37	24	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1
Famphur	ND		37	20	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1
Methyl parathion	ND	UJ	37	21	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1
Ethyl Parathion	ND	UJ	37	20	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1
Phorate	ND		37	12	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1
Sulfotepp	ND		37	14	ug/Kg	☼	05/30/22 12:52	06/01/22 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*80*		*20 - 135*	*05/30/22 12:52*	*06/01/22 13:01*	*1*
Tributyl phosphate	*73*		*20 - 135*	*05/30/22 12:52*	*06/01/22 13:01*	*1*
Triphenylphosphate	*82*		*33 - 168*	*05/30/22 12:52*	*06/01/22 13:01*	*1*
Triphenylphosphate	*79*		*33 - 168*	*05/30/22 12:52*	*06/01/22 13:01*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.5 U	~~0.30 J I B~~	5.5	0.013	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,4,6,7,8-HpCDF	**0.088**	**J**	5.5	0.0080	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,4,7,8,9-HpCDF	**0.078**	~~J I~~ JNX	5.5	0.011	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,4,7,8-HxCDD	ND		5.5	0.0056	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,4,7,8-HxCDF	**0.14**	**J**	5.5	0.019	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,6,7,8-HxCDD	ND		5.5	0.0056	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,6,7,8-HxCDF	**0.16**	**J**	5.5	0.019	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,7,8,9-HxCDD	**0.17**	~~J I~~ JNX	5.5	0.0058	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,7,8,9-HxCDF	ND		5.5	0.024	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,7,8-PeCDD	**0.083**	**J I** JNX	5.5	0.0076	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
1,2,3,7,8-PeCDF	**0.12**	**J I** JNX	5.5	0.0050	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
2,3,4,6,7,8-HxCDF	**0.094**	**J I** JNX	5.5	0.018	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
2,3,4,7,8-PeCDF	**0.079**	**J I** JNX	5.5	0.0035	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
2,3,7,8-TCDD	ND		1.1	0.0092	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
2,3,7,8-TCDF	ND		1.1	0.0038	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
OCDD	11 U	~~0.80 J B~~	11	0.0067	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
OCDF	11 U	~~0.17 J I B~~	11	0.0071	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total HpCDD	5.5 U	~~0.30 J I B~~	5.5	0.013	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total HpCDF	**0.17**	**J I** JNX	5.5	0.0097	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total HxCDD	**0.17**	**J I** JNX	5.5	0.0057	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total HxCDF	**0.39**	**J I** JNX	5.5	0.020	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total PeCDD	**0.083**	**J I** JNX	5.5	0.0076	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total PeCDF	**0.20**	**J I** JNX	5.5	0.0043	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1
Total TCDD	ND		1.1	0.045	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1

Client Sample ID: MW-2022-2 (33-37)
Date Collected: 05/24/22 13:55
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-6
Matrix: Solid
Percent Solids: 88.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		1.1	0.056	ng/Kg	☼	06/01/22 12:57	06/04/22 12:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*67*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,4,7,8-HxCDD	*60*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,6,7,8-HxCDD	*64*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,6,7,8-HxCDF	*70*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,7,8,9-HxCDD	*63*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,7,8,9-HxCDF	*66*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,7,8-PeCDD	*53*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-1,2,3,7,8-PeCDF	*53*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-2,3,4,6,7,8-HxCDF	*65*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-2,3,4,7,8-PeCDF	*54*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-2,3,7,8-TCDD	*53*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-2,3,7,8-TCDF	*44*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-OCDD	*56*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*
13C-OCDF	*59*		*40 - 135*	*06/01/22 12:57*	*06/04/22 12:57*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.8	0.47	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Arsenic	**3.8**		2.4	0.47	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Barium	**18.1**		0.59	0.13	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Beryllium	**0.25**		0.24	0.033	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Cadmium	**0.051**	**J**	0.24	0.036	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Chromium	**5.1**		0.59	0.24	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Cobalt	**5.2**		0.59	0.059	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Copper	**7.4**		1.2	0.25	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Lead	**5.9**		1.2	0.28	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Nickel	**9.1**		5.9	0.27	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Selenium	ND		4.7	0.47	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Silver	ND		0.71	0.24	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Thallium	ND		7.1	0.36	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Tin	ND		2.4	0.51	mg/Kg	☼	06/03/22 10:50	06/06/22 15:36	1
Vanadium	**6.3**		0.59	0.13	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1
Zinc	**23.9**		2.4	0.76	mg/Kg	☼	05/31/22 17:05	06/01/22 21:42	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0052	mg/Kg	☼	05/26/22 10:10	05/26/22 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.094	0.045	mg/Kg	☼	06/02/22 19:45	06/03/22 09:33	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**16.1**	**J**	20.2	11.5	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: MW-2022-2 (34)
Date Collected: 05/24/22 13:55
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-7
Matrix: Solid
Percent Solids: 87.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.0	0.40	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,1,1-Trichloroethane	ND		4.0	0.29	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,1,2,2-Tetrachloroethane	ND		4.0	0.65	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,1,2-Trichloroethane	ND		4.0	0.52	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,1-Dichloroethane	ND		4.0	0.49	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,1-Dichloroethene	ND		4.0	0.49	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,2,3-Trichloropropane	ND		4.0	0.41	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,2-Dibromo-3-Chloropropane	ND		4.0	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,2-Dichloroethane	ND		4.0	0.20	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
1,2-Dichloropropane	ND		4.0	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
2-Butanone (MEK)	ND		20	1.5	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
2-Chloro-1,3-butadiene	ND	UJ	4.0	2.5	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
2-Chloroethyl vinyl ether	ND	UJ	8.0	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
2-Hexanone	ND		20	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
3-Chloro-1-propene	ND		4.0	1.9	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
4-Methyl-2-pentanone (MIBK)	ND		20	1.3	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Acetone	ND		20	3.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Acetonitrile	ND	UJ	40	4.9	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Acrolein	ND	UJ	20	6.3	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Acrylonitrile	ND		20	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Benzene	ND		4.0	0.20	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Bromoform	ND		4.0	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Bromomethane	ND		4.0	0.36	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Carbon disulfide	ND		4.0	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Carbon tetrachloride	ND		4.0	0.39	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Chlorobenzene	ND		4.0	0.53	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Chlorodibromomethane	ND		4.0	0.51	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Chloroethane	ND		4.0	0.90	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Chloroform	ND		4.0	0.25	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Chloromethane	ND		4.0	0.24	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
cis-1,3-Dichloropropene	ND		4.0	0.57	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Dibromomethane	ND		4.0	0.41	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Dichlorobromomethane	ND		4.0	0.53	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Dichlorodifluoromethane	ND		4.0	0.33	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Ethyl methacrylate	ND		4.0	1.4	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Ethylbenzene	ND		4.0	0.27	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Ethylene Dibromide	ND		4.0	0.51	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Iodomethane	ND		4.0	0.19	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Methacrylonitrile	ND	UJ	20	4.7	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Methyl methacrylate	ND	UJ	4.0	0.84	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Methylene Chloride	ND		4.0	1.8	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
m-Xylene & p-Xylene	ND		8.0	0.67	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
o-Xylene	ND		4.0	0.52	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Propionitrile	ND	UJ	40	22	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Styrene	ND		4.0	0.20	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Tetrachloroethene	ND		4.0	0.53	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Toluene	ND		4.0	0.30	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
trans-1,2-Dichloroethene	ND		4.0	0.41	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
trans-1,3-Dichloropropene	ND		4.0	1.8	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1

Client Sample ID: MW-2022-2 (34)
Lab Sample ID: 480-198313-7

Date Collected: 05/24/22 13:55
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 87.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.0	0.90	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Trichloroethene	ND		4.0	0.88	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Trichlorofluoromethane	ND		4.0	0.38	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Vinyl acetate	ND		8.0	2.0	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1
Vinyl chloride	ND		4.0	0.49	ug/Kg	☼	05/25/22 16:00	05/25/22 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*05/25/22 16:00*	*05/25/22 22:49*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*05/25/22 16:00*	*05/25/22 22:49*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*05/25/22 16:00*	*05/25/22 22:49*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*05/25/22 16:00*	*05/25/22 22:49*	*1*

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8

Date Collected: 05/24/22 00:00
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.6	0.76	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,1,1-Trichloroethane	ND		7.6	0.55	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,1,2,2-Tetrachloroethane	ND	*3 UJ	7.6	1.2	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,1,2-Trichloroethane	ND		7.6	0.99	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,1-Dichloroethane	ND		7.6	0.93	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,1-Dichloroethene	ND		7.6	0.93	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,2,3-Trichloropropane	ND	*3 UJ	7.6	0.77	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,2-Dibromo-3-Chloropropane	ND	*3 UJ	7.6	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,2-Dichloroethane	ND		7.6	0.38	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
1,2-Dichloropropane	ND		7.6	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
2-Butanone (MEK)	ND		38	2.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
2-Chloro-1,3-butadiene	ND	UJ	7.6	4.7	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
2-Chloroethyl vinyl ether	ND	UJ	15	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
2-Hexanone	ND		38	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
3-Chloro-1-propene	ND		7.6	3.6	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
4-Methyl-2-pentanone (MIBK)	ND		38	2.5	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Acetone	ND		38	6.4	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Acetonitrile	ND	UJ	76	9.3	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Acrolein	ND	UJ	38	12	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Acrylonitrile	ND		38	6.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Benzene	ND		7.6	0.37	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Bromoform	ND		7.6	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Bromomethane	ND		7.6	0.68	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Carbon disulfide	ND		7.6	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Carbon tetrachloride	ND		7.6	0.73	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Chlorobenzene	ND		7.6	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Chlorodibromomethane	ND		7.6	0.97	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Chloroethane	ND		7.6	1.7	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Chloroform	ND		7.6	0.47	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Chloromethane	ND		7.6	0.46	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
cis-1,3-Dichloropropene	ND		7.6	1.1	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Dibromomethane	ND		7.6	0.78	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8

Date Collected: 05/24/22 00:00
Matrix: Solid

Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorobromomethane	ND		7.6	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Dichlorodifluoromethane	ND		7.6	0.63	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Ethyl methacrylate	ND		7.6	2.6	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Ethylbenzene	ND		7.6	0.52	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Ethylene Dibromide	ND		7.6	0.97	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Iodomethane	ND		7.6	0.37	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Methacrylonitrile	ND	UJ	38	9.0	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Methyl methacrylate	ND	UJ	7.6	1.6	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Methylene Chloride	ND		7.6	3.5	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
m-Xylene & p-Xylene	ND		15	1.3	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
o-Xylene	ND		7.6	0.99	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Propionitrile	ND	UJ	76	43	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Styrene	ND		7.6	0.38	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Tetrachloroethene	ND		7.6	1.0	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Toluene	ND		7.6	0.57	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
trans-1,2-Dichloroethene	ND		7.6	0.78	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
trans-1,3-Dichloropropene	ND		7.6	3.3	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
trans-1,4-Dichloro-2-butene	ND	~~3~~ UJ	7.6	1.7	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Trichloroethene	ND		7.6	1.7	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Trichlorofluoromethane	ND		7.6	0.72	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Vinyl acetate	ND		15	3.8	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1
Vinyl chloride	ND		7.6	0.93	ug/Kg	☼	05/25/22 16:00	05/25/22 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/25/22 16:00*	*05/25/22 23:13*	*1*
4-Bromofluorobenzene (Surr)	*82*		*72 - 126*	*05/25/22 16:00*	*05/25/22 23:13*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*	*05/25/22 16:00*	*05/25/22 23:13*	*1*
Toluene-d8 (Surr)	*105*		*71 - 125*	*05/25/22 16:00*	*05/25/22 23:13*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		270	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,2,4-Trichlorobenzene	ND		520	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,2-Dichlorobenzene	ND		520	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,2-Diphenylhydrazine	ND		520	30	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,3,5-Trinitrobenzene	ND		520	21	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,3-Dichlorobenzene	ND		520	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,3-Dinitrobenzene	ND		520	63	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,4-Dichlorobenzene	ND		520	41	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,4-Dioxane	ND		160	86	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1,4-Naphthoquinone	ND		520	97	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
1-Naphthylamine	ND		520	180	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,3,4,6-Tetrachlorophenol	ND		270	55	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,4,5-Trichlorophenol	ND		270	72	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,4,6-Trichlorophenol	ND		270	53	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,4-Dichlorophenol	ND		270	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,4-Dimethylphenol	ND		270	64	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,4-Dinitrophenol	ND		2600	1200	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,4-Dinitrotoluene	ND		270	55	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2,6-Dichlorophenol	ND		520	97	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8

Date Collected: 05/24/22 00:00
Matrix: Solid

Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Acetylaminofluorene	ND		520	67	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Chloronaphthalene	ND		270	44	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Chlorophenol	ND		520	48	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Methylnaphthalene	ND		270	53	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Methylphenol	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Naphthylamine	ND		520	180	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Nitroaniline	ND		520	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Nitrophenol	ND		270	75	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Picoline	ND		520	59	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
2-Toluidine	ND		520	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
3 & 4 Methylphenol	ND		520	41	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
3,3'-Dichlorobenzidine	ND		520	310	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
3,3'-Dimethylbenzidine	ND		1000	520	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
3-Methylcholanthrene	ND		520	86	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
3-Methylphenol	ND		520	41	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
3-Nitroaniline	ND		520	73	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4,6-Dinitro-2-methylphenol	ND		520	270	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Aminobiphenyl	ND	UJ	520	110	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Bromophenyl phenyl ether	ND		270	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Chloro-3-methylphenol	ND		270	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Chloroaniline	ND		270	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Chlorophenyl phenyl ether	ND		270	33	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Methylphenol	ND		520	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Nitroaniline	ND		520	140	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Nitrophenol	ND		520	190	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
4-Nitroquinoline-1-oxide	ND	UJ	1000	520	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
7,12-Dimethylbenz(a)anthracene	ND		520	77	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
a,a-Dimethylphenethylamine	ND		520	520	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Acenaphthene	ND		270	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Acenaphthylene	ND		270	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Acetophenone	ND		270	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Aniline	ND		520	64	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Anthracene	ND		270	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Aramite, Total	ND		520	250	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzidine	ND	UJ	7800	3300	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzo[a]anthracene	ND		270	27	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzo[a]pyrene	ND		270	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzo[b]fluoranthene	ND		270	42	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzo[g,h,i]perylene	ND		270	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzo[k]fluoranthene	ND		270	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Benzyl alcohol	ND		520	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
bis (2-chloroisopropyl) ether	ND		270	53	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Bis(2-chloroethoxy)methane	ND		270	56	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Bis(2-chloroethyl)ether	ND		270	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Bis(2-ethylhexyl) phthalate	ND		270	91	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Butyl benzyl phthalate	ND		270	44	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Chrysene	ND		270	59	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Diallate	ND		520	66	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8

Date Collected: 05/24/22 00:00
Matrix: Solid

Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		270	47	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Dibenzofuran	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Diethyl phthalate	ND		270	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Dimethoate	ND		520	64	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Dimethyl phthalate	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Di-n-butyl phthalate	270 U ~~200~~	~~J B~~	270	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Di-n-octyl phthalate	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Dinoseb	ND		520	92	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Diphenylamine	ND		520	67	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Disulfoton	ND		520	390	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Chlorobenzilate	ND		520	83	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Ethyl methanesulfonate	ND		520	110	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
~~Famphur~~	~~ND~~	~~*-~~	~~1000~~	~~250~~	~~ug/Kg~~	~~☼~~	~~05/26/22 15:43~~	~~05/27/22 22:50~~	R 1
Fluoranthene	ND		270	28	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Fluorene	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Hexachlorobenzene	ND		270	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Hexachlorobutadiene	ND		270	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Hexachlorocyclopentadiene	ND		270	36	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Hexachloroethane	ND		270	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Hexachloropropene	ND		520	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Indeno[1,2,3-cd]pyrene	ND		270	33	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Isodrin	ND		520	91	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Isophorone	ND		270	56	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Isosafrole	ND		520	69	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
~~Kepone~~	~~ND~~	~~*-~~	~~5200~~	~~520~~	~~ug/Kg~~	~~☼~~	~~05/26/22 15:43~~	~~05/27/22 22:50~~	R 1
Methapyrilene	ND	*- UJ	2300	520	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Methyl methanesulfonate	ND		520	120	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Naphthalene	ND		270	34	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Nitrobenzene	ND		270	30	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitro-o-toluidine	ND		520	67	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosodiethylamine	ND		520	120	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosodimethylamine	ND		520	110	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosodi-n-butylamine	ND		520	140	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosodi-n-propylamine	ND		270	45	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosodiphenylamine	ND		270	220	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosomethylethylamine	ND		520	120	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosomorpholine	ND	*- UJ	520	120	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosopiperidine	ND	*- UJ	520	100	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
N-Nitrosopyrrolidine	ND		520	78	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
o,o',o''-Triethylphosphorothioate	ND		520	67	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Ethyl Parathion	ND		520	58	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Methyl parathion	ND		520	89	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
p-Dimethylamino azobenzene	ND		520	88	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Pentachlorobenzene	ND		520	110	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Pentachloronitrobenzene	ND		520	130	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Pentachlorophenol	ND		520	270	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Phenacetin	ND		520	70	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Phenanthrene	ND		270	39	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Phenol	ND		270	41	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1

Client Sample ID: DUP-5-052422
Date Collected: 05/24/22 00:00
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-8
Matrix: Solid
Percent Solids: 63.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		520	140	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
p-Phenylene diamine	ND		1300	520	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Pronamide	ND		520	100	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Pyrene	ND		270	31	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Pyridine	ND		520	38	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Safrole	ND		520	70	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Sulfotepp	ND		520	83	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1
Thionazin	ND		520	91	ug/Kg	☼	05/26/22 15:43	05/27/22 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*05/26/22 15:43*	*05/27/22 22:50*	*1*
2-Fluorobiphenyl (Surr)	*74*		*60 - 120*	*05/26/22 15:43*	*05/27/22 22:50*	*1*
2-Fluorophenol (Surr)	*65*		*52 - 120*	*05/26/22 15:43*	*05/27/22 22:50*	*1*
Nitrobenzene-d5 (Surr)	*63*		*53 - 120*	*05/26/22 15:43*	*05/27/22 22:50*	*1*
Phenol-d5 (Surr)	*71*		*54 - 120*	*05/26/22 15:43*	*05/27/22 22:50*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*05/26/22 15:43*	*05/27/22 22:50*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.6	0.51	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
4,4'-DDE	ND		2.6	0.55	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
4,4'-DDT	ND		2.6	0.61	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Aldrin	ND		2.6	0.64	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
alpha-BHC	ND		2.6	0.47	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
beta-BHC	ND	~~F2~~ UJ	2.6	0.47	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Chlordane (technical)	ND		26	5.8	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Chlorobenzilate	ND		26	8.7	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
cis-Chlordane	ND		2.6	1.3	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
delta-BHC	ND		2.6	0.48	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Dieldrin	ND		2.6	0.62	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Endosulfan I	ND		2.6	0.50	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Endosulfan II	ND		2.6	0.47	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Endosulfan sulfate	ND		2.6	0.48	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Endrin	ND		2.6	0.51	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Endrin aldehyde	ND		2.6	0.66	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Endrin ketone	ND		2.6	0.64	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
gamma-BHC (Lindane)	ND		2.6	0.48	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Heptachlor	2.6 U	~~**0.82 J**~~	2.6	0.56	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Heptachlor epoxide	ND		2.6	0.67	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Methoxychlor	**0.76**	**J**	2.6	0.53	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
Toxaphene	ND		26	15	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1
trans-Chlordane	ND		2.6	0.83	ug/Kg	☼	05/31/22 15:49	06/01/22 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*57*		*45 - 120*	*05/31/22 15:49*	*06/01/22 14:22*	*1*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*05/31/22 15:49*	*06/01/22 14:22*	*1*
Tetrachloro-m-xylene	*71*		*30 - 124*	*05/31/22 15:49*	*06/01/22 14:22*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*05/31/22 15:49*	*06/01/22 14:22*	*1*

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8

Date Collected: 05/24/22 00:00
Matrix: Solid

Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.33	0.064	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1
PCB-1221	ND		0.33	0.064	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1
PCB-1232	ND		0.33	0.064	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1
PCB-1242	ND		0.33	0.064	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1
PCB-1248	ND		0.33	0.064	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1
PCB-1254	ND		0.33	0.15	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1
PCB-1260	ND		0.33	0.15	mg/Kg	☼	05/25/22 16:18	05/26/22 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:57*	*1*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*05/25/22 16:18*	*05/26/22 18:57*	*1*
Tetrachloro-m-xylene	*96*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:57*	*1*
Tetrachloro-m-xylene	*100*		*60 - 154*	*05/25/22 16:18*	*05/26/22 18:57*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		26	8.3	ug/Kg	☼	05/27/22 11:23	06/01/22 20:11	1
2,4-D	ND	UJ	26	16	ug/Kg	☼	05/27/22 11:23	06/01/22 20:11	1
Silvex (2,4,5-TP)	ND	UJ	26	9.3	ug/Kg	☼	05/27/22 11:23	06/01/22 20:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*05/27/22 11:23*	*06/01/22 20:11*	*1*
2,4-Dichlorophenylacetic acid	*58*		*28 - 129*	*05/27/22 11:23*	*06/01/22 20:11*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	52	29	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1
Disulfoton	ND		52	34	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1
Famphur	ND		52	28	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1
Methyl parathion	ND	UJ	52	30	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1
Ethyl Parathion	ND	UJ	52	29	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1
Phorate	ND		52	18	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1
Sulfotepp	ND		52	20	ug/Kg	☼	05/30/22 12:52	06/01/22 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*23*		*20 - 135*	*05/30/22 12:52*	*06/01/22 13:32*	*1*
Tributyl phosphate	*21*		*20 - 135*	*05/30/22 12:52*	*06/01/22 13:32*	*1*
Triphenylphosphate	*52*		*33 - 168*	*05/30/22 12:52*	*06/01/22 13:32*	*1*
Triphenylphosphate	*50*		*33 - 168*	*05/30/22 12:52*	*06/01/22 13:32*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**110**	B J	7.9	0.13	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,4,6,7,8-HpCDF	**27**	J	7.9	0.098	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,4,7,8,9-HpCDF	**1.9**	J	7.9	0.11	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,4,7,8-HxCDD	**2.2**	J	7.9	0.032	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,4,7,8-HxCDF	**2.2**	J	7.9	0.074	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,6,7,8-HxCDD	**3.4**	J	7.9	0.032	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,6,7,8-HxCDF	**2.0**	J	7.9	0.076	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,7,8,9-HxCDD	**4.5**	J	7.9	0.037	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,7,8,9-HxCDF	**0.32**	J	7.9	0.097	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8

Date Collected: 05/24/22 00:00
Matrix: Solid

Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	1.5	~~J+~~ JNX	7.9	0.038	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
1,2,3,7,8-PeCDF	1.1	J	7.9	0.069	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
2,3,4,6,7,8-HxCDF	2.1	J	7.9	0.070	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
2,3,4,7,8-PeCDF	1.8	J	7.9	0.050	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
2,3,7,8-TCDD	1.7		1.6	0.018	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
2,3,7,8-TCDF	ND		1.6	0.036	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
OCDD	820	B J	16	0.18	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
OCDF	110	B J	16	0.095	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total HpCDD	110	B J	7.9	0.13	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total HpCDF	29	J	7.9	0.10	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total HxCDD	10	J	7.9	0.034	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total HxCDF	6.6	J	7.9	0.079	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total PeCDD	1.5	~~J+~~ JNX	7.9	0.038	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total PeCDF	2.9	J	7.9	0.059	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total TCDD	1.7		1.6	0.018	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1
Total TCDF	ND		1.6	0.036	ng/Kg	☼	06/01/22 12:57	06/04/22 13:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*66*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,4,7,8-HxCDD	*58*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,4,7,8-HxCDF	*49*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,6,7,8-HxCDF	*56*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,7,8,9-HxCDD	*56*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,7,8,9-HxCDF	*50*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-1,2,3,7,8-PeCDF	*57*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-2,3,4,6,7,8-HxCDF	*51*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-2,3,4,7,8-PeCDF	*59*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-2,3,7,8-TCDD	*54*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-2,3,7,8-TCDF	*46*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-OCDD	*65*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*
13C-OCDF	*70*		*40 - 135*	*06/01/22 12:57*	*06/04/22 13:46*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	UJ	23.6	0.63	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Arsenic	6.4	J	3.1	0.63	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Barium	82.7	J	0.79	0.17	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Beryllium	0.92	J	0.31	0.044	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Cadmium	0.32	J	0.31	0.047	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Chromium	14.8		0.79	0.31	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Cobalt	11.9		0.79	0.079	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Copper	15.2		1.6	0.33	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Lead	29.4		1.6	0.38	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Nickel	19.5		7.9	0.36	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Selenium	ND	UJ	6.3	0.63	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Silver	ND	UJ	0.94	0.31	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1

Client Sample ID: DUP-5-052422
Lab Sample ID: 480-198313-8
Date Collected: 05/24/22 00:00
Matrix: Solid
Date Received: 05/25/22 10:00
Percent Solids: 63.2

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		9.4	0.47	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Tin	**1.5**	**J**	3.2	0.70	mg/Kg	☼	06/03/22 10:50	06/06/22 15:40	1
Vanadium	**22.3**	J	0.79	0.17	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1
Zinc	**76.1**	J	3.1	1.0	mg/Kg	☼	05/31/22 17:05	06/01/22 21:46	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**		0.031	0.0072	mg/Kg	☼	05/26/22 10:10	05/26/22 14:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.13	0.064	mg/Kg	☼	06/02/22 19:45	06/03/22 09:34	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		29.0	16.5	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: FB-052422
Lab Sample ID: 480-198313-9
Date Collected: 05/24/22 16:00
Matrix: Water
Date Received: 05/25/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/01/22 17:56	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/01/22 17:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/01/22 17:56	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/22 17:56	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/01/22 17:56	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/01/22 17:56	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/01/22 17:56	1
1,2-Dibromo-3-Chloropropane	ND	UJ	1.0	0.39	ug/L			06/01/22 17:56	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/01/22 17:56	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/01/22 17:56	1
2-Butanone (MEK)	**1.3**	**J**	10	1.3	ug/L			06/01/22 17:56	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			06/01/22 17:56	1
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~06/01/22 17:56~~	R 1
2-Hexanone	ND		5.0	1.2	ug/L			06/01/22 17:56	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/01/22 17:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/01/22 17:56	1
Acetone	**16**	J	10	3.0	ug/L			06/01/22 17:56	1
Acetonitrile	ND	UJ	15	4.9	ug/L			06/01/22 17:56	1
Acrolein	ND	UJ	20	0.91	ug/L			06/01/22 17:56	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/01/22 17:56	1
Benzene	ND		1.0	0.41	ug/L			06/01/22 17:56	1
Bromoform	ND		1.0	0.26	ug/L			06/01/22 17:56	1
Bromomethane	ND		1.0	0.69	ug/L			06/01/22 17:56	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/01/22 17:56	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/01/22 17:56	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/01/22 17:56	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/01/22 17:56	1
Chloroethane	ND		1.0	0.32	ug/L			06/01/22 17:56	1

Client Sample ID: FB-052422
Lab Sample ID: 480-198313-9

Date Collected: 05/24/22 16:00
Matrix: Water
Date Received: 05/25/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.34	ug/L			06/01/22 17:56	1
Chloromethane	ND		1.0	0.35	ug/L			06/01/22 17:56	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/01/22 17:56	1
Dibromomethane	ND		1.0	0.41	ug/L			06/01/22 17:56	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/01/22 17:56	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/01/22 17:56	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/01/22 17:56	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/01/22 17:56	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/01/22 17:56	1
Iodomethane	ND		1.0	0.30	ug/L			06/01/22 17:56	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			06/01/22 17:56	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			06/01/22 17:56	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/01/22 17:56	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/01/22 17:56	1
o-Xylene	ND		1.0	0.76	ug/L			06/01/22 17:56	1
Propionitrile	ND	UJ	10	5.8	ug/L			06/01/22 17:56	1
Styrene	ND		1.0	0.73	ug/L			06/01/22 17:56	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/01/22 17:56	1
Toluene	ND		1.0	0.51	ug/L			06/01/22 17:56	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/01/22 17:56	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/01/22 17:56	1
trans-1,4-Dichloro-2-butene	ND	UJ	1.0	0.22	ug/L			06/01/22 17:56	1
Trichloroethene	ND		1.0	0.46	ug/L			06/01/22 17:56	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/01/22 17:56	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/01/22 17:56	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/01/22 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*77 - 120*		*06/01/22 17:56*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*06/01/22 17:56*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*06/01/22 17:56*	*1*
Toluene-d8 (Surr)	*90*		*80 - 120*		*06/01/22 17:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,3-Dichlorobenzene	ND	UJ	10	0.48	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,4-Dichlorobenzene	ND	UJ	10	0.46	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,4-Dioxane	ND		10	1.1	ug/L		05/27/22 11:04	05/31/22 19:52	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/27/22 11:04	05/31/22 19:52	1
1-Naphthylamine	ND		10	1.3	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/27/22 11:04	05/31/22 19:52	1

Client Sample ID: FB-052422
Date Collected: 05/24/22 16:00
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/27/22 11:04	05/31/22 19:52	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Naphthylamine	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Nitroaniline	ND		10	0.42	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Picoline	ND		80	1.4	ug/L		05/27/22 11:04	05/31/22 19:52	1
2-Toluidine	ND		10	1.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/27/22 11:04	05/31/22 19:52	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
3-Methylphenol	ND		10	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1
3-Nitroaniline	ND		10	0.48	ug/L		05/27/22 11:04	05/31/22 19:52	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Chloro-3-methylphenol	**10**		5.0	0.45	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Methylphenol	ND		10	0.36	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Nitroaniline	ND		10	0.25	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Nitrophenol	ND		10	1.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/27/22 11:04	05/31/22 19:52	1
a,a-Dimethylphenethylamine	ND	UJ	100	40	ug/L		05/27/22 11:04	05/31/22 19:52	1
Acenaphthene	ND		5.0	0.41	ug/L		05/27/22 11:04	05/31/22 19:52	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/27/22 11:04	05/31/22 19:52	1
Acetophenone	ND		5.0	0.54	ug/L		05/27/22 11:04	05/31/22 19:52	1
Aniline	ND		10	0.61	ug/L		05/27/22 11:04	05/31/22 19:52	1
Anthracene	ND		5.0	0.28	ug/L		05/27/22 11:04	05/31/22 19:52	1
Aramite, Total	ND		20	1.6	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzidine	ND	*1 UJ	80	2.2	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/27/22 11:04	05/31/22 19:52	1
Benzyl alcohol	ND		20	2.0	ug/L		05/27/22 11:04	05/31/22 19:52	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/27/22 11:04	05/31/22 19:52	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/27/22 11:04	05/31/22 19:52	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1

Client Sample ID: FB-052422
Lab Sample ID: 480-198313-9

Date Collected: 05/24/22 16:00
Matrix: Water

Date Received: 05/25/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/27/22 11:04	05/31/22 19:52	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/27/22 11:04	05/31/22 19:52	1
Chrysene	ND		5.0	0.33	ug/L		05/27/22 11:04	05/31/22 19:52	1
Diallate	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/27/22 11:04	05/31/22 19:52	1
Dibenzofuran	ND		10	0.51	ug/L		05/27/22 11:04	05/31/22 19:52	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/27/22 11:04	05/31/22 19:52	1
Dimethoate	ND		10	0.54	ug/L		05/27/22 11:04	05/31/22 19:52	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/27/22 11:04	05/31/22 19:52	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/27/22 11:04	05/31/22 19:52	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/27/22 11:04	05/31/22 19:52	1
Dinoseb	ND		10	2.9	ug/L		05/27/22 11:04	05/31/22 19:52	1
Diphenylamine	ND		10	0.82	ug/L		05/27/22 11:04	05/31/22 19:52	1
Disulfoton	ND		10	0.42	ug/L		05/27/22 11:04	05/31/22 19:52	1
Chlorobenzilate	ND		20	0.67	ug/L		05/27/22 11:04	05/31/22 19:52	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/27/22 11:04	05/31/22 19:52	1
Famphur	ND	~~*- *1~~ UJ	40	1.9	ug/L		05/27/22 11:04	05/31/22 19:52	1
Fluoranthene	ND		5.0	0.40	ug/L		05/27/22 11:04	05/31/22 19:52	1
Fluorene	ND		5.0	0.36	ug/L		05/27/22 11:04	05/31/22 19:52	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/27/22 11:04	05/31/22 19:52	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/27/22 11:04	05/31/22 19:52	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/27/22 11:04	05/31/22 19:52	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/27/22 11:04	05/31/22 19:52	1
Hexachloropropene	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/27/22 11:04	05/31/22 19:52	1
Isodrin	ND		10	0.18	ug/L		05/27/22 11:04	05/31/22 19:52	1
Isophorone	ND		5.0	0.43	ug/L		05/27/22 11:04	05/31/22 19:52	1
Isosafrole	ND		10	0.58	ug/L		05/27/22 11:04	05/31/22 19:52	1
Kepone	ND	~~*-~~ UJ	50	1.8	ug/L		05/27/22 11:04	05/31/22 19:52	1
Methapyrilene	ND		50	1.8	ug/L		05/27/22 11:04	05/31/22 19:52	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
Naphthalene	ND		5.0	0.76	ug/L		05/27/22 11:04	05/31/22 19:52	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/27/22 11:04	05/31/22 19:52	1
Ethyl Parathion	ND		10	0.64	ug/L		05/27/22 11:04	05/31/22 19:52	1
Methyl parathion	ND		10	0.37	ug/L		05/27/22 11:04	05/31/22 19:52	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/27/22 11:04	05/31/22 19:52	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/27/22 11:04	05/31/22 19:52	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1

Client Sample ID: FB-052422
Date Collected: 05/24/22 16:00
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		10	2.2	ug/L		05/27/22 11:04	05/31/22 19:52	1
Phenacetin	ND		10	0.61	ug/L		05/27/22 11:04	05/31/22 19:52	1
Phenanthrene	ND		5.0	0.44	ug/L		05/27/22 11:04	05/31/22 19:52	1
Phenol	ND		5.0	0.39	ug/L		05/27/22 11:04	05/31/22 19:52	1
Phorate	ND		10	0.50	ug/L		05/27/22 11:04	05/31/22 19:52	1
p-Phenylene diamine	ND	*-	800	200	ug/L		05/27/22 11:04	05/31/22 19:52	R 1
Pronamide	ND		10	2.5	ug/L		05/27/22 11:04	05/31/22 19:52	1
Pyrene	ND		5.0	0.34	ug/L		05/27/22 11:04	05/31/22 19:52	1
Pyridine	ND		25	0.41	ug/L		05/27/22 11:04	05/31/22 19:52	1
Safrole	ND		10	0.46	ug/L		05/27/22 11:04	05/31/22 19:52	1
Sulfotepp	ND		10	0.64	ug/L		05/27/22 11:04	05/31/22 19:52	1
Thionazin	ND		10	0.38	ug/L		05/27/22 11:04	05/31/22 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*41 - 120*	*05/27/22 11:04*	*05/31/22 19:52*	*1*
2-Fluorobiphenyl (Surr)	*88*		*48 - 120*	*05/27/22 11:04*	*05/31/22 19:52*	*1*
2-Fluorophenol (Surr)	*64*		*35 - 120*	*05/27/22 11:04*	*05/31/22 19:52*	*1*
Nitrobenzene-d5 (Surr)	*82*		*46 - 120*	*05/27/22 11:04*	*05/31/22 19:52*	*1*
Phenol-d5 (Surr)	*45*		*22 - 120*	*05/27/22 11:04*	*05/31/22 19:52*	*1*
p-Terphenyl-d14 (Surr)	*94*		*60 - 148*	*05/27/22 11:04*	*05/31/22 19:52*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	H	5.0	0.58	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,2,4-Trichlorobenzene	ND	H	10	0.44	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,2-Dichlorobenzene	ND	H	10	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,2-Diphenylhydrazine	ND	H	10	0.35	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,3,5-Trinitrobenzene	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,3-Dichlorobenzene	ND	H	10	0.48	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,3-Dinitrobenzene	ND	H	20	0.82	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,4-Dioxane	ND	H	10	1.1	ug/L		06/02/22 15:17	06/03/22 21:46	1
1,4-Naphthoquinone	ND	H	10	0.24	ug/L		06/02/22 15:17	06/03/22 21:46	1
1-Naphthylamine	ND	H	10	1.3	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,3,4,6-Tetrachlorophenol	ND	H	5.0	0.32	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,4,5-Trichlorophenol	ND	H	5.0	0.48	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,4,6-Trichlorophenol	ND	H	5.0	0.61	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,4-Dichlorophenol	ND	H	5.0	0.51	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,4-Dimethylphenol	ND	H	5.0	0.50	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,4-Dinitrophenol	ND	H	10	2.2	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,4-Dinitrotoluene	ND	H	5.0	0.45	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,6-Dichlorophenol	ND	H	10	0.46	ug/L		06/02/22 15:17	06/03/22 21:46	1
2,6-Dinitrotoluene	ND	H	5.0	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Acetylaminofluorene	ND	H	10	2.3	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Chloronaphthalene	ND	H	5.0	0.46	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Chlorophenol	ND	H	5.0	0.53	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Methylnaphthalene	ND	H	5.0	0.60	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Methylphenol	ND	H	5.0	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Naphthylamine	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Nitroaniline	ND	H	10	0.42	ug/L		06/02/22 15:17	06/03/22 21:46	1

Client Sample ID: FB-052422
Date Collected: 05/24/22 16:00
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	ND	H	5.0	0.48	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Picoline	ND	H	80	1.4	ug/L		06/02/22 15:17	06/03/22 21:46	1
2-Toluidine	ND	H	10	1.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
3 & 4 Methylphenol	ND	H	10	0.36	ug/L		06/02/22 15:17	06/03/22 21:46	1
3,3'-Dichlorobenzidine	ND	H	5.0	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
3,3'-Dimethylbenzidine	ND	H *1	40	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
3-Methylcholanthrene	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
3-Methylphenol	ND	H	10	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
3-Nitroaniline	ND	H	10	0.48	ug/L		06/02/22 15:17	06/03/22 21:46	1
4,6-Dinitro-2-methylphenol	ND	H	10	2.2	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Aminobiphenyl	ND	H	10	0.81	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Bromophenyl phenyl ether	ND	H	5.0	0.45	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Chloro-3-methylphenol	**14**	**H**	5.0	0.45	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Chloroaniline	ND	H	5.0	0.59	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Chlorophenyl phenyl ether	ND	H	5.0	0.35	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Methylphenol	ND	H	10	0.36	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Nitroaniline	ND	*+ H	10	0.25	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Nitrophenol	ND	H	10	1.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
4-Nitroquinoline-1-oxide	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
7,12-Dimethylbenz(a)anthracene	ND	H	10	0.62	ug/L		06/02/22 15:17	06/03/22 21:46	1
a,a-Dimethylphenethylamine	ND	H	100	40	ug/L		06/02/22 15:17	06/03/22 21:46	1
Acenaphthene	ND	H	5.0	0.41	ug/L		06/02/22 15:17	06/03/22 21:46	1
Acenaphthylene	ND	H	5.0	0.38	ug/L		06/02/22 15:17	06/03/22 21:46	1
Acetophenone	ND	H	5.0	0.54	ug/L		06/02/22 15:17	06/03/22 21:46	1
Aniline	ND	H	10	0.61	ug/L		06/02/22 15:17	06/03/22 21:46	1
Anthracene	ND	H	5.0	0.28	ug/L		06/02/22 15:17	06/03/22 21:46	1
Aramite, Total	ND	H	20	1.6	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzidine	ND	H *1	80	2.2	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzo[a]anthracene	ND	H	5.0	0.36	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzo[a]pyrene	ND	H	5.0	0.47	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzo[b]fluoranthene	ND	H	5.0	0.34	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzo[g,h,i]perylene	ND	H	5.0	0.35	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzo[k]fluoranthene	ND	H	5.0	0.73	ug/L		06/02/22 15:17	06/03/22 21:46	1
Benzyl alcohol	ND	H	20	2.0	ug/L		06/02/22 15:17	06/03/22 21:46	1
bis (2-chloroisopropyl) ether	ND	H	5.0	0.52	ug/L		06/02/22 15:17	06/03/22 21:46	1
Bis(2-chloroethoxy)methane	ND	H	5.0	0.35	ug/L		06/02/22 15:17	06/03/22 21:46	1
Bis(2-chloroethyl)ether	ND	H	5.0	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L		06/02/22 15:17	06/03/22 21:46	1
Butyl benzyl phthalate	ND	H	5.0	1.0	ug/L		06/02/22 15:17	06/03/22 21:46	1
Chrysene	ND	H	5.0	0.33	ug/L		06/02/22 15:17	06/03/22 21:46	1
Diallate	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
Dibenz(a,h)anthracene	ND	H	5.0	0.42	ug/L		06/02/22 15:17	06/03/22 21:46	1
Dibenzofuran	ND	H	10	0.51	ug/L		06/02/22 15:17	06/03/22 21:46	1
Diethyl phthalate	ND	H	5.0	0.22	ug/L		06/02/22 15:17	06/03/22 21:46	1
Dimethoate	ND	H	10	0.54	ug/L		06/02/22 15:17	06/03/22 21:46	1
Dimethyl phthalate	ND	H	5.0	0.36	ug/L		06/02/22 15:17	06/03/22 21:46	1
Di-n-butyl phthalate	ND	H	5.0	0.31	ug/L		06/02/22 15:17	06/03/22 21:46	1
Di-n-octyl phthalate	ND	H	5.0	0.47	ug/L		06/02/22 15:17	06/03/22 21:46	1
Dinoseb	ND	H	10	2.9	ug/L		06/02/22 15:17	06/03/22 21:46	1

Client Sample ID: FB-052422
Lab Sample ID: 480-198313-9

Date Collected: 05/24/22 16:00
Matrix: Water
Date Received: 05/25/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diphenylamine	ND	H	10	0.82	ug/L		06/02/22 15:17	06/03/22 21:46	1
Disulfoton	ND	H	10	0.42	ug/L		06/02/22 15:17	06/03/22 21:46	1
Chlorobenzilate	ND	H	20	0.67	ug/L		06/02/22 15:17	06/03/22 21:46	1
Ethyl methanesulfonate	ND	H	10	0.39	ug/L		06/02/22 15:17	06/03/22 21:46	1
Famphur	ND	H *- *1	40	1.9	ug/L		06/02/22 15:17	06/03/22 21:46	1
Fluoranthene	ND	H	5.0	0.40	ug/L		06/02/22 15:17	06/03/22 21:46	1
Fluorene	ND	H	5.0	0.36	ug/L		06/02/22 15:17	06/03/22 21:46	1
Hexachlorobenzene	ND	H	5.0	0.51	ug/L		06/02/22 15:17	06/03/22 21:46	1
Hexachlorobutadiene	ND	H	5.0	0.68	ug/L		06/02/22 15:17	06/03/22 21:46	1
Hexachlorocyclopentadiene	ND	H	5.0	0.59	ug/L		06/02/22 15:17	06/03/22 21:46	1
Hexachloroethane	ND	H	5.0	0.59	ug/L		06/02/22 15:17	06/03/22 21:46	1
Hexachloropropene	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
Indeno[1,2,3-cd]pyrene	ND	H	5.0	0.47	ug/L		06/02/22 15:17	06/03/22 21:46	1
Isodrin	ND	H	10	0.18	ug/L		06/02/22 15:17	06/03/22 21:46	1
Isophorone	ND	H	5.0	0.43	ug/L		06/02/22 15:17	06/03/22 21:46	1
Isosafrole	ND	H	10	0.58	ug/L		06/02/22 15:17	06/03/22 21:46	1
Kepone	ND	H *-	50	1.8	ug/L		06/02/22 15:17	06/03/22 21:46	1
Methapyrilene	ND	H *1	50	1.8	ug/L		06/02/22 15:17	06/03/22 21:46	1
Methyl methanesulfonate	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
Naphthalene	ND	H	5.0	0.76	ug/L		06/02/22 15:17	06/03/22 21:46	1
Nitrobenzene	ND	H	5.0	0.29	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitro-o-toluidine	ND	H	10	0.66	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosodiethylamine	ND	H	10	0.36	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosodimethylamine	ND	H	10	2.2	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosodi-n-butylamine	ND	H	10	0.60	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosodi-n-propylamine	ND	H	5.0	0.54	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosodiphenylamine	ND	H	5.0	0.51	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosomethylethylamine	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosomorpholine	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosopiperidine	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
N-Nitrosopyrrolidine	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
o,o',o"-Triethylphosphorothioate	ND	H	10	0.43	ug/L		06/02/22 15:17	06/03/22 21:46	1
Ethyl Parathion	ND	H	10	0.64	ug/L		06/02/22 15:17	06/03/22 21:46	1
Methyl parathion	ND	H	10	0.37	ug/L		06/02/22 15:17	06/03/22 21:46	1
p-Dimethylamino azobenzene	ND	H	10	0.75	ug/L		06/02/22 15:17	06/03/22 21:46	1
Pentachlorobenzene	ND	H	10	0.53	ug/L		06/02/22 15:17	06/03/22 21:46	1
Pentachloronitrobenzene	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
Pentachlorophenol	ND	H	10	2.2	ug/L		06/02/22 15:17	06/03/22 21:46	1
Phenacetin	ND	H	10	0.61	ug/L		06/02/22 15:17	06/03/22 21:46	1
Phenanthrene	ND	H	5.0	0.44	ug/L		06/02/22 15:17	06/03/22 21:46	1
Phenol	ND	H	5.0	0.39	ug/L		06/02/22 15:17	06/03/22 21:46	1
Phorate	ND	H	10	0.50	ug/L		06/02/22 15:17	06/03/22 21:46	1
p-Phenylene diamine	ND	H *-	800	200	ug/L		06/02/22 15:17	06/03/22 21:46	1
Pronamide	ND	H	10	2.5	ug/L		06/02/22 15:17	06/03/22 21:46	1
Pyrene	ND	H	5.0	0.34	ug/L		06/02/22 15:17	06/03/22 21:46	1
Pyridine	ND	H	25	0.41	ug/L		06/02/22 15:17	06/03/22 21:46	1
Safrole	ND	H	10	0.46	ug/L		06/02/22 15:17	06/03/22 21:46	1
Sulfotepp	ND	H	10	0.64	ug/L		06/02/22 15:17	06/03/22 21:46	1
Thionazin	ND	H	10	0.38	ug/L		06/02/22 15:17	06/03/22 21:46	1

Client Sample ID: FB-052422
Date Collected: 05/24/22 16:00
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-9
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	90		41 - 120	06/02/22 15:17	06/03/22 21:46	1
2-Fluorobiphenyl (Surr)	97		48 - 120	06/02/22 15:17	06/03/22 21:46	1
2-Fluorophenol (Surr)	71		35 - 120	06/02/22 15:17	06/03/22 21:46	1
Nitrobenzene-d5 (Surr)	96		46 - 120	06/02/22 15:17	06/03/22 21:46	1
Phenol-d5 (Surr)	54		22 - 120	06/02/22 15:17	06/03/22 21:46	1
p-Terphenyl-d14 (Surr)	99		60 - 148	06/02/22 15:17	06/03/22 21:46	1

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/27/22 15:03	05/31/22 14:03	1
4,4'-DDE	ND	*1 UJ	0.050	0.012	ug/L		05/27/22 15:03	05/31/22 14:03	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/27/22 15:03	05/31/22 14:03	1
Aldrin	ND		0.050	0.0081	ug/L		05/27/22 15:03	05/31/22 14:03	1
alpha-BHC	ND	*1 UJ	0.050	0.0077	ug/L		05/27/22 15:03	05/31/22 14:03	1
beta-BHC	ND	*1 UJ	0.050	0.025	ug/L		05/27/22 15:03	05/31/22 14:03	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/27/22 15:03	05/31/22 14:03	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/27/22 15:03	05/31/22 14:03	1
cis-Chlordane	ND	*1 UJ	0.050	0.015	ug/L		05/27/22 15:03	05/31/22 14:03	1
delta-BHC	ND	*1 UJ	0.050	0.010	ug/L		05/27/22 15:03	05/31/22 14:03	1
Dieldrin	ND	*1 UJ	0.050	0.0098	ug/L		05/27/22 15:03	05/31/22 14:03	1
Endosulfan I	ND		0.050	0.011	ug/L		05/27/22 15:03	05/31/22 14:03	1
Endosulfan II	ND		0.050	0.012	ug/L		05/27/22 15:03	05/31/22 14:03	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/27/22 15:03	05/31/22 14:03	1
Endrin	ND	*1 UJ	0.050	0.014	ug/L		05/27/22 15:03	05/31/22 14:03	1
Endrin aldehyde	0.050 U	~~0.035 J~~	0.050	0.016	ug/L		05/27/22 15:03	05/31/22 14:03	1
Endrin ketone	ND		0.050	0.012	ug/L		05/27/22 15:03	05/31/22 14:03	1
gamma-BHC (Lindane)	ND	*1 UJ	0.050	0.0080	ug/L		05/27/22 15:03	05/31/22 14:03	1
Heptachlor	ND		0.050	0.0085	ug/L		05/27/22 15:03	05/31/22 14:03	1
Heptachlor epoxide	ND	*1 UJ	0.050	0.0074	ug/L		05/27/22 15:03	05/31/22 14:03	1
Methoxychlor	ND	UJ	0.050	0.014	ug/L		05/27/22 15:03	05/31/22 14:03	1
Toxaphene	ND		0.50	0.12	ug/L		05/27/22 15:03	05/31/22 14:03	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/27/22 15:03	05/31/22 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	22		20 - 120	05/27/22 15:03	05/31/22 14:03	1
DCB Decachlorobiphenyl	21		20 - 120	05/27/22 15:03	05/31/22 14:03	1
Tetrachloro-m-xylene	40	S1-	44 - 120	05/27/22 15:03	05/31/22 14:03	1
Tetrachloro-m-xylene	15	S1-	44 - 120	05/27/22 15:03	05/31/22 14:03	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/26/22 08:34	05/26/22 22:32	1
PCB-1221	ND		0.50	0.18	ug/L		05/26/22 08:34	05/26/22 22:32	1
PCB-1232	ND		0.50	0.18	ug/L		05/26/22 08:34	05/26/22 22:32	1
PCB-1242	ND		0.50	0.18	ug/L		05/26/22 08:34	05/26/22 22:32	1
PCB-1248	ND		0.50	0.18	ug/L		05/26/22 08:34	05/26/22 22:32	1
PCB-1254	ND		0.50	0.25	ug/L		05/26/22 08:34	05/26/22 22:32	1
PCB-1260	ND		0.50	0.25	ug/L		05/26/22 08:34	05/26/22 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		39 - 121	05/26/22 08:34	05/26/22 22:32	1

Client Sample ID: FB-052422
Date Collected: 05/24/22 16:00
Date Received: 05/25/22 10:00

Lab Sample ID: 480-198313-9
Matrix: Water

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*39 - 121*	*05/26/22 08:34*	*05/26/22 22:32*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*05/26/22 08:34*	*05/26/22 22:32*	*1*
DCB Decachlorobiphenyl	*47*		*19 - 120*	*05/26/22 08:34*	*05/26/22 22:32*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		05/27/22 11:17	05/31/22 14:40	1
2,4-D	ND	UJ	0.48	0.16	ug/L		05/27/22 11:17	05/31/22 14:40	1
Silvex (2,4,5-TP)	ND	UJ	0.48	0.048	ug/L		05/27/22 11:17	05/31/22 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*48 - 132*	*05/27/22 11:17*	*05/31/22 14:40*	*1*
2,4-Dichlorophenylacetic acid	*72*		*48 - 132*	*05/27/22 11:17*	*05/31/22 14:40*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Dimethoate~~	~~ND~~	~~H~~	~~0.97~~	~~0.26~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1
~~Disulfoton~~	~~ND~~	~~H~~	~~0.97~~	~~0.39~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1
~~Famphur~~	~~ND~~	~~H~~	~~0.97~~	~~0.31~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1
~~Methyl parathion~~	~~ND~~	~~H~~	~~0.97~~	~~0.33~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1
~~Ethyl Parathion~~	~~ND~~	~~H~~	~~0.97~~	~~0.35~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1
~~Phorate~~	~~ND~~	~~H~~	~~0.97~~	~~0.37~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1
~~Sulfotepp~~	~~ND~~	~~H~~	~~0.97~~	~~0.39~~	~~ug/L~~		~~06/10/22 04:20~~	~~06/13/22 09:35~~	R 1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*25 - 127*	*06/10/22 04:20*	*06/13/22 09:35*	*1*
Tributyl phosphate	*84*		*25 - 127*	*06/10/22 04:20*	*06/13/22 09:35*	*1*
Triphenylphosphate	*91*		*70 - 155*	*06/10/22 04:20*	*06/13/22 09:35*	*1*
Triphenylphosphate	*93*		*70 - 155*	*06/10/22 04:20*	*06/13/22 09:35*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**1.2**	**J B**		25	0.28	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,4,6,7,8-HpCDF	**0.51**	**J I B**	BJNX	25	0.048	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,4,7,8,9-HpCDF	**0.38**	**J I B**	BJNX	25	0.062	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,4,7,8-HxCDD	ND			25	0.074	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,4,7,8-HxCDF	ND			25	0.16	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,6,7,8-HxCDD	ND			25	0.072	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,6,7,8-HxCDF	**0.39**	**J I B**	BJNX	25	0.15	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,7,8,9-HxCDD	ND			25	0.083	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,7,8,9-HxCDF	**0.55**	**J I B**	BJNX	25	0.20	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,7,8-PeCDD	ND			25	0.098	pg/L		06/14/22 09:58	06/15/22 06:11	1
1,2,3,7,8-PeCDF	**0.18**	**J I B**	BJNX	25	0.079	pg/L		06/14/22 09:58	06/15/22 06:11	1
2,3,4,6,7,8-HxCDF	ND			25	0.16	pg/L		06/14/22 09:58	06/15/22 06:11	1
2,3,4,7,8-PeCDF	**0.25**	**J I B**	BJNX	25	0.063	pg/L		06/14/22 09:58	06/15/22 06:11	1
2,3,7,8-TCDD	**0.31**	**J I B**	BJNX	4.9	0.10	pg/L		06/14/22 09:58	06/15/22 06:11	1
2,3,7,8-TCDF	ND			4.9	0.098	pg/L		06/14/22 09:58	06/15/22 06:11	1
OCDD	**1.8**	**J I B**	BJNX	110	0.27	pg/L		06/14/22 09:58	06/15/22 06:11	1
OCDF	**0.55**	**J I B**	BJNX	49	0.086	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total HpCDD	**1.2**	**J B**		25	0.28	pg/L		06/14/22 09:58	06/15/22 06:11	1

Client Sample ID: FB-052422
Lab Sample ID: 480-198313-9

Date Collected: 05/24/22 16:00
Matrix: Water
Date Received: 05/25/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	**0.89**	~~J I B~~ BJNX	25	0.055	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total HxCDD	ND		25	0.076	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total HxCDF	**0.94**	~~J I B~~ BJNX	25	0.16	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total PeCDD	ND		25	0.098	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total PeCDF	**0.43**	~~J I B~~ BJNX	25	0.071	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total TCDD	**0.31**	~~J I B~~ BJNX	4.9	0.10	pg/L		06/14/22 09:58	06/15/22 06:11	1
Total TCDF	ND		4.9	0.098	pg/L		06/14/22 09:58	06/15/22 06:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,7,8,9-HxCDD	*74*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*74*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*70*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-2,3,7,8-TCDD	*89*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-OCDD	*96*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*
13C-OCDF	*90*		*40 - 135*	*06/14/22 09:58*	*06/15/22 06:11*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/27/22 09:30	05/27/22 14:18	1
Arsenic	ND		0.015	0.0056	mg/L		05/27/22 09:30	05/27/22 14:18	1
Barium	ND		0.0020	0.00070	mg/L		05/27/22 09:30	05/27/22 14:18	1
Beryllium	ND		0.0020	0.00030	mg/L		05/27/22 09:30	05/27/22 14:18	1
Cadmium	ND		0.0020	0.00050	mg/L		05/27/22 09:30	05/27/22 14:18	1
Chromium	ND		0.0040	0.0010	mg/L		05/27/22 09:30	05/27/22 14:18	1
Cobalt	ND		0.0040	0.00063	mg/L		05/27/22 09:30	05/27/22 14:18	1
Copper	ND		0.010	0.0016	mg/L		05/27/22 09:30	05/27/22 14:18	1
Lead	ND		0.010	0.0030	mg/L		05/27/22 09:30	05/27/22 14:18	1
Nickel	ND		0.010	0.0013	mg/L		05/27/22 09:30	05/27/22 14:18	1
Selenium	ND		0.025	0.0087	mg/L		05/27/22 09:30	05/27/22 14:18	1
Silver	ND		0.0060	0.0017	mg/L		05/27/22 09:30	05/27/22 14:18	1
Thallium	ND		0.020	0.010	mg/L		05/27/22 09:30	05/27/22 14:18	1
Tin	ND		0.010	0.0051	mg/L		05/27/22 09:30	05/27/22 14:18	1
Vanadium	ND		0.0050	0.0015	mg/L		05/27/22 09:30	05/27/22 14:18	1
Zinc	ND		0.010	0.0015	mg/L		05/27/22 09:30	05/27/22 14:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/31/22 11:05	05/31/22 14:28	1

Client: ARCADIS U.S. Inc
Job ID: 480-198313-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: FB-052422
Lab Sample ID: 480-198313-9

Date Collected: 05/24/22 16:00
Matrix: Water

Date Received: 05/25/22 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		06/06/22 11:52	06/07/22 07:48	1
Sulfide	ND		1.0	0.67	mg/L			05/27/22 15:15	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-198523-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47311R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 7
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 11
2.4.2 Continuing Calibration 11
2.5 Surrogates/System Monitoring Compounds 12
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
2.8 Laboratory Control Sample Analysis 14
2.9 Field Duplicate Analysis 14
2.10 Compound Identification 14
2.11 System Performance and Overall Assessment 14
2.12 Data Validation Checklist 15
3 Semi-volatile Organic Compound Analyses 16
3.1 Holding Times 16
3.2 Blank Contamination 17
3.3 Mass Spectrometer Tuning 17
3.4 Calibration 17
3.4.1 Initial Calibration 17
3.4.2 Continuing Calibration 17
3.5 Surrogates/System Monitoring Compounds 18
3.6 Internal Standard Performance 19
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 19
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 20
3.9 Field Duplicate Analysis 21
3.10 Compound Identification 21
3.11 System Performance and Overall Assessment 21

3.12 Data Validation Checklist 21
4 Polychlorinated Biphenyl Analyses 23
4.1 Holding Times 23
4.2 Blank Contamination 23
4.3 System Performance 23
4.4 Calibration 23
4.4.1 Initial Calibration 24
4.4.2 Continuing Calibration 24
4.5 Surrogates/System Monitoring Compounds 24
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 24
4.7 Laboratory Control Sample Analysis 24
4.8 Field Duplicate Analysis 25
4.9 Compound Identification 25
4.10 System Performance and Overall Assessment 25
4.11 Data Validation Checklist 25
5 Pesticide/Herbicide Analyses 26
5.1 Holding Times 26
5.2 Blank Contamination 27
5.3 System Performance 27
5.4 Calibration 27
5.4.1 Initial Calibration 27
5.4.2 Continuing Calibration 28
5.5 Surrogates/System Monitoring Compounds 28
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 28
5.7 Laboratory Control Sample Analysis 30
5.8 Field Duplicate Analysis 30
5.9 Compound Identification 30
5.10 System Performance and Overall Assessment 30
5.11 Data Validation Checklist 31
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 32
6.1 Holding Times 32
6.2 Blank Contamination 32
6.3 Mass Spectrometer Tuning 34

6.4 Calibration 34
6.4.1 Initial Calibration 34
6.4.2 Continuing Calibration 34
6.5 Labeled Standard Performance 34
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 34
6.7 Ongoing Precision Result /Laboratory Control Sample Analysis 35
6.8 Field Duplicate Analysis 35
6.9 Compound Identification 35
6.10 System Performance and Overall Assessment 35
6.11 Data Validation Checklist 36
7 Metals Analyses 37
7.1 Holding Times 37
7.2 Blank Contamination 38
7.3 Calibration 38
7.3.1 Initial Calibration and Continuing Calibration 38
7.3.2 Lower Limit of Quantitation Check Standard 38
7.3.3 ICP Interference Control Sample 38
7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 39
7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 39
7.4.2 Laboratory Duplicate Analysis 40
7.5 Field Duplicate Analysis 40
7.6 Laboratory Control Sample Analysis 40
7.7 Serial Dilution 40
7.8 System Performance and Overall Assessment 41
7.9 Data Validation Checklist 41
8 General Chemistry Analyses 42
8.1 Holding Times 42
8.2 Blank Contamination 43
8.3 Calibration 43
8.3.1 Initial Calibration and Continuing Calibration 43
8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 43
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 43
8.4.2 Laboratory Duplicate Analysis 44

8.5 Field Duplicate Analysis 44
8.6 Laboratory Control Sample (LCS) Analysis 44
8.7 System Performance and Overall Assessment 45
8.8 Data Validation Checklist for General Chemistry 45
9 Overall Data Usability 46

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 10
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications 12
Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 13
Table 8. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 13
Table 9. Holding Time for Method SW-846 8270D 16
Table 10. Summary of Compounds Outside Specified Calibration Control Limits 18
Table 11. Initial and Continuing Calibration Evaluation Criteria and Qualifications 18
Table 12. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 19
Table 13. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 19
Table 14. Samples with Laboratory Control Sample Recoveries Outside Control Limits 20
Table 15. Laboratory Control Sample Recovery Criteria and Qualifications 20
Table 16. Holding Time for Method SW-846 8082A 23
Table 17. Holding Time for Method SW-846 8081B/8141B/8151A 27
Table 18. Summary of Compounds Outside Specified Calibration Control Limits 28
Table 19. Initial and Continuing Calibration Evaluation Criteria and Qualifications 28
Table 20. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 29
Table 21. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 29
Table 22. Samples with Relative Percent Difference Greater than Control Limits 29
Table 23. Relative Percent Difference Evaluation Criteria and Qualifications 30
Table 24. Holding Time for Method SW-846 8290A 32
Table 24. Summary of Blank Contamination Qualifications 33
Table 25. Holding Time for Method SW-846 6010C/7471B 37

Table 26. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 39
Table 27. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 39
Table 28. Samples with serial dilution differences (%D) Outside Control Limits 40
Table 29. Serial dilution Evaluation Criteria and Qualifications 41
Table 30. Specified Holding Times 42
Table 31. Samples with Relative Percent Difference Greater than Control Limits 44
Table 32. Relative Percent Difference Evaluation Criteria and Qualifications 44
Table 33. Overall Summary of Data Usability 46

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-198523-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-3 (0-1)	480-198523-1	Soil	05/31/22		X	X	X	X	X	X
MW-2022-3 (2-10)	480-198523-2	Soil	05/31/22			X	X	X	X	X
MW-2022-3 (4)	480-198523-3	Soil	05/31/22		X					
MW-2022-3 (12-16)	480-198523-4	Soil	05/31/22			X	X	X	X	X
MW-2022-3 (14)	480-198523-5	Soil	05/31/22		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	3	0	0	3
SVOCs	0	0	0	3	0	0	3
PCBs	0	0	0	3	0	0	3
PEST	0	0	0	3	0	0	3
HERB	0	0	0	3	0	0	3
PCDD/PCDF	0	0	0	3	0	0	3
Metals	0	0	0	3	0	0	3
MISC	0	0	0	3	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were non-detect. No other qualification of the sample results was required.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compound	Criteria
MW-2022-3 (0-1)	CCV %D	Acrolein	-27.2%
MW-2022-3 (4)			
MW-2022-3 (14)			

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
MW-2022-3 (0-1)	Acrolein	< LL but > 10%	< LL but > 10%
	Ethyl methacrylate	< LL but > 10%	< LL but > 10%
	Vinyl acetate	< LL but > 10%	< LL but > 10%

Note:
LL – Lower control limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 8. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ

Control Limit	Sample Result	Qualification
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

2.8 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. A field duplicate sample was not collected for samples from this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS or MS/MSD. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks	X				X
C. Trip blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 9. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were non-detect. No other qualification of the sample results was required.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 10. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
MW-2022-3 (0-1) MW-2022-3 (2-10) MW-2022-3 (12-16)	ICV %D	Benzidine	-27.2%
	CCV %D	Benzidine	+37.5%
		Methapyrilene	-29.1%
		Kepone	-73.6%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 11. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase in sensitivity)	Non-detect	UJ
		Detect	J
	%D >25% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 12. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
MW-2022-3 (0-1)	Aramite, Total	< LL but > 10%	< LL but > 10%
	Kepone	< 10%	< 10%

Note:
LL – Lower control limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 13. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 14. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compounds	LCS Recovery
MW-2022-3 (0-1) MW-2022-3 (2-10) MW-2022-3 (12-16)	Benzo[b]fluoranthene	> UL
	Kepone	< 10%
	Pentachlorophenol	> UL

Note:
UL – Upper control limit

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 15. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. A field duplicate sample was not collected for samples from this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. A field duplicate sample was not collected for samples from this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X		X	
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No other qualification of the sample results was required.

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 18. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial/Continuing	Compounds	Criteria
MW-2022-3 (0-1) MW-2022-3 (2-10) MW-2022-3 (12-16)	ICV %D	2,4-D	-15.1%
		Silvex (2,4,5-TP)	-15.6%
	CCV %D	Methyl parathion	-15.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 19. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 20%or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >15% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >15% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 20. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
MW-2022-3 (0-1)	Dimethoate	< LL but > 10%	AC

Note:
LL – Lower control limit
AC – Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 21. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Table 22. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Compound
MW-2022-3 (0-1)	delta-BHC
	gamma-BHC (Lindane)
	Dimethoate

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 23. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. A field duplicate sample was not collected for samples from this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 24. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 24. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-3 (0-1)	1,2,3,4,6,7,8-HpCDF	Detected sample results <RL and <BAL	"U" at the RL
	2,3,7,8-TCDF		
	OCDF		
	Total HpCDF		
	Total HxCDD		
	Total TCDF		
MW-2022-3 (2-10)	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	"U" at the RL
	1,2,3,4,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDF		
	OCDF		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
MW-2022-3 (12-16)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	"U" at the RL
	1,2,3,4,7,8-HxCDF		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,7,8-TCDD		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HxCDF		
	Total PeCDF		
	Total TCDD		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs.

6.7 Ongoing Precision Result /Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. A field duplicate sample was not collected for samples from this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio $\geq$ 10:1		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 25. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

7.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

7.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

7.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

7.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

7.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was performed on samples MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 26. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analytes	MS Recovery	MSD Recovery
MW-2022-3 (0-1)	Zinc	< LL but > 30%	< LL but > 30%

Note:
LL – Lower control limit

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 27. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 30%	Non-detect	UJ
	Detect	J
< 30%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

7.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

The laboratory duplicate analysis was not performed on samples from this SDG.

7.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. A field duplicate sample was not collected for samples from this SDG.

7.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits.

7.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample

The serial dilution was performed on samples MW-2022-2 (0-1) and FB-052422. Serial dilution analysis exhibited acceptable results with the exceptions noted in the table below.

Table 28. Samples with serial dilution differences (%D) Outside Control Limits

Sample ID	Analytes	Serial Dilution (%D)
MW-2022-3 (0-1)	Zinc	18%

The criteria used to evaluate the serial dilution are presented in the following table. In the case of a serial dilution deviation, the sample results are qualified as documented in the table below.

Table 29. Serial dilution Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> 15%	Non-detect	UJ
	Detect	J

7.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.9 Data Validation Checklist

METALS; SW-846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		

METALS; SW-846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D		X	X		
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 30. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was performed on sample MW-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 31. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Analyte
MW-2022-3 (0-1)	Sulfide

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 32. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on samples from this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. A field duplicate sample was not collected for samples from this SDG.

8.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soil.

The LCS analysis exhibited recoveries within the control limits.

8.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X	X		
Field/Lab Duplicate (RPD)	X				X
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

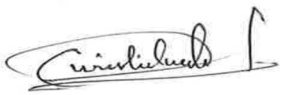
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 33. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	99.2%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 03, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 4, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: R. McDermott	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 501-237-1409	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 6
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

Analysis Requested

480-198523 Chain of Custody

Preservation Codes:
K - EDTA
L - EDA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volati	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicide	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of container	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-3(0-1)	5-31-2022	1220	C	S			X	X	X	X	X									8	
MW-2022-3(0-1)MS		1220	C				X	X	X	X	X									8	
MW-2022-3(0-1)MSD		1220	C				X	X	X	X	X									8	
MW-2022-3(2-10)		1250	C				X	X	X	X										4	
MW-2022-3(4)		1250	G								X									4	
MW-2022-3(12-16)		1355	C				X	X	X	X										4	
MW-2022-3(14)		1355	G								X									4	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	R. McDermott	5-31-2022/1640	ANA		6/1/22 0930	TAB
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #13

Ver: 01/16/2019

Page 5551 of 5556

06/24/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

Chain of Custody Record

480-198523 Chain of Custody

Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R		1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofinsus com	Massachusetts	Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts		Job #: 480-198523-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 6/14/2022			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-3 0-1 (480-198523-1)	5/31/22	12.20 Eastern		Solid			X	1	
MW-2022-3 0-1 (480-198523-1MS)	5/31/22	12 20 Eastern	MS	Solid			X	1	
MW-2022-3 0-1 (480-198523-1MSD)	5/31/22	12 20 Eastern	MSD	Solid			X	1	
MW-2022-3- 2-10 (480-198523-2)	5/31/22	12 50 Eastern		Solid			X	1	
MW-2022-3 12-16 (480-198523-4)	5/31/22	13 55 Eastern		Solid			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	6/1/22 1800	TAB	DW	6-2-22 900	EEN MARK
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-72723.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-198523-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/14/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-3 0-1 (480-198523-1)	5/31/22	12:20 Eastern		Solid			X	1	
MW-2022-3 0-1 (480-198523-1MS)	5/31/22	12:20 Eastern	MS	Solid			X	1	
MW-2022-3 0-1 (480-198523-1MSD)	5/31/22	12:20 Eastern	MSD	Solid			X	1	
MW-2022-3- 2-10 (480-198523-2)	5/31/22	12:50 Eastern		Solid			X	1	
MW-2022-3 12-16 (480-198523-4)	5/31/22	13:55 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
	6/1/22 1800	TAB			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time: 6/2/22 1058	Company ECE

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1-2

JM

Client Sample ID: MW-2022-3 (0-1)
Lab Sample ID: 480-198523-1

Date Collected: 05/31/22 12:20
Matrix: Solid

Date Received: 06/01/22 09:30
Percent Solids: 87.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.49	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,1,1-Trichloroethane	ND		4.9	0.35	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,1,2,2-Tetrachloroethane	ND		4.9	0.79	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,1,2-Trichloroethane	ND		4.9	0.64	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,1-Dichloroethane	ND		4.9	0.60	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,1-Dichloroethene	ND		4.9	0.60	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,2,3-Trichloropropane	ND		4.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,2-Dibromo-3-Chloropropane	ND		4.9	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,2-Dichloroethane	ND		4.9	0.25	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
1,2-Dichloropropane	ND		4.9	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
2-Butanone (MEK)	ND		24	1.8	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
2-Chloro-1,3-butadiene	ND	UJ	4.9	3.0	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
2-Chloroethyl vinyl ether	ND	*+ UJ	9.8	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
3-Chloro-1-propene	ND		4.9	2.3	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Acetone	ND		24	4.1	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Acetonitrile	ND	UJ	49	6.0	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Acrolein	ND	F1 UJ	24	7.7	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Acrylonitrile	ND		24	4.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Benzene	ND		4.9	0.24	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Bromoform	ND		4.9	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Bromomethane	ND		4.9	0.44	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Carbon disulfide	ND		4.9	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Carbon tetrachloride	ND		4.9	0.47	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Chlorobenzene	ND		4.9	0.65	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Chlorodibromomethane	ND		4.9	0.63	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Chloroethane	ND		4.9	1.1	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Chloroform	ND		4.9	0.30	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Chloromethane	ND		4.9	0.30	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
cis-1,3-Dichloropropene	ND		4.9	0.70	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Dibromomethane	ND		4.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Dichlorobromomethane	ND		4.9	0.65	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Dichlorodifluoromethane	ND		4.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Ethyl methacrylate	ND	F1 UJ	4.9	1.7	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Ethylbenzene	ND		4.9	0.34	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Ethylene Dibromide	ND		4.9	0.63	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Iodomethane	ND		4.9	0.24	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Methacrylonitrile	ND	UJ	24	5.8	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Methyl methacrylate	ND	UJ	4.9	1.0	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Methylene Chloride	ND		4.9	2.2	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
m-Xylene & p-Xylene	ND		9.8	0.82	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
o-Xylene	ND		4.9	0.64	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Propionitrile	ND	UJ	49	27	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Styrene	ND		4.9	0.24	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Tetrachloroethene	ND		4.9	0.66	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Toluene	ND		4.9	0.37	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
trans-1,2-Dichloroethene	ND		4.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
trans-1,3-Dichloropropene	ND		4.9	2.2	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1

Client Sample ID: MW-2022-3 (0-1)
Lab Sample ID: 480-198523-1
Date Collected: 05/31/22 12:20
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 87.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.9	1.1	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Trichloroethene	ND		4.9	1.1	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Trichlorofluoromethane	ND		4.9	0.46	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Vinyl acetate	ND	~~F1~~ UJ	9.8	2.5	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1
Vinyl chloride	ND		4.9	0.60	ug/Kg	☼	06/02/22 10:22	06/02/22 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*06/02/22 10:22*	*06/02/22 15:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*72 - 126*	*06/02/22 10:22*	*06/02/22 15:36*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*06/02/22 10:22*	*06/02/22 15:36*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*06/02/22 10:22*	*06/02/22 15:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,4-Dioxane	ND		110	62	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,4-Dinitrophenol	ND		1900	880	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,6-Dichlorophenol	ND		370	69	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Methylphenol	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Picoline	ND		370	43	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
2-Toluidine	ND		370	91	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
3-Methylphenol	ND		370	29	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1

Client Sample ID: MW-2022-3 (0-1)
Lab Sample ID: 480-198523-1
Date Collected: 05/31/22 12:20
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Aminobiphenyl	ND		370	77	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Methylphenol	ND		370	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
a,a-Dimethylphenethylamine	ND		370	370	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Acenaphthene	ND		190	28	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Acenaphthylene	ND		190	25	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Acetophenone	ND		190	26	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Aniline	ND		370	46	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Anthracene	ND		190	47	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Aramite, Total	ND	F1 UJ	370	180	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzidine	ND	UJ	5600	2400	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Chrysene	ND		190	43	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Diallate	ND		370	47	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Dibenzofuran	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Dimethoate	ND		370	46	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Dinoseb	ND		370	66	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Diphenylamine	ND		370	48	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Disulfoton	ND		370	280	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Ethyl methanesulfonate	ND		370	82	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Famphur	ND		740	180	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Fluoranthene	ND		190	20	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Fluorene	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1

Client Sample ID: MW-2022-3 (0-1)
Lab Sample ID: 480-198523-1
Date Collected: 05/31/22 12:20
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Hexachloroethane	ND		190	25	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Hexachloropropene	ND		370	94	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Isodrin	ND		370	65	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Isophorone	ND		190	40	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Isosafrole	ND		370	49	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Kepone	ND	F1 *-	3700	370	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	R 1
Methapyrilene	ND	UJ	1700	370	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Naphthalene	ND		190	25	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Nitrobenzene	ND		190	21	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosodiethylamine	ND		370	86	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosodimethylamine	ND		370	81	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosomorpholine	ND		370	83	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosopiperidine	ND		370	75	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Methyl parathion	ND		370	64	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
p-Dimethylamino azobenzene	ND		370	63	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Pentachlorobenzene	ND		370	77	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Pentachloronitrobenzene	ND		370	94	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Pentachlorophenol	ND	*+	370	190	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Phenacetin	ND		370	50	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Phenanthrene	ND		190	28	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Phenol	ND		190	29	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Phorate	ND		370	100	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
p-Phenylene diamine	ND		890	370	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Pronamide	ND		370	73	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Pyrene	ND		190	22	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Pyridine	ND		370	27	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Safrole	ND		370	50	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Sulfotepp	ND		370	59	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1
Thionazin	ND		370	65	ug/Kg	☼	06/01/22 15:46	06/04/22 01:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*	*06/01/22 15:46*	*06/04/22 01:43*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*06/01/22 15:46*	*06/04/22 01:43*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*06/01/22 15:46*	*06/04/22 01:43*	*1*
Nitrobenzene-d5 (Surr)	*69*		*53 - 120*	*06/01/22 15:46*	*06/04/22 01:43*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*06/01/22 15:46*	*06/04/22 01:43*	*1*
p-Terphenyl-d14 (Surr)	*97*		*79 - 130*	*06/01/22 15:46*	*06/04/22 01:43*	*1*

Client Sample ID: MW-2022-3 (0-1)
Date Collected: 05/31/22 12:20
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-1
Matrix: Solid
Percent Solids: 87.3

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
cis-Chlordane	ND		1.9	0.93	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
delta-BHC	ND	~~F2~~ UJ	1.9	0.35	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Endrin	ND		1.9	0.37	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
gamma-BHC (Lindane)	ND	~~F2~~ UJ	1.9	0.34	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
Toxaphene	ND		19	11	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	06/01/22 15:50	06/02/22 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*45 - 120*	*06/01/22 15:50*	*06/02/22 12:52*	*1*
DCB Decachlorobiphenyl	*102*		*45 - 120*	*06/01/22 15:50*	*06/02/22 12:52*	*1*
Tetrachloro-m-xylene	*100*		*30 - 124*	*06/01/22 15:50*	*06/02/22 12:52*	*1*
Tetrachloro-m-xylene	*84*		*30 - 124*	*06/01/22 15:50*	*06/02/22 12:52*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1
PCB-1254	ND		0.21	0.098	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1
PCB-1260	ND		0.21	0.098	mg/Kg	☼	06/02/22 15:40	06/06/22 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*98*		*65 - 174*	*06/02/22 15:40*	*06/06/22 23:58*	*1*
DCB Decachlorobiphenyl	*106*		*65 - 174*	*06/02/22 15:40*	*06/06/22 23:58*	*1*
Tetrachloro-m-xylene	*97*		*60 - 154*	*06/02/22 15:40*	*06/06/22 23:58*	*1*
Tetrachloro-m-xylene	*102*		*60 - 154*	*06/02/22 15:40*	*06/06/22 23:58*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	5.9	ug/Kg	☼	06/03/22 06:59	06/07/22 22:01	1
2,4-D	ND	UJ	19	12	ug/Kg	☼	06/03/22 06:59	06/07/22 22:01	1

Client Sample ID: MW-2022-3 (0-1)
Date Collected: 05/31/22 12:20
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-1
Matrix: Solid
Percent Solids: 87.3

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND	UJ	19	6.7	ug/Kg	☼	06/03/22 06:59	06/07/22 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*89*		*28 - 129*	*06/03/22 06:59*	*06/07/22 22:01*	*1*
2,4-Dichlorophenylacetic acid	*83*		*28 - 129*	*06/03/22 06:59*	*06/07/22 22:01*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	~~F1 F2~~ UJ	38	21	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1
Disulfoton	ND		38	25	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1
Famphur	ND		38	20	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1
Methyl parathion	ND	UJ	38	22	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1
Phorate	ND		38	13	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1
Sulfotepp	ND		38	15	ug/Kg	☼	06/03/22 17:27	06/08/22 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*79*		*20 - 135*	*06/03/22 17:27*	*06/08/22 14:58*	*1*
Tributyl phosphate	*77*		*20 - 135*	*06/03/22 17:27*	*06/08/22 14:58*	*1*
Triphenylphosphate	*85*		*33 - 168*	*06/03/22 17:27*	*06/08/22 14:58*	*1*
Triphenylphosphate	*88*		*33 - 168*	*06/03/22 17:27*	*06/08/22 14:58*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**1.3**	**J**	56	0.29	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,4,6,7,8-HpCDF	56 U	~~1.7 J I B~~	56	0.11	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,4,7,8,9-HpCDF	ND		56	0.17	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,4,7,8-HxCDD	ND		56	0.19	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,4,7,8-HxCDF	ND		56	0.13	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,6,7,8-HxCDD	**1.1**	~~J I~~ JNX	56	0.19	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,6,7,8-HxCDF	ND		56	0.14	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,7,8,9-HxCDD	ND		56	0.21	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,7,8,9-HxCDF	ND		56	0.18	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,7,8-PeCDD	ND		56	0.13	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
1,2,3,7,8-PeCDF	ND		56	0.11	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
2,3,4,6,7,8-HxCDF	ND		56	0.12	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
2,3,4,7,8-PeCDF	ND		56	0.071	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
2,3,7,8-TCDD	ND		11	0.067	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
2,3,7,8-TCDF	11 U	~~0.11 J I B~~	11	0.044	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
OCDD	**13**	**J B**	110	0.26	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
OCDF	110 U	~~3.9 J I B~~	110	0.13	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total HpCDD	**1.3**	**J**	56	0.29	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total HpCDF	56 U	~~1.7 J I B~~	56	0.14	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total HxCDD	56 U	~~1.1 J I B~~	56	0.20	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total HxCDF	ND		56	0.18	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total PeCDD	ND		56	0.70	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total PeCDF	ND		56	0.97	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total TCDD	ND		11	0.46	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1
Total TCDF	11 U	~~0.11 J I B~~	11	0.044	ng/Kg	☼	06/15/22 10:20	06/17/22 01:52	1

Client Sample ID: MW-2022-3 (0-1)
Date Collected: 05/31/22 12:20
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-1
Matrix: Solid
Percent Solids: 87.3

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	68		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,4,6,7,8-HpCDF	66		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,4,7,8,9-HpCDF	64		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,4,7,8-HxCDD	62		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,4,7,8-HxCDF	60		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,6,7,8-HxCDD	69		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,6,7,8-HxCDF	71		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,7,8,9-HxCDD	72		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,7,8,9-HxCDF	64		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,7,8-PeCDD	54		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-1,2,3,7,8-PeCDF	59		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-2,3,4,6,7,8-HxCDF	64		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-2,3,4,7,8-PeCDF	62		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-2,3,7,8-TCDD	60		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-2,3,7,8-TCDF	64		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-OCDD	65		40 - 135	06/15/22 10:20	06/17/22 01:52	1
13C-OCDF	62		40 - 135	06/15/22 10:20	06/17/22 01:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.1	J	17.1	0.46	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Arsenic	5.8		2.3	0.46	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Barium	25.9		0.57	0.13	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Beryllium	0.42		0.23	0.032	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Cadmium	ND		0.23	0.034	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Chromium	8.0		0.57	0.23	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Cobalt	8.0		0.57	0.057	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Copper	11.1		1.1	0.24	mg/Kg	☼	06/02/22 14:20	06/06/22 16:34	1
Lead	12.3		1.1	0.27	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Nickel	15.0		5.7	0.26	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Selenium	1.7	J	4.6	0.46	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Silver	ND		0.68	0.23	mg/Kg	☼	06/02/22 14:20	06/06/22 16:34	1
Thallium	ND		6.8	0.34	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Tin	ND		2.3	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Vanadium	9.5		0.57	0.13	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1
Zinc	40.5	F1 UJ	2.3	0.73	mg/Kg	☼	06/02/22 14:20	06/03/22 23:03	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0076	J	0.023	0.0052	mg/Kg	☼	06/02/22 10:39	06/02/22 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.095	0.046	mg/Kg	☼	06/02/22 19:45	06/03/22 09:28	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND	F2 UJ	21.9	12.5	mg/Kg	☼		06/10/22 11:08	1

Client Sample ID: MW-2022-3 (2-10)
Date Collected: 05/31/22 12:50
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-2
Matrix: Solid
Percent Solids: 77.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		220	37	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,2,4-Trichlorobenzene	ND		420	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,2-Dichlorobenzene	ND		420	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,2-Diphenylhydrazine	ND		420	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,3,5-Trinitrobenzene	ND		420	17	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,3-Dichlorobenzene	ND		420	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,3-Dinitrobenzene	ND		420	51	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,4-Dichlorobenzene	ND		420	33	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,4-Dioxane	ND		130	70	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1,4-Naphthoquinone	ND		420	79	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
1-Naphthylamine	ND		420	150	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,3,4,6-Tetrachlorophenol	ND		220	44	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,4,5-Trichlorophenol	ND		220	58	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,4,6-Trichlorophenol	ND		220	43	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,4-Dichlorophenol	ND		220	23	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,4-Dimethylphenol	ND		220	52	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,4-Dinitrophenol	ND		2100	990	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,4-Dinitrotoluene	ND		220	44	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,6-Dichlorophenol	ND		420	79	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2,6-Dinitrotoluene	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Acetylaminofluorene	ND		420	55	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Chloronaphthalene	ND		220	35	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Chlorophenol	ND		420	39	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Methylnaphthalene	ND		220	43	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Methylphenol	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Naphthylamine	ND		420	140	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Nitroaniline	ND		420	32	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Nitrophenol	ND		220	61	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Picoline	ND		420	48	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
2-Toluidine	ND		420	100	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
3 & 4 Methylphenol	ND		420	33	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
3,3'-Dichlorobenzidine	ND		420	250	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
3,3'-Dimethylbenzidine	ND		840	420	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
3-Methylcholanthrene	ND		420	70	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
3-Methylphenol	ND		420	33	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
3-Nitroaniline	ND		420	60	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4,6-Dinitro-2-methylphenol	ND		420	220	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Aminobiphenyl	ND		420	87	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Bromophenyl phenyl ether	ND		220	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Chloro-3-methylphenol	ND		220	53	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Chloroaniline	ND		220	53	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Chlorophenyl phenyl ether	ND		220	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Methylphenol	ND		420	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Nitroaniline	ND		420	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Nitrophenol	ND		420	150	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
4-Nitroquinoline-1-oxide	ND		840	420	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
7,12-Dimethylbenz(a)anthracene	ND		420	62	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
a,a-Dimethylphenethylamine	ND		420	420	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Acenaphthene	ND		220	32	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1

Client Sample ID: MW-2022-3 (2-10)
Date Collected: 05/31/22 12:50
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-2
Matrix: Solid
Percent Solids: 77.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		220	28	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Acetophenone	ND		220	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Aniline	ND		420	52	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Anthracene	ND		220	53	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Aramite, Total	ND		420	200	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzidine	ND	UJ	6300	2700	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzo[a]anthracene	ND		220	22	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzo[a]pyrene	ND		220	32	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzo[b]fluoranthene	ND	*+	220	34	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzo[g,h,i]perylene	ND		220	23	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzo[k]fluoranthene	ND		220	28	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Benzyl alcohol	ND		420	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
bis (2-chloroisopropyl) ether	ND		220	43	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Bis(2-chloroethoxy)methane	ND		220	46	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Bis(2-chloroethyl)ether	ND		220	28	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Bis(2-ethylhexyl) phthalate	**3600**		220	74	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Butyl benzyl phthalate	ND		220	35	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Chrysene	ND		220	48	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Diallate	ND		420	53	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Dibenz(a,h)anthracene	ND		220	38	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Dibenzofuran	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Diethyl phthalate	ND		220	28	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Dimethoate	ND		420	52	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Dimethyl phthalate	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Di-n-butyl phthalate	ND		220	37	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Di-n-octyl phthalate	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Dinoseb	ND		420	75	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Diphenylamine	ND		420	55	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Disulfoton	ND		420	320	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Chlorobenzilate	ND		420	67	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Ethyl methanesulfonate	ND		420	93	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Famphur	ND		840	200	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Fluoranthene	ND		220	23	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Fluorene	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Hexachlorobenzene	ND		220	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Hexachlorobutadiene	ND		220	32	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Hexachlorocyclopentadiene	ND		220	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Hexachloroethane	ND		220	28	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Hexachloropropene	ND		420	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Indeno[1,2,3-cd]pyrene	ND		220	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Isodrin	ND		420	74	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Isophorone	ND		220	46	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Isosafrole	ND		420	56	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
~~Kepone~~	~~ND~~	~~*-~~	~~4200~~	~~420~~	~~ug/Kg~~	~~☼~~	~~06/01/22 15:46~~	~~06/04/22 02:07~~	R 1
Methapyrilene	ND	UJ	1900	420	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Methyl methanesulfonate	ND		420	96	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Naphthalene	ND		220	28	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Nitrobenzene	ND		220	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitro-o-toluidine	ND		420	55	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1

Client Sample ID: MW-2022-3 (2-10)
Date Collected: 05/31/22 12:50
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-2
Matrix: Solid
Percent Solids: 77.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		420	98	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosodimethylamine	ND		420	91	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosodi-n-butylamine	ND		420	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosodi-n-propylamine	ND		220	37	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosodiphenylamine	ND		220	170	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosomethylethylamine	ND		420	96	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosomorpholine	ND		420	94	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosopiperidine	ND		420	85	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
N-Nitrosopyrrolidine	ND		420	63	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
o,o',o''-Triethylphosphorothioate	ND		420	55	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Ethyl Parathion	ND		420	47	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Methyl parathion	ND		420	72	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
p-Dimethylamino azobenzene	ND		420	71	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Pentachlorobenzene	ND		420	87	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Pentachloronitrobenzene	ND		420	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Pentachlorophenol	ND	++	420	220	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Phenacetin	ND		420	57	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Phenanthrene	ND		220	32	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Phenol	ND		220	33	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Phorate	ND		420	120	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
p-Phenylene diamine	ND		1000	420	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Pronamide	ND		420	82	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Pyrene	ND		220	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Pyridine	ND		420	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Safrole	ND		420	57	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Sulfotepp	ND		420	67	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1
Thionazin	ND		420	74	ug/Kg	☼	06/01/22 15:46	06/04/22 02:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*06/01/22 15:46*	*06/04/22 02:07*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*06/01/22 15:46*	*06/04/22 02:07*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*06/01/22 15:46*	*06/04/22 02:07*	*1*
Nitrobenzene-d5 (Surr)	*71*		*53 - 120*	*06/01/22 15:46*	*06/04/22 02:07*	*1*
Phenol-d5 (Surr)	*82*		*54 - 120*	*06/01/22 15:46*	*06/04/22 02:07*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*06/01/22 15:46*	*06/04/22 02:07*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.1	0.41	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
4,4'-DDE	ND		2.1	0.44	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
4,4'-DDT	ND		2.1	0.50	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Aldrin	ND		2.1	0.52	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
alpha-BHC	ND		2.1	0.38	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
beta-BHC	ND		2.1	0.38	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Chlordane (technical)	ND		21	4.7	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Chlorobenzilate	ND		21	7.1	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
cis-Chlordane	ND		2.1	1.1	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
delta-BHC	ND		2.1	0.39	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Dieldrin	ND		2.1	0.51	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Endosulfan I	ND		2.1	0.41	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1

Client Sample ID: MW-2022-3 (2-10)
Date Collected: 05/31/22 12:50
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-2
Matrix: Solid
Percent Solids: 77.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.1	0.38	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Endosulfan sulfate	ND		2.1	0.39	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Endrin	ND		2.1	0.42	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Endrin aldehyde	ND		2.1	0.54	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Endrin ketone	ND		2.1	0.52	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
gamma-BHC (Lindane)	ND		2.1	0.39	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Heptachlor	ND		2.1	0.46	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Heptachlor epoxide	ND		2.1	0.55	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Methoxychlor	ND		2.1	0.43	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
Toxaphene	ND		21	12	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1
trans-Chlordane	ND		2.1	0.67	ug/Kg	☼	06/01/22 15:50	06/02/22 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*45 - 120*	*06/01/22 15:50*	*06/02/22 13:11*	*1*
DCB Decachlorobiphenyl	*102*		*45 - 120*	*06/01/22 15:50*	*06/02/22 13:11*	*1*
Tetrachloro-m-xylene	*61*		*30 - 124*	*06/01/22 15:50*	*06/02/22 13:11*	*1*
Tetrachloro-m-xylene	*83*		*30 - 124*	*06/01/22 15:50*	*06/02/22 13:11*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1
PCB-1221	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1
PCB-1232	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1
PCB-1242	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1
PCB-1248	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1
PCB-1254	ND		0.25	0.12	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1
PCB-1260	ND		0.25	0.12	mg/Kg	☼	06/02/22 15:40	06/07/22 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*100*		*65 - 174*	*06/02/22 15:40*	*06/07/22 00:11*	*1*
DCB Decachlorobiphenyl	*108*		*65 - 174*	*06/02/22 15:40*	*06/07/22 00:11*	*1*
Tetrachloro-m-xylene	*101*		*60 - 154*	*06/02/22 15:40*	*06/07/22 00:11*	*1*
Tetrachloro-m-xylene	*103*		*60 - 154*	*06/02/22 15:40*	*06/07/22 00:11*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		21	6.8	ug/Kg	☼	06/03/22 06:59	06/07/22 23:00	1
2,4-D	ND	UJ	21	13	ug/Kg	☼	06/03/22 06:59	06/07/22 23:00	1
Silvex (2,4,5-TP)	ND	UJ	21	7.6	ug/Kg	☼	06/03/22 06:59	06/07/22 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*82*		*28 - 129*	*06/03/22 06:59*	*06/07/22 23:00*	*1*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*06/03/22 06:59*	*06/07/22 23:00*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		42	24	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1
Disulfoton	ND		42	28	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1
Famphur	ND		42	22	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1
Methyl parathion	ND	UJ	42	24	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1
Ethyl Parathion	ND		42	23	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1

Client Sample ID: MW-2022-3 (2-10)
Date Collected: 05/31/22 12:50
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-2
Matrix: Solid
Percent Solids: 77.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		42	14	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1
Sulfotepp	ND		42	16	ug/Kg	☼	06/03/22 17:27	06/08/22 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*71*		*20 - 135*	*06/03/22 17:27*	*06/08/22 16:32*	*1*
Tributyl phosphate	*69*		*20 - 135*	*06/03/22 17:27*	*06/08/22 16:32*	*1*
Triphenylphosphate	*81*		*33 - 168*	*06/03/22 17:27*	*06/08/22 16:32*	*1*
Triphenylphosphate	*84*		*33 - 168*	*06/03/22 17:27*	*06/08/22 16:32*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.74**	**J** JNX	6.5	0.059	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,4,6,7,8-HpCDF	**0.25**	**J I B** JNX	6.5	0.0036	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,4,7,8,9-HpCDF	6.5 U	~~0.041 J I B~~	6.5	0.0062	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,4,7,8-HxCDD	6.5 U	~~0.035 J I B~~	6.5	0.0038	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,4,7,8-HxCDF	ND		6.5	0.0070	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,6,7,8-HxCDD	ND		6.5	0.0041	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,6,7,8-HxCDF	6.5 U	~~0.11 J I B~~	6.5	0.0069	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,7,8,9-HxCDD	ND		6.5	0.0042	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,7,8,9-HxCDF	6.5 U	~~0.11 J I B~~	6.5	0.0095	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,7,8-PeCDD	ND		6.5	0.017	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
1,2,3,7,8-PeCDF	**0.14**	**J I B** JNX	6.5	0.015	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
2,3,4,6,7,8-HxCDF	ND		6.5	0.0062	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
2,3,4,7,8-PeCDF	ND		6.5	0.011	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
2,3,7,8-TCDD	**0.22**	**J** JNX	1.3	0.0098	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
2,3,7,8-TCDF	ND		1.3	0.0060	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
OCDD	**4.6**	**J B**	13	0.023	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
OCDF	13 U	~~0.38 J I B~~	13	0.0096	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total HpCDD	**0.74**	**J I** JNX	6.5	0.059	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total HpCDF	6.5 U	~~0.29 J I B~~	6.5	0.0049	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total HxCDD	6.5 U	~~0.035 J I B~~	6.5	0.0040	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total HxCDF	6.5 U	~~0.22 J I B~~	6.5	0.0074	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total PeCDD	ND		6.5	0.017	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total PeCDF	6.5 U	~~0.14 J I B~~	6.5	0.013	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total TCDD	**0.22**	**J** JNX	1.3	0.0098	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1
Total TCDF	ND		1.3	0.0060	ng/Kg	☼	06/15/22 10:20	06/16/22 19:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*68*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*65*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,7,8,9-HxCDD	*77*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,7,8-PeCDD	*54*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*72*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*

Client Sample ID: MW-2022-3 (2-10)
Lab Sample ID: 480-198523-2

Date Collected: 05/31/22 12:50
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 77.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*58*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-2,3,7,8-TCDD	*61*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-2,3,7,8-TCDF	*63*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-OCDD	*80*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*
13C-OCDF	*76*		*40 - 135*	*06/15/22 10:20*	*06/16/22 19:22*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.5**	**J**	18.4	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Arsenic	**4.9**		2.5	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Barium	**35.3**		0.61	0.14	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Beryllium	**0.39**		0.25	0.034	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Cadmium	**0.056**	**J**	0.25	0.037	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Chromium	**9.2**		0.61	0.25	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Cobalt	**8.0**		0.61	0.061	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Copper	**12.1**		1.2	0.26	mg/Kg	☼	06/02/22 14:20	06/06/22 17:05	1
Lead	**7.9**		1.2	0.29	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Nickel	**14.7**		6.1	0.28	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Selenium	**0.88**	**J**	4.9	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Silver	ND		0.74	0.25	mg/Kg	☼	06/02/22 14:20	06/06/22 17:05	1
Thallium	ND		7.4	0.37	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Tin	**0.68**	**J**	2.5	0.53	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Vanadium	**9.3**		0.61	0.14	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1
Zinc	**38.3**		2.5	0.79	mg/Kg	☼	06/02/22 14:20	06/03/22 23:34	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.026	0.0059	mg/Kg	☼	06/02/22 10:39	06/02/22 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.11	0.052	mg/Kg	☼	06/02/22 19:45	06/03/22 09:47	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**29.1**		24.2	13.8	mg/Kg	☼		06/10/22 11:08	1

Client Sample ID: MW-2022-3 (4)
Lab Sample ID: 480-198523-3

Date Collected: 05/31/22 12:50
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 91.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.9	0.39	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,1,1-Trichloroethane	ND		3.9	0.28	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,1,2,2-Tetrachloroethane	ND		3.9	0.63	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,1,2-Trichloroethane	ND		3.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,1-Dichloroethane	ND		3.9	0.47	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,1-Dichloroethene	ND		3.9	0.48	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,2,3-Trichloropropane	ND		3.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,2-Dibromo-3-Chloropropane	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1

Client Sample ID: MW-2022-3 (4)
Date Collected: 05/31/22 12:50
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-3
Matrix: Solid
Percent Solids: 91.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
1,2-Dichloropropane	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
2-Butanone (MEK)	ND		19	1.4	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
2-Chloro-1,3-butadiene	ND	UJ	3.9	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
2-Chloroethyl vinyl ether	ND	UJ	7.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
2-Hexanone	ND		19	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
3-Chloro-1-propene	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
4-Methyl-2-pentanone (MIBK)	ND		19	1.3	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Acetone	**3.5**	**J**	19	3.3	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Acetonitrile	ND	UJ	39	4.7	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Acrolein	ND	UJ	19	6.1	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Acrylonitrile	ND		19	3.5	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Benzene	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Bromoform	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Bromomethane	ND		3.9	0.35	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Carbon disulfide	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Carbon tetrachloride	ND		3.9	0.38	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Chlorobenzene	ND		3.9	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Chlorodibromomethane	ND		3.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Chloroethane	ND		3.9	0.88	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Chloroform	ND		3.9	0.24	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Chloromethane	ND		3.9	0.23	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
cis-1,3-Dichloropropene	ND		3.9	0.56	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Dibromomethane	ND		3.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Dichlorobromomethane	ND		3.9	0.52	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Dichlorodifluoromethane	ND		3.9	0.32	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Ethyl methacrylate	ND		3.9	1.3	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Ethylbenzene	ND		3.9	0.27	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Ethylene Dibromide	ND		3.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Iodomethane	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Methacrylonitrile	ND	UJ	19	4.6	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Methyl methacrylate	ND	UJ	3.9	0.82	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Methylene Chloride	ND		3.9	1.8	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
m-Xylene & p-Xylene	ND		7.8	0.65	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
o-Xylene	ND		3.9	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Propionitrile	ND	UJ	39	22	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Styrene	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Tetrachloroethene	ND		3.9	0.52	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Toluene	ND		3.9	0.29	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
trans-1,2-Dichloroethene	ND		3.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
trans-1,3-Dichloropropene	ND		3.9	1.7	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
trans-1,4-Dichloro-2-butene	ND		3.9	0.88	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Trichloroethene	ND		3.9	0.85	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Trichlorofluoromethane	ND		3.9	0.37	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Vinyl acetate	ND		7.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1
Vinyl chloride	ND		3.9	0.47	ug/Kg	☼	06/02/22 10:22	06/02/22 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*06/02/22 10:22*	*06/02/22 16:01*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*06/02/22 10:22*	*06/02/22 16:01*	*1*

Client Sample ID: MW-2022-3 (4)
Lab Sample ID: 480-198523-3

Date Collected: 05/31/22 12:50
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 91.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*06/02/22 10:22*	*06/02/22 16:01*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*06/02/22 10:22*	*06/02/22 16:01*	*1*

Client Sample ID: MW-2022-3 (12-16)
Lab Sample ID: 480-198523-4

Date Collected: 05/31/22 13:55
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 82.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Methylphenol	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Naphthylamine	ND		390	140	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Picoline	ND		390	45	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
2-Toluidine	ND		390	97	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
3-Methylphenol	ND		390	31	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1

Client Sample ID: MW-2022-3 (12-16)
Lab Sample ID: 480-198523-4

Date Collected: 05/31/22 13:55
Matrix: Solid

Date Received: 06/01/22 09:30
Percent Solids: 82.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		200	50	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Methylphenol	ND		390	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
7,12-Dimethylbenz(a)anthracene	ND		390	59	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Acenaphthene	ND		200	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Acenaphthylene	ND		200	26	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Acetophenone	ND		200	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Aniline	ND		390	49	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Anthracene	ND		200	50	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Aramite, Total	ND		390	190	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzidine	ND	UJ	6000	2500	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Bis(2-ethylhexyl) phthalate	**550**		200	69	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Chrysene	ND		200	45	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Diallate	ND		390	50	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Dibenzofuran	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Dimethoate	ND		390	49	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Dinoseb	ND		390	71	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Diphenylamine	ND		390	51	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Disulfoton	ND		390	300	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Famphur	ND		790	190	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Fluoranthene	ND		200	22	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Fluorene	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Hexachloroethane	ND		200	26	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Hexachloropropene	ND		390	100	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1

Client Sample ID: MW-2022-3 (12-16)
Lab Sample ID: 480-198523-4
Date Collected: 05/31/22 13:55
Matrix: Solid
Date Received: 06/01/22 09:30
Percent Solids: 82.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	69	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Isophorone	ND		200	43	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Isosafrole	ND		390	53	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Kepone	ND	*-	3900	390	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	R 1
Methapyrilene	ND	UJ	1800	390	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Naphthalene	ND		200	26	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Nitrobenzene	ND		200	23	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Methyl parathion	ND		390	68	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Pentachlorophenol	ND	*+	390	200	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Phenacetin	ND		390	54	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Phenanthrene	ND		200	30	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Phenol	ND		200	31	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Phorate	ND		390	110	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
p-Phenylene diamine	ND		960	390	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Pronamide	ND		390	78	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Pyrene	ND		200	24	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Pyridine	ND		390	29	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Safrole	ND		390	54	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Sulfotepp	ND		390	63	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1
Thionazin	ND		390	69	ug/Kg	☼	06/01/22 15:46	06/04/22 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*54 - 120*	*06/01/22 15:46*	*06/04/22 02:31*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*06/01/22 15:46*	*06/04/22 02:31*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*06/01/22 15:46*	*06/04/22 02:31*	*1*
Nitrobenzene-d5 (Surr)	*72*		*53 - 120*	*06/01/22 15:46*	*06/04/22 02:31*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*06/01/22 15:46*	*06/04/22 02:31*	*1*
p-Terphenyl-d14 (Surr)	*107*		*79 - 130*	*06/01/22 15:46*	*06/04/22 02:31*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1

Client Sample ID: MW-2022-3 (12-16)
Date Collected: 05/31/22 13:55
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-4
Matrix: Solid
Percent Solids: 82.7

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.48	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
alpha-BHC	ND		2.0	0.35	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
beta-BHC	ND		2.0	0.35	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
cis-Chlordane	ND		2.0	0.98	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
delta-BHC	ND		2.0	0.36	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Endosulfan II	ND		2.0	0.35	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Endrin	ND		2.0	0.39	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Endrin aldehyde	ND		2.0	0.50	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Endrin ketone	ND		2.0	0.48	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Heptachlor	ND		2.0	0.42	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
Toxaphene	ND		20	11	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1
trans-Chlordane	ND		2.0	0.62	ug/Kg	☼	06/01/22 15:50	06/02/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*45 - 120*	*06/01/22 15:50*	*06/02/22 13:31*	*1*
DCB Decachlorobiphenyl	*103*		*45 - 120*	*06/01/22 15:50*	*06/02/22 13:31*	*1*
Tetrachloro-m-xylene	*87*		*30 - 124*	*06/01/22 15:50*	*06/02/22 13:31*	*1*
Tetrachloro-m-xylene	*83*		*30 - 124*	*06/01/22 15:50*	*06/02/22 13:31*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1
PCB-1221	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1
PCB-1232	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1
PCB-1242	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1
PCB-1248	ND		0.25	0.049	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1
PCB-1254	ND		0.25	0.12	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1
PCB-1260	ND		0.25	0.12	mg/Kg	☼	06/02/22 15:40	06/07/22 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*102*		*65 - 174*	*06/02/22 15:40*	*06/07/22 00:25*	*1*
DCB Decachlorobiphenyl	*111*		*65 - 174*	*06/02/22 15:40*	*06/07/22 00:25*	*1*
Tetrachloro-m-xylene	*104*		*60 - 154*	*06/02/22 15:40*	*06/07/22 00:25*	*1*
Tetrachloro-m-xylene	*110*		*60 - 154*	*06/02/22 15:40*	*06/07/22 00:25*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	06/03/22 06:59	06/07/22 23:30	1
2,4-D	ND	UJ	20	12	ug/Kg	☼	06/03/22 06:59	06/07/22 23:30	1
Silvex (2,4,5-TP)	ND	UJ	20	7.1	ug/Kg	☼	06/03/22 06:59	06/07/22 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*06/03/22 06:59*	*06/07/22 23:30*	*1*

Client Sample ID: MW-2022-3 (12-16)
Date Collected: 05/31/22 13:55
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-4
Matrix: Solid
Percent Solids: 82.7

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	75		28 - 129	06/03/22 06:59	06/07/22 23:30	1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1
Disulfoton	ND		39	26	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1
Famphur	ND		39	21	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1
Methyl parathion	ND	UJ	39	22	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1
Phorate	ND		39	13	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1
Sulfotepp	ND		39	15	ug/Kg	☼	06/03/22 17:27	06/08/22 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	89		20 - 135	06/03/22 17:27	06/08/22 17:04	1
Tributyl phosphate	86		20 - 135	06/03/22 17:27	06/08/22 17:04	1
Triphenylphosphate	91		33 - 168	06/03/22 17:27	06/08/22 17:04	1
Triphenylphosphate	92		33 - 168	06/03/22 17:27	06/08/22 17:04	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.8 U	~~0.30 J B~~	5.8	0.013	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,4,6,7,8-HpCDF	0.050	J I JNX	5.8	0.0019	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,4,7,8,9-HpCDF	0.053	J I JNX	5.8	0.0026	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,4,7,8-HxCDD	0.11	J	5.8	0.0017	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,4,7,8-HxCDF	5.8 U	~~0.072 J I B~~	5.8	0.0041	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,6,7,8-HxCDD	0.072	~~J I~~ JNX	5.8	0.0017	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,6,7,8-HxCDF	0.083	J	5.8	0.0039	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,7,8,9-HxCDD	0.12	~~J I~~ JNX	5.8	0.0019	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,7,8,9-HxCDF	5.8 U	~~0.098 J B~~	5.8	0.0051	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,7,8-PeCDD	0.13	J	5.8	0.0052	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
1,2,3,7,8-PeCDF	5.8 U	~~0.091 J I B~~	5.8	0.0066	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
2,3,4,6,7,8-HxCDF	0.064	J	5.8	0.0035	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
2,3,4,7,8-PeCDF	0.10	~~J I~~ JNX	5.8	0.0045	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
2,3,7,8-TCDD	1.2 U	~~0.025 J I B~~	1.2	0.0043	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
2,3,7,8-TCDF	0.026	J	1.2	0.0052	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
OCDD	12 U	~~1.3 J B~~	12	0.011	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
OCDF	12 U	~~0.093 J I B~~	12	0.0056	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total HpCDD	5.8 U	~~0.30 J B~~	5.8	0.013	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total HpCDF	0.10	J I JNX	5.8	0.0022	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total HxCDD	0.30	J I JNX	5.8	0.0018	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total HxCDF	5.8 U	~~0.32 J I B~~	5.8	0.0042	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total PeCDD	0.13	~~J I~~ JNX	5.8	0.0052	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total PeCDF	5.8 U	~~0.19 J I B~~	5.8	0.0056	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total TCDD	1.2 U	~~0.025 J I B~~	1.2	0.0043	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1
Total TCDF	0.026	J I JNX	1.2	0.0052	ng/Kg	☼	06/21/22 12:48	06/23/22 01:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	86		40 - 135	06/21/22 12:48	06/23/22 01:45	1
13C-1,2,3,4,6,7,8-HpCDF	82		40 - 135	06/21/22 12:48	06/23/22 01:45	1
13C-1,2,3,4,7,8,9-HpCDF	86		40 - 135	06/21/22 12:48	06/23/22 01:45	1

Client Sample ID: MW-2022-3 (12-16)
Date Collected: 05/31/22 13:55
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-4
Matrix: Solid
Percent Solids: 82.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,6,7,8-HxCDD	*93*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,6,7,8-HxCDF	*93*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,7,8,9-HxCDD	*91*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,7,8,9-HxCDF	*89*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-2,3,7,8-TCDD	*79*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-OCDD	*84*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*
13C-OCDF	*84*		*40 - 135*	*06/21/22 12:48*	*06/23/22 01:45*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.6**	**J**	18.5	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Arsenic	**3.1**		2.5	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Barium	**16.9**		0.62	0.14	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Beryllium	**0.17**	**J**	0.25	0.034	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Cadmium	**0.10**	**J**	0.25	0.037	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Chromium	**3.5**		0.62	0.25	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Cobalt	**5.6**		0.62	0.062	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Copper	**5.2**		1.2	0.26	mg/Kg	☼	06/02/22 14:20	06/06/22 17:09	1
Lead	**5.7**		1.2	0.30	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Nickel	**7.9**		6.2	0.28	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Selenium	ND		4.9	0.49	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Silver	ND		0.74	0.25	mg/Kg	☼	06/02/22 14:20	06/06/22 17:09	1
Thallium	ND		7.4	0.37	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Tin	ND		2.5	0.53	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Vanadium	**4.0**		0.62	0.14	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1
Zinc	**21.0**		2.5	0.79	mg/Kg	☼	06/02/22 14:20	06/03/22 23:38	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0054	mg/Kg	☼	06/02/22 10:39	06/02/22 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.10	0.049	mg/Kg	☼	06/02/22 19:45	06/03/22 09:48	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.5	12.8	mg/Kg	☼		06/10/22 11:08	1

Client Sample ID: MW-2022-3 (14)
Date Collected: 05/31/22 13:55
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-5
Matrix: Solid
Percent Solids: 96.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.8	0.38	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,1,1-Trichloroethane	ND		3.8	0.27	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,1,2,2-Tetrachloroethane	ND		3.8	0.61	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,1,2-Trichloroethane	ND		3.8	0.49	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,1-Dichloroethane	ND		3.8	0.46	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,1-Dichloroethene	ND		3.8	0.46	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,2,3-Trichloropropane	ND		3.8	0.39	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,2-Dibromo-3-Chloropropane	ND		3.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,2-Dichloroethane	ND		3.8	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
1,2-Dichloropropane	ND		3.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
2-Butanone (MEK)	ND		19	1.4	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
2-Chloro-1,3-butadiene	ND	UJ	3.8	2.3	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
2-Chloroethyl vinyl ether	ND	UJ	7.6	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
2-Hexanone	ND		19	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
3-Chloro-1-propene	ND		3.8	1.8	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
4-Methyl-2-pentanone (MIBK)	ND		19	1.2	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Acetone	ND		19	3.2	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Acetonitrile	ND	UJ	38	4.6	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Acrolein	ND	UJ	19	6.0	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Acrylonitrile	ND		19	3.4	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Benzene	ND		3.8	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Bromoform	ND		3.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Bromomethane	ND		3.8	0.34	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Carbon disulfide	ND		3.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Carbon tetrachloride	ND		3.8	0.37	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Chlorobenzene	ND		3.8	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Chlorodibromomethane	ND		3.8	0.48	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Chloroethane	ND		3.8	0.86	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Chloroform	ND		3.8	0.23	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Chloromethane	ND		3.8	0.23	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
cis-1,3-Dichloropropene	ND		3.8	0.54	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Dibromomethane	ND		3.8	0.39	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Dichlorobromomethane	ND		3.8	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Dichlorodifluoromethane	ND		3.8	0.31	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Ethyl methacrylate	ND		3.8	1.3	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Ethylbenzene	ND		3.8	0.26	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Ethylene Dibromide	ND		3.8	0.49	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Iodomethane	ND		3.8	0.18	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Methacrylonitrile	ND	UJ	19	4.5	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Methyl methacrylate	ND	UJ	3.8	0.79	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Methylene Chloride	ND		3.8	1.7	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
m-Xylene & p-Xylene	ND		7.6	0.64	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
o-Xylene	ND		3.8	0.49	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Propionitrile	ND	UJ	38	21	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Styrene	ND		3.8	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Tetrachloroethene	ND		3.8	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Toluene	ND		3.8	0.29	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
trans-1,2-Dichloroethene	ND		3.8	0.39	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
trans-1,3-Dichloropropene	ND		3.8	1.7	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1

Client Sample ID: MW-2022-3 (14)
Date Collected: 05/31/22 13:55
Date Received: 06/01/22 09:30

Lab Sample ID: 480-198523-5
Matrix: Solid
Percent Solids: 96.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		3.8	0.86	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Trichloroethene	ND		3.8	0.83	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Trichlorofluoromethane	ND		3.8	0.36	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Vinyl acetate	ND		7.6	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1
Vinyl chloride	ND		3.8	0.46	ug/Kg	☼	06/02/22 10:22	06/02/22 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*06/02/22 10:22*	*06/02/22 16:25*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*06/02/22 10:22*	*06/02/22 16:25*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*06/02/22 10:22*	*06/02/22 16:25*	*1*
Toluene-d8 (Surr)	*91*		*71 - 125*	*06/02/22 10:22*	*06/02/22 16:25*	*1*

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-196120-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47486R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 System Performance and Overall Assessment 8
3.3 Data Validation Checklist 8
4 Polychlorinated Biphenyl Analyses 9
4.1 Holding Times 9
4.2 System Performance and Overall Assessment 9
4.3 Data Validation Checklist 9
5 Pesticide/Herbicide Analyses 10
5.1 Holding Times 10
5.2 System Performance and Overall Assessment 10
5.3 Data Validation Checklist 10
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 11
6.1 Holding Times 11
6.2 Blank Contamination 11
6.3 System Performance and Overall Assessment 12
6.4 Data Validation Checklist 13
7 Metals Analyses 13
7.1 Holding Times 13
7.2 System Performance and Overall Assessment 13
7.3 Data Validation Checklist 14
8 General Chemistry Analyses 14
8.1 Holding Times 14
8.2 System Performance and Overall Assessment 14
8.3 Data Validation Checklist for General Chemistry 15

9 Overall Data Usability 15

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 4
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Holding Time for Method SW-846 8082A 9
Table 7. Holding Time for Method SW-846 8081B/8141B/8151A 10
Table 8. Holding Time for Method SW-846 8290A 11
Table 9. Summary of Blank Contamination Qualifications 12
Table 10. Holding Time for Method SW-846 6010C/7471B 13
Table 11. Specified Holding Times 14
Table 12. Overall Summary of Data Usability 15

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196120-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
PZ-2022-8 (83')	480-196120-1	Soil	03/24/22		X					
PZ-2022-8 (80-84')	480-196120-2	Soil	03/24/22			X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations

and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	0	0	0	0	1
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.3 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 6. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 7. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
System performance and column resolution		X		X	

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 8. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 9. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-8 (80-84')	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	"U" at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDD		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDD		
	Total PeCDF		
	Total TCDF		

Notes:
MB – Method blank
RL – Reporting limit

6.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.4 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 12. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	100%	0
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality.

These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 08, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 9, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Dan Meandro	Lab PM: Schove, John R	Carrier Tracking No(s): Fedex	COC No: 480-171716-37198.3
Client Contact: Mr. Daniel Meandro	Phone: 315-992-0568	E-Mail: John.Schove@Eurofinset.com	State of Origin: MA	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-992-0568(Tel)	PO #: Purchase Order not required			
Email: daniel.meandro@arcadis.com	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Lee MA	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Short Hold Terra Cores

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	N	A	N	D	B	N	N	N	CB	X	
FZ-2022-8 (83')	3-24-22	1051	G	S							X									4	
FZ-2022-8 (80-84')	3-24-22	1050	C	S			X	X	X	X										4	

480-196120 Chain of Custody

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Dan Meandro	Date/Time: 3-24-22 1630	Company: ANA	Received by: Cameron Cirkolb	Date/Time: 3/25/22 1000	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 219# 1 ICE		

05/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

69AA

Chain of Custody Record

480-196120 Chain of Custody

fins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	J.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@Eurofinset.com	Massachusetts
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Page: Page 1 of 1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 4/7/2022		Job #: 480-196120-1
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-8 (80-84') (480-196120-2)	3/24/22	10:50 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:		Date/Time: 3/25/22 17:00	Company TA	Received by:		Date/Time: 3-26-22 915	Company
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:	Company
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:			

05/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-70687.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@Eurofinset.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Env, LLC		Accreditations Required (See note): State - Massachusetts		Job #: 480-196120-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 4/7/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-8 (80-84') (480-196120-2)	3/24/22	10:50 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	3/25/22 1700	TAL	[signature]		
2						
3					3-26-22 1015	EEE

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
☒ Yes ☐ No		3.1

Client Sample ID: PZ-2022-8 (83')
Lab Sample ID: 480-196120-1

Date Collected: 03/24/22 10:51
Matrix: Solid

Date Received: 03/25/22 10:00
Percent Solids: 86.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.50	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,1,1-Trichloroethane	ND		5.0	0.36	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.80	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,1,2-Trichloroethane	ND		5.0	0.64	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,1-Dichloroethane	ND		5.0	0.60	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,1-Dichloroethene	ND		5.0	0.61	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,2,3-Trichloropropane	ND		5.0	0.50	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,2-Dichloroethane	ND		5.0	0.25	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
2-Butanone (MEK)	ND		25	1.8	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
2-Chloro-1,3-butadiene	ND		5.0	3.1	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
2-Chloroethyl vinyl ether	ND		9.9	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
3-Chloro-1-propene	ND		5.0	2.4	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.6	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Acetone	ND		25	4.2	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Acetonitrile	ND		50	6.1	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Acrolein	ND		25	7.8	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Acrylonitrile	ND		25	4.4	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Benzene	ND		5.0	0.24	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Bromoform	ND		5.0	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Bromomethane	ND		5.0	0.45	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Carbon disulfide	ND		5.0	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Carbon tetrachloride	ND		5.0	0.48	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Chlorobenzene	ND		5.0	0.65	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Chlorodibromomethane	ND		5.0	0.63	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Chloroethane	ND		5.0	1.1	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Chloroform	ND		5.0	0.31	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Chloromethane	ND		5.0	0.30	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
cis-1,3-Dichloropropene	ND		5.0	0.71	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Dibromomethane	ND		5.0	0.51	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Dichlorobromomethane	ND		5.0	0.66	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Dichlorodifluoromethane	ND		5.0	0.41	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Ethyl methacrylate	ND		5.0	1.7	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Ethylbenzene	ND		5.0	0.34	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Ethylene Dibromide	ND		5.0	0.64	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Iodomethane	ND		5.0	0.24	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Methacrylonitrile	ND		25	5.8	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Methyl methacrylate	ND		5.0	1.0	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Methylene Chloride	ND		5.0	2.3	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
m-Xylene & p-Xylene	ND		9.9	0.83	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
o-Xylene	ND		5.0	0.65	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Propionitrile	ND		50	28	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Styrene	ND		5.0	0.25	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Tetrachloroethene	ND		5.0	0.67	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Toluene	ND		5.0	0.37	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
trans-1,2-Dichloroethene	ND		5.0	0.51	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
trans-1,3-Dichloropropene	ND		5.0	2.2	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1

Client Sample ID: PZ-2022-8 (83')
Lab Sample ID: 480-196120-1
Date Collected: 03/24/22 10:51
Matrix: Solid
Date Received: 03/25/22 10:00
Percent Solids: 86.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	1.1	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Trichloroethene	ND		5.0	1.1	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Trichlorofluoromethane	ND		5.0	0.47	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Vinyl acetate	ND		9.9	2.5	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1
Vinyl chloride	ND		5.0	0.60	ug/Kg	☼	03/25/22 13:00	03/29/22 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*64 - 126*	*03/25/22 13:00*	*03/29/22 01:55*	*1*
4-Bromofluorobenzene (Surr)	*105*		*72 - 126*	*03/25/22 13:00*	*03/29/22 01:55*	*1*
Dibromofluoromethane (Surr)	*113*		*60 - 140*	*03/25/22 13:00*	*03/29/22 01:55*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*03/25/22 13:00*	*03/29/22 01:55*	*1*

Client Sample ID: PZ-2022-8 (80-84')
Lab Sample ID: 480-196120-2
Date Collected: 03/24/22 10:50
Matrix: Solid
Date Received: 03/25/22 10:00
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,2,4-Trichlorobenzene	ND		400	29	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,2-Dichlorobenzene	ND		400	28	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,2-Diphenylhydrazine	ND		400	23	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,3,5-Trinitrobenzene	ND		400	16	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,3-Dichlorobenzene	ND		400	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,3-Dinitrobenzene	ND		400	48	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,4-Dichlorobenzene	ND		400	31	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1,4-Naphthoquinone	ND		400	74	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
1-Naphthylamine	ND		400	140	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,6-Dichlorophenol	ND		400	74	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Acetylaminofluorene	ND		400	52	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Chloronaphthalene	ND		200	34	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Chlorophenol	ND		400	37	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Methylphenol	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Naphthylamine	ND		400	140	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Nitroaniline	ND		400	30	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Nitrophenol	ND		200	58	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Picoline	ND		400	46	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
2-Toluidine	ND		400	97	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
3 & 4 Methylphenol	ND		400	31	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
3,3'-Dichlorobenzidine	ND		400	240	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1

Client Sample ID: PZ-2022-8 (80-84')
Lab Sample ID: 480-196120-2

Date Collected: 03/24/22 10:50
Matrix: Solid

Date Received: 03/25/22 10:00
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		790	400	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
3-Methylcholanthrene	ND		400	66	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
3-Methylphenol	ND		400	31	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
3-Nitroaniline	ND		400	56	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4,6-Dinitro-2-methylphenol	ND		400	200	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Aminobiphenyl	ND		400	83	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Methylphenol	ND		400	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Nitroaniline	ND		400	110	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Nitrophenol	ND		400	140	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
4-Nitroquinoline-1-oxide	ND		790	400	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
7,12-Dimethylbenz(a)anthracene	ND		400	59	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
a,a-Dimethylphenethylamine	ND		400	400	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Acenaphthene	ND		200	30	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Acenaphthylene	ND		200	26	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Acetophenone	ND		200	28	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Aniline	ND		400	49	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Anthracene	ND		200	50	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Aramite, Total	ND		400	190	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzidine	ND		6000	2500	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Benzyl alcohol	ND		400	28	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Bis(2-ethylhexyl) phthalate	**350**		200	70	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Butyl benzyl phthalate	ND		200	34	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Chrysene	ND		200	46	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Diallate	ND		400	50	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Dibenzofuran	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Dimethoate	ND		400	49	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Dinoseb	ND		400	71	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Diphenylamine	ND		400	52	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Disulfoton	ND		400	300	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Chlorobenzilate	ND		400	64	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Ethyl methanesulfonate	ND		400	88	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Famphur	ND		790	190	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1

Client Sample ID: PZ-2022-8 (80-84')
Date Collected: 03/24/22 10:50
Date Received: 03/25/22 10:00

Lab Sample ID: 480-196120-2
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		200	22	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Fluorene	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Hexachlorobenzene	ND		200	28	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Hexachlorocyclopentadiene	ND		200	28	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Hexachloroethane	ND		200	26	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Hexachloropropene	ND		400	100	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Isodrin	ND		400	70	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Isophorone	ND		200	43	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Isosafrole	ND		400	53	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Kepone	ND		790	400	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Methapyrilene	ND		1800	400	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Methyl methanesulfonate	ND		400	91	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Naphthalene	ND		200	26	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Nitrobenzene	ND		200	23	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitro-o-toluidine	ND		400	52	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosodiethylamine	ND		400	92	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosodimethylamine	ND		400	86	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosodi-n-butylamine	ND		400	110	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosodiphenylamine	ND		200	170	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosomethylethylamine	ND		400	91	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosomorpholine	ND		400	89	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosopiperidine	ND		400	80	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
N-Nitrosopyrrolidine	ND		400	60	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
o,o',o''-Triethylphosphorothioate	ND		400	52	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Ethyl Parathion	ND		400	44	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Methyl parathion	ND		400	68	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
p-Dimethylamino azobenzene	ND		400	67	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Pentachlorobenzene	ND		400	83	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Pentachloronitrobenzene	ND		400	100	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Pentachlorophenol	ND		400	200	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Phenacetin	ND		400	54	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Phenanthrene	ND		200	30	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Phenol	ND		200	31	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Phorate	ND		400	110	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
p-Phenylene diamine	ND		960	400	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Pronamide	ND		400	78	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Pyrene	ND		200	24	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Pyridine	ND		400	29	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Safrole	ND		400	54	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Sulfotepp	ND		400	64	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1
Thionazin	ND		400	70	ug/Kg	☼	03/28/22 15:45	03/29/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*104*		*54 - 120*	*03/28/22 15:45*	*03/29/22 17:31*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/28/22 15:45*	*03/29/22 17:31*	*1*
2-Fluorophenol (Surr)	*81*		*52 - 120*	*03/28/22 15:45*	*03/29/22 17:31*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/28/22 15:45*	*03/29/22 17:31*	*1*

Client Sample ID: PZ-2022-8 (80-84')
Date Collected: 03/24/22 10:50
Date Received: 03/25/22 10:00

Lab Sample ID: 480-196120-2
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*81*		*54 - 120*	*03/28/22 15:45*	*03/29/22 17:31*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*03/28/22 15:45*	*03/29/22 17:31*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Endrin	ND		2.0	0.40	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
Toxaphene	ND		20	12	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	03/29/22 15:35	03/30/22 11:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*58*		*45 - 120*	*03/29/22 15:35*	*03/30/22 11:39*	*1*
Tetrachloro-m-xylene	*80*		*30 - 124*	*03/29/22 15:35*	*03/30/22 11:39*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	03/25/22 15:26	03/28/22 02:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*87*		*65 - 174*	*03/25/22 15:26*	*03/28/22 02:39*	*1*
Tetrachloro-m-xylene	*105*		*60 - 154*	*03/25/22 15:26*	*03/28/22 02:39*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.5	ug/Kg	☼	03/25/22 14:04	03/29/22 20:50	1

Client Sample ID: PZ-2022-8 (80-84')
Date Collected: 03/24/22 10:50
Date Received: 03/25/22 10:00

Lab Sample ID: 480-196120-2
Matrix: Solid
Percent Solids: 82.4

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		20	13	ug/Kg	☼	03/25/22 14:04	03/29/22 20:50	1
Silvex (2,4,5-TP)	ND		20	7.3	ug/Kg	☼	03/25/22 14:04	03/29/22 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*03/25/22 14:04*	*03/29/22 20:50*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1
Disulfoton	ND		39	26	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1
Famphur	ND		39	21	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1
Methyl parathion	ND		39	22	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1
Phorate	ND		39	13	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1
Sulfotepp	ND		39	15	ug/Kg	☼	03/28/22 08:35	03/30/22 08:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*20 - 135*	*03/28/22 08:35*	*03/30/22 08:17*	*1*
Tributyl phosphate	*86*		*20 - 135*	*03/28/22 08:35*	*03/30/22 08:17*	*1*
Triphenylphosphate	*92*		*33 - 168*	*03/28/22 08:35*	*03/30/22 08:17*	*1*
Triphenylphosphate	*90*		*33 - 168*	*03/28/22 08:35*	*03/30/22 08:17*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.8 U	~~0.21 J B~~	5.8	0.0060	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,4,6,7,8-HpCDF	5.8 U	~~0.077 J I B~~	5.8	0.0020	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,4,7,8,9-HpCDF	5.8 U	~~0.059 J I B~~	5.8	0.0028	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,4,7,8-HxCDD	5.8 U	~~0.082 J I B~~	5.8	0.0032	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,4,7,8-HxCDF	5.8 U	~~0.11 J I B~~	5.8	0.0028	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,6,7,8-HxCDD	5.8 U	~~0.096 J I B~~	5.8	0.0029	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,6,7,8-HxCDF	5.8 U	~~0.061 J B~~	5.8	0.0027	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,7,8,9-HxCDD	5.8 U	~~0.039 J B~~	5.8	0.0031	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,7,8,9-HxCDF	5.8 U	~~0.068 J I B~~	5.8	0.0032	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,7,8-PeCDD	5.8 U	~~0.081 J I B~~	5.8	0.0069	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
1,2,3,7,8-PeCDF	5.8 U	~~0.093 J B~~	5.8	0.0047	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
2,3,4,6,7,8-HxCDF	5.8 U	~~0.069 J B~~	5.8	0.0027	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
2,3,4,7,8-PeCDF	5.8 U	~~0.10 J I B~~	5.8	0.0034	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
2,3,7,8-TCDD		ND	1.2	0.0068	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
2,3,7,8-TCDF		ND	1.2	0.0044	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
OCDD	12 U	~~1.6 J I B~~	12	0.015	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
OCDF	12 U	~~0.18 J B~~	12	0.0035	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total HpCDD	5.8 U	~~0.21 J B~~	5.8	0.0060	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total HpCDF	5.8 U	~~0.21 J I B~~	5.8	0.0024	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total HxCDD	5.8 U	~~0.32 J I B~~	5.8	0.0031	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total HxCDF	5.8 U	~~0.34 J I B~~	5.8	0.0029	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total PeCDD	5.8 U	~~0.14 J I B~~	5.8	0.0069	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total PeCDF	5.8 U	~~0.24 J I B~~	5.8	0.0040	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total TCDD		ND	1.2	0.0068	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1
Total TCDF	1.2 U	~~0.075 J I B~~	1.2	0.0044	ng/Kg	☼	04/01/22 10:05	04/04/22 20:48	1

Client Sample ID: PZ-2022-8 (80-84')
Date Collected: 03/24/22 10:50
Date Received: 03/25/22 10:00

Lab Sample ID: 480-196120-2
Matrix: Solid
Percent Solids: 82.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	84		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,4,6,7,8-HpCDF	79		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,4,7,8,9-HpCDF	82		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,4,7,8-HxCDD	83		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,4,7,8-HxCDF	85		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,6,7,8-HxCDD	82		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,6,7,8-HxCDF	84		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,7,8,9-HxCDD	83		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,7,8,9-HxCDF	81		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,7,8-PeCDD	79		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-1,2,3,7,8-PeCDF	77		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-2,3,4,6,7,8-HxCDF	83		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-2,3,4,7,8-PeCDF	84		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-2,3,7,8-TCDD	70		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-2,3,7,8-TCDF	73		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-OCDD	82		40 - 135	04/01/22 10:05	04/04/22 20:48	1
13C-OCDF	83		40 - 135	04/01/22 10:05	04/04/22 20:48	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.0	0.48	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Arsenic	**2.4**		2.4	0.48	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Barium	**19.1**		0.60	0.13	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Beryllium	**0.18**	**J**	0.24	0.034	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Cadmium	**0.064**	**J**	0.24	0.036	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Chromium	**5.2**		0.60	0.24	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Cobalt	**4.8**		0.60	0.060	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Copper	**8.0**		1.2	0.25	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Lead	**5.5**		1.2	0.29	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Nickel	**6.9**		6.0	0.28	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Selenium	ND		4.8	0.48	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Silver	ND		0.72	0.24	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Thallium	ND		7.2	0.36	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Tin	ND		2.4	0.52	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Vanadium	**4.6**		0.60	0.13	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1
Zinc	**31.9**	**B**	2.4	0.77	mg/Kg	☼	03/31/22 08:56	04/03/22 12:45	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0056	mg/Kg	☼	04/07/22 10:48	04/07/22 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.53	mg/Kg	☼	04/04/22 10:22	04/04/22 11:31	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.7	12.3	mg/Kg	☼		03/31/22 15:45	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-196344-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47487R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 Blank Contamination 9
2.3 System Performance and Overall Assessment 9
2.4 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Surrogates/System Monitoring Compounds 10
3.3 Matrix Spike/Matrix Spike Duplicate Analysis 11
3.4 System Performance and Overall Assessment 11
3.5 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 Blank Contamination 13
5.3 Compound Identification 14
5.4 System Performance and Overall Assessment 15
5.5 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 16
6.1 Holding Times 16
6.2 Blank Contamination 16
6.3 Compound Identification 18
6.4 System Performance and Overall Assessment 19
6.5 Data Validation Checklist 19
7 Metals Analyses 19
7.1 Holding Times 19

7.2 System Performance and Overall Assessment 20
7.3 Data Validation Checklist 20
8 General Chemistry Analyses 20
8.1 Holding Times 20
8.2 System Performance and Overall Assessment 20
8.3 Data Validation Checklist for General Chemistry 21
9 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Summary of Blank Contamination Qualifications 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Sample Locations with Surrogates Exhibiting Recoveries Outside Control Limits 10
Table 8. Surrogate Recovery Evaluation Criteria and Qualifications 11
Table 9. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 11
Table 10. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 11
Table 11. Holding Time for Method SW-846 8082A 12
Table 12. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 13. Summary of Blank Contamination Qualifications 14
Table 14. Dual Column Analysis Exhibiting RPD Outside the Control Limit 14
Table 15. Evaluation Criteria for Dual Column Analysis RPD 14
Table 16. Holding Time for Method SW-846 8290A 16
Table 17. Summary of Blank Contamination Qualifications 16
Table 18. Holding Time for Method SW-846 6010C/7471B 19
Table 19. Specified Holding Times 20
Table 20. Overall Summary of Data Usability 21

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196344-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-9 (0-1')	480-196344-1	Soil	04/01/22			X	X	X	X	X
MW-2022-9 (0.5')	480-196344-2	Soil	04/01/22		X					
MW-2022-9 (14-18')	480-196344-3	Soil	04/01/22			X	X	X	X	X
MW-2022-9 (14.5')	480-196344-4	Soil	04/01/22		X					
MW-2022-9 (26-30')	480-196344-5	Soil	04/01/22			X	X	X	X	X
MW-2022-9 (29')	480-196344-6	Soil	04/01/22		X					
MW-2022-9 (36-40')	480-196344-7	Soil	04/01/22			X	X	X	X	X
MW-2022-9 (39')	480-196344-8	Soil	04/01/22		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	4	0	0	0	0	0	4
SVOCs	4	0	0	0	0	0	4
PCBs	4	0	0	0	0	0	4
PEST	4	0	0	0	0	0	4
HERB	4	0	0	0	0	0	4
PCDD/PCDF	4	0	0	0	0	0	4
Metals	4	0	0	0	0	0	4
MISC	4	0	0	0	0	0	4

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 5. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2022-9 (39')	Trichloroethene	Detected sample results <RL and <BAL	"U" at the RL

Note:
RL Reporting limit

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits with the exceptions noted in the table below.

Table 7. Sample Locations with Surrogates Exhibiting Recoveries Outside Control Limits

Sample ID	Surrogate	Recovery
MW-2022-9 (0-1')	2,4,6-Tribromophenol	< 10%

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table 8. Surrogate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-9 (26-30'). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 9. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
MW-2022-9 (26-30')	Benzidine	< 10%	< 10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 10. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
System performance and column resolution		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were

greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2022-9 (0-1')	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-9 (14-18')	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-9 (26-30')	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-9 (36-40')	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL

Note:
RL Reporting limit

5.3 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit with the exceptions noted in the table below.

Table 14. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Compound	RPD
MW-2022-9 (0-1')	trans-Chlordane	132.4%
	4,4'-DDT	114.5%
	Endrin aldehyde	96.2%
	Methoxychlor	174.2%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 15. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN

Control Limit (RPD)	Qualification
>50% (PCB sample results less than the RL)	U

When the sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide/herbicide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.5 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
System performance and column resolution		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 16. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 17. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-9 (0-1')	1,2,3,4,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8-PeCDD		

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,7,8-PeCDF		
	2,3,7,8-TCDD		
	Total HxCDF		
	Total PeCDD		
	Total PeCDF		
	Total TCDD		
MW-2022-9 (14-18')	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8-PeCDD		
	1,2,3,7,8-PeCDF		
	2,3,4,7,8-PeCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDD		
	Total PeCDF		
MW-2022-9 (26-30')	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDD		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8-PeCDD		
	2,3,7,8-TCDD		
	Total HxCDD		
	Total HxCDF		
	Total PeCDD		

Sample ID	Compounds	Sample Result	Qualification
	Total PeCDF		
	Total TCDD		
MW-2022-9 (36-40')	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,7,8-PeCDF		
	2,3,7,8-TCDD		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
	Total TCDD		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 20. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	96.2%	19
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality.

These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 09, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 9, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Dan Meandro	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.8
Client Contact: Mr. Daniel Meandro	Phone: 315-992-0568	E-Mail: John.Schove@Eurofinset.com	State of Origin: MA	Page: Page ~~8 of 8~~ 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-992-0568(Tel)	PO #: Purchase Order not required			
Email: daniel.meandro@arcadis.com	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
K - EDTA
L - EDA
Z - other (specify)
Other:

480-196344 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-9 (0-1')	4-1-22	0955	C	S			X	X	X	X										4	
MW-2022-9 (0.5')	4-1-22	0956	G	S							X									4	
MW-2022-9 (14-18')	4-1-22	1120	C	S			X	X	X	X										4	
MW-2022-9 (14.5')	4-1-22	1121	G	S							X									4	
MW-2022-9 (26-30')	4-1-22	1205	C	S			X	X	X	X										4	
MW-2022-9 (29')	4-1-22	1206	G	S							X									4	
MW-2022-9 (36-40)	4-1-22	1350	C	S			X	X	X	X										4	
MW-2022-9 (39')	4-1-22	1351	G	S							X									4	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: D. Meandro	Date/Time: 4-1-22 1430	Company: ARCADIS	Received by: Courtney
Relinquished by:	Date/Time:	Company	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Date/Time:	Company
4/2/22 1000	TAS
Date/Time:	Company
Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 3.4

Ver: 06/08/2021

05/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

480-196344 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 4/14/2022	
City: Pittsburgh	TAT Requested (days):	
State, Zip: PA, 15238		
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:	
Email:	WO #:	
Project Name: GE Woods Pond Parcel	Project #: 48024970	
Site:	SSOW#:	

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-9 (0-1') (480-196344-1)	4/1/22	09:55 Eastern		Solid			X	1	
MW-2022-9 (14-18') (480-196344-3)	4/1/22	11:20 Eastern		Solid			X	1	
MW-2022-9 (26-30') (480-196344-5)	4/1/22	12:05 Eastern		Solid			X	1	
MW-2022-9 (36-40') (480-196344-7)	4/1/22	13:50 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 4/5/22 1700	Company: EA	Received by:	Date/Time: 4-6-22 900	Company: EBTAEM
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

05/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-70986.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Env, LLC		Accreditations Required (See note): State - Massachusetts		Job #: 480-196344-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 4/14/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-9 (0-1') (480-196344-1)	4/1/22	09:55 Eastern		Solid			X	1	
MW-2022-9 (14-18') (480-196344-3)	4/1/22	11:20 Eastern		Solid			X	1	
MW-2022-9 (26-30') (480-196344-5)	4/1/22	12:05 Eastern		Solid			X	1	
MW-2022-9 (36-40') (480-196344-7)	4/1/22	13:50 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/15/22 17:00	TA			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/16/22 1041	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.0

Client Sample ID: MW-2022-9 (0-1')
Date Collected: 04/01/22 09:55
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-1
Matrix: Solid
Percent Solids: 76.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		11000	1900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,2,4-Trichlorobenzene	ND		22000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,2-Dichlorobenzene	ND		22000	1500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,2-Diphenylhydrazine	ND		22000	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,3,5-Trinitrobenzene	ND		22000	900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,3-Dichlorobenzene	ND		22000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,3-Dinitrobenzene	ND		22000	2600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,4-Dichlorobenzene	ND		22000	1700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,4-Dioxane	ND		6600	3600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1,4-Naphthoquinone	ND		22000	4100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
1-Naphthylamine	ND		22000	7500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2,3,4,6-Tetrachlorophenol	ND		11000	2300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,4,5-Trichlorophenol	ND		11000	3000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,4,6-Trichlorophenol	ND		11000	2200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,4-Dichlorophenol	ND		11000	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,4-Dimethylphenol	ND		11000	2700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,4-Dinitrophenol	ND		110000	51000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,4-Dinitrotoluene	ND		11000	2300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2,6-Dichlorophenol	ND		22000	4100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2,6-Dinitrotoluene	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Acetylaminofluorene	ND		22000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Chloronaphthalene	ND		11000	1800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Chlorophenol	ND		22000	2000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2-Methylnaphthalene	ND		11000	2200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Methylphenol	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2-Naphthylamine	ND		22000	7400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Nitroaniline	ND		22000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Nitrophenol	ND		11000	3100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
2-Picoline	ND		22000	2500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
2-Toluidine	ND		22000	5300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
3 & 4 Methylphenol	ND		22000	1700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
3,3'-Dichlorobenzidine	ND		22000	13000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
3,3'-Dimethylbenzidine	ND		43000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
3-Methylcholanthrene	ND		22000	3600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
3-Methylphenol	ND		22000	1700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
3-Nitroaniline	ND		22000	3100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
4,6-Dinitro-2-methylphenol	ND		22000	11000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
4-Aminobiphenyl	ND		22000	4500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
4-Bromophenyl phenyl ether	ND		11000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
4-Chloro-3-methylphenol	ND		11000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
4-Chloroaniline	ND		11000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
4-Chlorophenyl phenyl ether	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
4-Methylphenol	ND		22000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
4-Nitroaniline	ND		22000	5800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
4-Nitrophenol	ND		22000	7800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	R 5
4-Nitroquinoline-1-oxide	ND		43000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
7,12-Dimethylbenz(a)anthracene	ND		22000	3200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
a,a-Dimethylphenethylamine	ND		22000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Acenaphthene	ND		11000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5

Client Sample ID: MW-2022-9 (0-1')
Date Collected: 04/01/22 09:55
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-1
Matrix: Solid
Percent Solids: 76.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Acetophenone	ND		11000	1500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Aniline	ND		22000	2700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Anthracene	ND		11000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Aramite, Total	ND		22000	10000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzidine	ND		330000	140000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzo[a]anthracene	ND		11000	1100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzo[a]pyrene	ND		11000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzo[b]fluoranthene	ND		11000	1800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzo[g,h,i]perylene	ND		11000	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzo[k]fluoranthene	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Benzyl alcohol	ND		22000	1500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
bis (2-chloroisopropyl) ether	ND		11000	2200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Bis(2-chloroethoxy)methane	ND		11000	2400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Bis(2-chloroethyl)ether	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Bis(2-ethylhexyl) phthalate	**5200**	**J**	11000	3800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Butyl benzyl phthalate	ND		11000	1800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Chrysene	ND		11000	2500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Diallate	ND		22000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Dibenz(a,h)anthracene	ND		11000	2000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Dibenzofuran	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Diethyl phthalate	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Dimethoate	ND		22000	2700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Dimethyl phthalate	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Di-n-butyl phthalate	ND		11000	1900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Di-n-octyl phthalate	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Dinoseb	ND		22000	3900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Diphenylamine	ND		22000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Disulfoton	ND		22000	16000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Chlorobenzilate	ND		22000	3500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Ethyl methanesulfonate	ND		22000	4800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Famphur	ND		43000	10000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Fluoranthene	ND		11000	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Fluorene	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Hexachlorobenzene	ND		11000	1500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Hexachlorobutadiene	ND		11000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Hexachlorocyclopentadiene	ND		11000	1500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Hexachloroethane	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Hexachloropropene	ND		22000	5500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Indeno[1,2,3-cd]pyrene	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Isodrin	ND		22000	3800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Isophorone	ND		11000	2400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Isosafrole	ND		22000	2900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Kepone	ND		43000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Methapyrilene	ND		98000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Methyl methanesulfonate	ND		22000	5000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Naphthalene	ND		11000	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Nitrobenzene	ND		11000	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitro-o-toluidine	ND		22000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5

Client Sample ID: MW-2022-9 (0-1')
Date Collected: 04/01/22 09:55
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-1
Matrix: Solid
Percent Solids: 76.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		22000	5100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosodimethylamine	ND		22000	4700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosodi-n-butylamine	ND		22000	5900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosodi-n-propylamine	ND		11000	1900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosodiphenylamine	ND		11000	9100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosomethylethylamine	ND		22000	5000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosomorpholine	ND		22000	4900	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosopiperidine	ND		22000	4400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
N-Nitrosopyrrolidine	ND		22000	3300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
o,o',o''-Triethylphosphorothioate	ND		22000	2800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Ethyl Parathion	ND		22000	2400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Methyl parathion	ND		22000	3700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
p-Dimethylamino azobenzene	ND		22000	3700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Pentachlorobenzene	ND		22000	4500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Pentachloronitrobenzene	ND		22000	5500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
~~Pentachlorophenol~~	~~ND~~		~~22000~~	~~11000~~	~~ug/Kg~~	~~☼~~	~~04/05/22 08:32~~	~~04/06/22 16:14~~	R 5
Phenacetin	ND		22000	3000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Phenanthrene	ND		11000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
~~Phenol~~	~~ND~~		~~11000~~	~~1700~~	~~ug/Kg~~	~~☼~~	~~04/05/22 08:32~~	~~04/06/22 16:14~~	R 5
Phorate	ND		22000	6000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
p-Phenylene diamine	ND		52000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Pronamide	ND		22000	4300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Pyrene	ND		11000	1300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Pyridine	ND		22000	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Safrole	ND		22000	3000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Sulfotepp	ND		22000	3500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5
Thionazin	ND		22000	3800	ug/Kg	☼	04/05/22 08:32	04/06/22 16:14	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*04/05/22 08:32*	*04/06/22 16:14*	*5*
2-Fluorobiphenyl (Surr)	*80*		*60 - 120*	*04/05/22 08:32*	*04/06/22 16:14*	*5*
2-Fluorophenol (Surr)	*59*		*52 - 120*	*04/05/22 08:32*	*04/06/22 16:14*	*5*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*04/05/22 08:32*	*04/06/22 16:14*	*5*
Phenol-d5 (Surr)	*62*		*54 - 120*	*04/05/22 08:32*	*04/06/22 16:14*	*5*
p-Terphenyl-d14 (Surr)	*83*		*79 - 130*	*04/05/22 08:32*	*04/06/22 16:14*	*5*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2	0.42	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
4,4'-DDE	ND		2.2	0.45	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
4,4'-DDT	2.2 U	~~1.2 J~~	2.2	0.50	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Aldrin	ND		2.2	0.53	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
alpha-BHC	ND		2.2	0.39	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
beta-BHC	ND		2.2	0.39	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Chlordane (technical)	ND		22	4.8	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Chlorobenzilate	ND		22	7.2	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
cis-Chlordane	ND		2.2	1.1	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
delta-BHC	ND		2.2	0.40	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Dieldrin	ND		2.2	0.52	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Endosulfan I	ND		2.2	0.41	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1

Client Sample ID: MW-2022-9 (0-1')
Lab Sample ID: 480-196344-1

Date Collected: 04/01/22 09:55
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 76.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.2	0.39	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Endosulfan sulfate	ND		2.2	0.40	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Endrin	ND		2.2	0.43	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Endrin aldehyde	2.2 U	~~1.0 J~~	2.2	0.55	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Endrin ketone	**4.1**		2.2	0.53	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
gamma-BHC (Lindane)	ND		2.2	0.39	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Heptachlor	ND		2.2	0.47	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Heptachlor epoxide	ND		2.2	0.55	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Methoxychlor	2.2 U	~~1.1 J~~	2.2	0.44	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
Toxaphene	ND		22	13	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1
trans-Chlordane	2.2 U	~~1.1 J~~	2.2	0.68	ug/Kg	☼	04/04/22 15:36	04/06/22 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*45 - 120*	*04/04/22 15:36*	*04/06/22 14:58*	*1*
Tetrachloro-m-xylene	*60*		*30 - 124*	*04/04/22 15:36*	*04/06/22 14:58*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.32	0.062	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1
PCB-1221	ND		0.32	0.062	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1
PCB-1232	ND		0.32	0.062	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1
PCB-1242	ND		0.32	0.062	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1
PCB-1248	ND		0.32	0.062	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1
PCB-1254	ND		0.32	0.15	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1
PCB-1260	ND		0.32	0.15	mg/Kg	☼	04/04/22 08:14	04/05/22 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*65 - 174*	*04/04/22 08:14*	*04/05/22 13:36*	*1*
Tetrachloro-m-xylene	*119*		*60 - 154*	*04/04/22 08:14*	*04/05/22 13:36*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		22	7.0	ug/Kg	☼	04/08/22 06:34	04/11/22 15:56	1
2,4-D	ND		22	14	ug/Kg	☼	04/08/22 06:34	04/11/22 15:56	1
Silvex (2,4,5-TP)	ND		22	7.9	ug/Kg	☼	04/08/22 06:34	04/11/22 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*62*		*28 - 129*	*04/08/22 06:34*	*04/11/22 15:56*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	~~F2~~	43	24	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1
Disulfoton	ND		43	29	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1
Famphur	ND		43	23	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1
Methyl parathion	ND		43	25	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1
Ethyl Parathion	ND		43	24	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1
Phorate	ND		43	15	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1
Sulfotepp	ND		43	17	ug/Kg	☼	04/07/22 18:22	04/09/22 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*63*		*20 - 135*	*04/07/22 18:22*	*04/09/22 00:12*	*1*

Client Sample ID: MW-2022-9 (0-1')
Lab Sample ID: 480-196344-1

Date Collected: 04/01/22 09:55
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 76.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	62		20 - 135	04/07/22 18:22	04/09/22 00:12	1
Triphenylphosphate	64		33 - 168	04/07/22 18:22	04/09/22 00:12	1
Triphenylphosphate	65		33 - 168	04/07/22 18:22	04/09/22 00:12	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	11	B	6.5	0.093	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,4,6,7,8-HpCDF	2.5	J B	6.5	0.053	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,4,7,8,9-HpCDF	ND		6.5	0.072	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,4,7,8-HxCDD	6.5 U	0.17 J I B	6.5	0.0079	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,4,7,8-HxCDF	6.5 U	0.35 J I B	6.5	0.031	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,6,7,8-HxCDD	0.67	J I B JNX	6.5	0.0078	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,6,7,8-HxCDF	6.5 U	0.20 J I B	6.5	0.029	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,7,8,9-HxCDD	0.45	J I JNX	6.5	0.0075	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,7,8,9-HxCDF	0.18	J	6.5	0.033	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,7,8-PeCDD	6.5 U	0.28 J I B	6.5	0.017	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
1,2,3,7,8-PeCDF	6.5 U	0.23 J I B	6.5	0.018	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
2,3,4,6,7,8-HxCDF	0.25	J I JNX	6.5	0.029	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
2,3,4,7,8-PeCDF	0.52	J I B JNX	6.5	0.014	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
2,3,7,8-TCDD	6.5 U	0.026 J I B	1.3	0.0098	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
2,3,7,8-TCDF	2.4		1.3	0.0091	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
OCDD	190	B	13	0.079	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
OCDF	9.1	J B	13	0.033	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total HpCDD	11	B	6.5	0.093	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total HpCDF	2.5	J B	6.5	0.062	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total HxCDD	1.3	J I B JNX	6.5	0.0077	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total HxCDF	6.5 U	0.98 J I B	6.5	0.031	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total PeCDD	6.5 U	0.28 J I B	6.5	0.017	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total PeCDF	6.5 U	0.75 J I B	6.5	0.016	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total TCDD	1.3 U	0.026 J I B	1.3	0.0098	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1
Total TCDF	2.4	I JNX	1.3	0.0091	ng/Kg	☼	04/12/22 15:00	04/14/22 20:51	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	70		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,4,6,7,8-HpCDF	73		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,4,7,8,9-HpCDF	75		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,4,7,8-HxCDD	71		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,4,7,8-HxCDF	75		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,6,7,8-HxCDD	74		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,6,7,8-HxCDF	75		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,7,8,9-HxCDD	74		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,7,8,9-HxCDF	77		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,7,8-PeCDD	66		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-1,2,3,7,8-PeCDF	68		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-2,3,4,6,7,8-HxCDF	75		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-2,3,4,7,8-PeCDF	73		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-2,3,7,8-TCDD	72		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-2,3,7,8-TCDF	73		40 - 135	04/12/22 15:00	04/14/22 20:51	1
13C-OCDD	67		40 - 135	04/12/22 15:00	04/14/22 20:51	1

Client Sample ID: MW-2022-9 (0-1')
Lab Sample ID: 480-196344-1

Date Collected: 04/01/22 09:55
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 76.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*68*		*40 - 135*	*04/12/22 15:00*	*04/14/22 20:51*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		20.7	0.55	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Arsenic	**1.5**	**J**	2.8	0.55	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Barium	**29.7**		0.69	0.15	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Beryllium	**0.19**	**J**	0.28	0.039	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Cadmium	**0.15**	**J**	0.28	0.041	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Chromium	**5.5**		0.69	0.28	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Cobalt	**4.7**		0.69	0.069	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Copper	**18.9**		2.8	0.58	mg/Kg	☼	04/06/22 13:10	04/12/22 03:04	2
Lead	**5.9**		1.4	0.33	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Nickel	**7.6**		6.9	0.32	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Selenium	ND		5.5	0.55	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Silver	**0.36**	**J**	0.83	0.28	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Thallium	ND		8.3	0.41	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Tin	**3.2**		2.8	0.59	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Vanadium	**6.1**		0.69	0.15	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1
Zinc	**54.6**		2.8	0.88	mg/Kg	☼	04/06/22 13:10	04/07/22 23:34	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.012**	**J**	0.026	0.0060	mg/Kg	☼	04/07/22 10:48	04/07/22 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.57	mg/Kg	☼	04/04/22 10:22	04/04/22 11:37	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.5	12.8	mg/Kg	☼		04/06/22 15:50	1

Client Sample ID: MW-2022-9 (0.5')
Lab Sample ID: 480-196344-2

Date Collected: 04/01/22 09:56
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 89.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.44	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,1,1-Trichloroethane	ND		4.4	0.32	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,1,2,2-Tetrachloroethane	ND		4.4	0.71	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,1,2-Trichloroethane	ND		4.4	0.57	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,1-Dichloroethane	ND		4.4	0.53	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,1-Dichloroethene	ND		4.4	0.53	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,2,3-Trichloropropane	ND		4.4	0.44	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,2-Dibromo-3-Chloropropane	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,2-Dichloroethane	ND		4.4	0.22	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
1,2-Dichloropropane	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
2-Chloro-1,3-butadiene	ND		4.4	2.7	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1

Client Sample ID: MW-2022-9 (0.5')
Date Collected: 04/01/22 09:56
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-2
Matrix: Solid
Percent Solids: 89.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		8.7	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
3-Chloro-1-propene	ND		4.4	2.1	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.4	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Acetone	ND		22	3.7	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Acetonitrile	ND		44	5.3	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Acrolein	ND		22	6.9	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Acrylonitrile	ND		22	3.9	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Benzene	ND		4.4	0.21	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Bromoform	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Bromomethane	ND		4.4	0.39	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Carbon disulfide	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Carbon tetrachloride	ND		4.4	0.42	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Chlorobenzene	ND		4.4	0.57	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Chlorodibromomethane	ND		4.4	0.56	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Chloroethane	ND		4.4	0.98	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Chloroform	ND		4.4	0.27	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Chloromethane	ND		4.4	0.26	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
cis-1,3-Dichloropropene	ND		4.4	0.63	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Dibromomethane	ND		4.4	0.45	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Dichlorobromomethane	ND		4.4	0.58	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Dichlorodifluoromethane	ND		4.4	0.36	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Ethyl methacrylate	ND		4.4	1.5	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Ethylbenzene	ND		4.4	0.30	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Ethylene Dibromide	ND		4.4	0.56	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Iodomethane	ND		4.4	0.21	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Methacrylonitrile	ND		22	5.1	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Methyl methacrylate	ND		4.4	0.91	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Methylene Chloride	ND		4.4	2.0	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
m-Xylene & p-Xylene	ND		8.7	0.73	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
o-Xylene	ND		4.4	0.57	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Propionitrile	ND		44	24	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Styrene	ND		4.4	0.22	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Tetrachloroethene	ND		4.4	0.58	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Toluene	ND		4.4	0.33	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
trans-1,2-Dichloroethene	ND		4.4	0.45	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
trans-1,3-Dichloropropene	ND		4.4	1.9	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
trans-1,4-Dichloro-2-butene	ND		4.4	0.98	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Trichloroethene	ND		4.4	0.96	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Trichlorofluoromethane	ND		4.4	0.41	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Vinyl acetate	ND		8.7	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1
Vinyl chloride	ND		4.4	0.53	ug/Kg	☼	04/02/22 11:00	04/05/22 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*04/02/22 11:00*	*04/05/22 22:52*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/02/22 11:00*	*04/05/22 22:52*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*04/02/22 11:00*	*04/05/22 22:52*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*04/02/22 11:00*	*04/05/22 22:52*	*1*

Client Sample ID: MW-2022-9 (14-18')
Date Collected: 04/01/22 11:20
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-3
Matrix: Solid
Percent Solids: 95.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		1700	300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,2,4-Trichlorobenzene	ND		3400	250	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,2-Dichlorobenzene	ND		3400	240	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,2-Diphenylhydrazine	ND		3400	190	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,3,5-Trinitrobenzene	ND		3400	140	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,3-Dichlorobenzene	ND		3400	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,3-Dinitrobenzene	ND		3400	410	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,4-Dichlorobenzene	ND		3400	270	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,4-Dioxane	ND		1000	560	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1,4-Naphthoquinone	ND		3400	630	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
1-Naphthylamine	ND		3400	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,3,4,6-Tetrachlorophenol	ND		1700	360	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,4,5-Trichlorophenol	ND		1700	470	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,4,6-Trichlorophenol	ND		1700	350	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,4-Dichlorophenol	ND		1700	180	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,4-Dimethylphenol	ND		1700	420	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,4-Dinitrophenol	ND		17000	8000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,4-Dinitrotoluene	ND		1700	360	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,6-Dichlorophenol	ND		3400	630	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2,6-Dinitrotoluene	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Acetylaminofluorene	ND		3400	440	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Chloronaphthalene	ND		1700	290	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Chlorophenol	ND		3400	320	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Methylnaphthalene	ND		1700	350	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Methylphenol	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Naphthylamine	ND		3400	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Nitroaniline	ND		3400	260	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Nitrophenol	ND		1700	490	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Picoline	ND		3400	390	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
2-Toluidine	ND		3400	830	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
3 & 4 Methylphenol	ND		3400	270	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
3,3'-Dichlorobenzidine	ND		3400	2000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
3,3'-Dimethylbenzidine	ND		6800	3400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
3-Methylcholanthrene	ND		3400	560	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
3-Methylphenol	ND		3400	270	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
3-Nitroaniline	ND		3400	480	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4,6-Dinitro-2-methylphenol	ND		3400	1700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Aminobiphenyl	ND		3400	710	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Bromophenyl phenyl ether	ND		1700	250	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Chloro-3-methylphenol	ND		1700	430	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Chloroaniline	ND		1700	430	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Chlorophenyl phenyl ether	ND		1700	210	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Methylphenol	ND		3400	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Nitroaniline	ND		3400	910	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Nitrophenol	ND		3400	1200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
4-Nitroquinoline-1-oxide	ND		6800	3400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
7,12-Dimethylbenz(a)anthracene	ND		3400	500	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
a,a-Dimethylphenethylamine	ND		3400	3400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Acenaphthene	ND		1700	260	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1

Client Sample ID: MW-2022-9 (14-18')
Lab Sample ID: 480-196344-3

Date Collected: 04/01/22 11:20
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 95.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		1700	230	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Acetophenone	ND		1700	240	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Aniline	ND		3400	420	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Anthracene	ND		1700	430	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Aramite, Total	ND		3400	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzidine	ND		51000	22000	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzo[a]anthracene	ND		1700	170	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzo[a]pyrene	ND		1700	260	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzo[b]fluoranthene	ND		1700	280	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzo[g,h,i]perylene	ND		1700	180	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzo[k]fluoranthene	ND		1700	230	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Benzyl alcohol	ND		3400	240	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
bis (2-chloroisopropyl) ether	ND		1700	350	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Bis(2-chloroethoxy)methane	ND		1700	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Bis(2-chloroethyl)ether	ND		1700	230	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Bis(2-ethylhexyl) phthalate	**2900**		1700	590	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Butyl benzyl phthalate	ND		1700	290	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Chrysene	ND		1700	390	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Diallate	ND		3400	430	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Dibenz(a,h)anthracene	ND		1700	310	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Dibenzofuran	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Diethyl phthalate	ND		1700	230	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Dimethoate	ND		3400	420	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Dimethyl phthalate	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Di-n-butyl phthalate	ND		1700	300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Di-n-octyl phthalate	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Dinoseb	ND		3400	600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Diphenylamine	ND		3400	440	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Disulfoton	ND		3400	2600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Chlorobenzilate	ND		3400	540	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Ethyl methanesulfonate	ND		3400	750	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Famphur	ND		6800	1600	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Fluoranthene	ND		1700	180	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Fluorene	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Hexachlorobenzene	ND		1700	240	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Hexachlorobutadiene	ND		1700	260	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Hexachlorocyclopentadiene	ND		1700	240	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Hexachloroethane	ND		1700	230	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Hexachloropropene	ND		3400	860	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Indeno[1,2,3-cd]pyrene	ND		1700	210	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Isodrin	ND		3400	590	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Isophorone	ND		1700	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Isosafrole	ND		3400	450	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Kepone	ND		6800	3400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Methapyrilene	ND		15000	3400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Methyl methanesulfonate	ND		3400	780	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Naphthalene	ND		1700	230	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Nitrobenzene	ND		1700	190	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitro-o-toluidine	ND		3400	440	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1

Client Sample ID: MW-2022-9 (14-18')
Lab Sample ID: 480-196344-3

Date Collected: 04/01/22 11:20
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 95.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		3400	790	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosodimethylamine	ND		3400	740	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosodi-n-butylamine	ND		3400	920	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosodi-n-propylamine	ND		1700	300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosodiphenylamine	ND		1700	1400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosomethylethylamine	ND		3400	780	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosomorpholine	ND		3400	760	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosopiperidine	ND		3400	690	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
N-Nitrosopyrrolidine	ND		3400	510	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
o,o',o''-Triethylphosphorothioate	ND		3400	440	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Ethyl Parathion	ND		3400	380	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Methyl parathion	ND		3400	580	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
p-Dimethylamino azobenzene	ND		3400	570	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Pentachlorobenzene	ND		3400	710	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Pentachloronitrobenzene	ND		3400	860	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Pentachlorophenol	ND		3400	1700	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Phenacetin	ND		3400	460	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Phenanthrene	ND		1700	260	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Phenol	ND		1700	270	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Phorate	ND		3400	930	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
p-Phenylene diamine	ND		8200	3400	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Pronamide	ND		3400	670	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Pyrene	ND		1700	200	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Pyridine	ND		3400	250	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Safrole	ND		3400	460	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Sulfotepp	ND		3400	540	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1
Thionazin	ND		3400	590	ug/Kg	☼	04/05/22 08:32	04/06/22 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*04/05/22 08:32*	*04/06/22 16:31*	*1*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*04/05/22 08:32*	*04/06/22 16:31*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*04/05/22 08:32*	*04/06/22 16:31*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*04/05/22 08:32*	*04/06/22 16:31*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*04/05/22 08:32*	*04/06/22 16:31*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*04/05/22 08:32*	*04/06/22 16:31*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
4,4'-DDT	1.7 U	~~0.79 J B~~	1.7	0.41	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Aldrin	ND		1.7	0.43	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Chlordane (technical)	ND		17	3.9	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Dieldrin	ND		1.7	0.42	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1

Client Sample ID: MW-2022-9 (14-18')
Date Collected: 04/01/22 11:20
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-3
Matrix: Solid
Percent Solids: 95.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Endrin	ND		1.7	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Endrin ketone	ND		1.7	0.43	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Heptachlor	ND		1.7	0.38	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
Toxaphene	ND		17	10	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	04/04/22 15:36	04/05/22 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*45 - 120*	*04/04/22 15:36*	*04/05/22 12:31*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*04/04/22 15:36*	*04/05/22 12:31*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.042	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1
PCB-1221	ND		0.22	0.042	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1
PCB-1232	ND		0.22	0.042	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1
PCB-1242	ND		0.22	0.042	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1
PCB-1248	ND		0.22	0.042	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/04/22 08:14	04/05/22 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*87*		*65 - 174*	*04/04/22 08:14*	*04/05/22 13:22*	*1*
Tetrachloro-m-xylene	*93*		*60 - 154*	*04/04/22 08:14*	*04/05/22 13:22*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.5	ug/Kg	☼	04/08/22 06:34	04/11/22 16:26	1
2,4-D	ND		17	11	ug/Kg	☼	04/08/22 06:34	04/11/22 16:26	1
Silvex (2,4,5-TP)	ND		17	6.1	ug/Kg	☼	04/08/22 06:34	04/11/22 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*67*		*28 - 129*	*04/08/22 06:34*	*04/11/22 16:26*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1
Disulfoton	ND		34	22	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1
Famphur	ND		34	18	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1
Methyl parathion	ND		34	19	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1
Ethyl Parathion	ND		34	19	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1
Phorate	ND		34	11	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1
Sulfotepp	ND		34	13	ug/Kg	☼	04/07/22 18:22	04/09/22 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*20 - 135*	*04/07/22 18:22*	*04/09/22 01:47*	*1*

Client Sample ID: MW-2022-9 (14-18')
Date Collected: 04/01/22 11:20
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-3
Matrix: Solid
Percent Solids: 95.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*81*		*20 - 135*	*04/07/22 18:22*	*04/09/22 01:47*	*1*
Triphenylphosphate	*89*		*33 - 168*	*04/07/22 18:22*	*04/09/22 01:47*	*1*
Triphenylphosphate	*90*		*33 - 168*	*04/07/22 18:22*	*04/09/22 01:47*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.2 U	~~0.37 J I B~~	5.2	0.019	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,4,6,7,8-HpCDF	5.2 U	~~0.15 J B~~	5.2	0.0048	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,4,7,8,9-HpCDF	ND		5.2	0.0062	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,4,7,8-HxCDD	5.2 U	~~0.056 J I B~~	5.2	0.0032	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,4,7,8-HxCDF	5.2 U	~~0.096 J B~~	5.2	0.0042	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,6,7,8-HxCDD	5.2 U	~~0.065 J I B~~	5.2	0.0032	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,6,7,8-HxCDF	5.2 U	~~0.068 J I B~~	5.2	0.0043	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,7,8,9-HxCDD	ND		5.2	0.0032	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,7,8,9-HxCDF	**0.048** ~~J I~~ JNX		5.2	0.0044	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,7,8-PeCDD	5.2 U	~~0.12 J I B~~	5.2	0.0099	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
1,2,3,7,8-PeCDF	5.2 U	~~0.15 J B~~	5.2	0.0047	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
2,3,4,6,7,8-HxCDF	**0.013** ~~J I~~ JNX		5.2	0.0042	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
2,3,4,7,8-PeCDF	5.2 U	~~0.12 J B~~	5.2	0.0034	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
2,3,7,8-TCDD	ND		1.0	0.0068	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
2,3,7,8-TCDF	**0.035** ~~J I~~ JNX		1.0	0.0088	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
OCDD	10 U	~~1.6 J B~~	10	0.0066	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
OCDF	10 U	~~0.29 J I B~~	10	0.0042	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total HpCDD	5.2 U	~~0.37 J I B~~	5.2	0.019	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total HpCDF	5.2 U	~~0.15 J I B~~	5.2	0.0055	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total HxCDD	5.2 U	~~0.12 J I B~~	5.2	0.0032	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total HxCDF	5.2 U	~~0.23 J I B~~	5.2	0.0043	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total PeCDD	5.2 U	~~0.12 J I B~~	5.2	0.0099	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total PeCDF	5.2 U	~~0.27 J I B~~	5.2	0.0040	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total TCDD	ND		1.0	0.0068	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1
Total TCDF	**0.035** ~~J I~~ JNX		1.0	0.0088	ng/Kg	☼	04/12/22 15:00	04/14/22 21:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*91*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,4,7,8-HxCDF	*90*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,7,8,9-HxCDD	*87*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,7,8,9-HxCDF	*94*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-2,3,4,6,7,8-HxCDF	*90*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*
13C-OCDD	*79*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*

Client Sample ID: MW-2022-9 (14-18')
Lab Sample ID: 480-196344-3
Date Collected: 04/01/22 11:20
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 95.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*81*		*40 - 135*	*04/12/22 15:00*	*04/14/22 21:40*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.1	0.43	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Arsenic	**3.6**		2.1	0.43	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Barium	**14.0**		0.54	0.12	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Beryllium	**0.19**	**J**	0.21	0.030	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Cadmium	**0.068**	**J**	0.21	0.032	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Chromium	**4.1**		0.54	0.21	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Cobalt	**5.8**		0.54	0.054	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Copper	**6.4**		1.1	0.23	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Lead	**6.5**		1.1	0.26	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Nickel	**9.4**		5.4	0.25	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Selenium	ND		4.3	0.43	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Silver	ND		0.64	0.21	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Thallium	ND		6.4	0.32	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Tin	ND		2.1	0.46	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Vanadium	**4.9**		0.54	0.12	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1
Zinc	**29.2**	**F1**	2.1	0.69	mg/Kg	☼	04/06/22 13:10	04/07/22 23:49	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0069**	**J**	0.021	0.0048	mg/Kg	☼	04/07/22 10:48	04/07/22 13:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.98	0.47	mg/Kg	☼	04/04/22 10:22	04/04/22 11:39	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.7	10.7	mg/Kg	☼		04/06/22 15:50	1

Client Sample ID: MW-2022-9 (14.5')
Lab Sample ID: 480-196344-4
Date Collected: 04/01/22 11:21
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.49	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,1,1-Trichloroethane	ND		4.9	0.35	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,1,2,2-Tetrachloroethane	ND		4.9	0.79	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,1,2-Trichloroethane	ND		4.9	0.63	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,1-Dichloroethane	ND		4.9	0.59	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,1-Dichloroethene	ND		4.9	0.59	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,2,3-Trichloropropane	ND		4.9	0.49	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,2-Dibromo-3-Chloropropane	ND		4.9	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,2-Dichloroethane	ND		4.9	0.24	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
1,2-Dichloropropane	ND		4.9	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
2-Butanone (MEK)	ND		24	1.8	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
2-Chloro-1,3-butadiene	ND		4.9	3.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1

Client Sample ID: MW-2022-9 (14.5')
Date Collected: 04/01/22 11:21
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-4
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		9.7	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
3-Chloro-1-propene	ND		4.9	2.3	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Acetone	ND		24	4.1	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Acetonitrile	ND		49	5.9	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Acrolein	ND		24	7.7	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Acrylonitrile	ND		24	4.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Benzene	ND		4.9	0.24	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Bromoform	ND		4.9	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Bromomethane	ND		4.9	0.44	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Carbon disulfide	ND		4.9	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Carbon tetrachloride	ND		4.9	0.47	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Chlorobenzene	ND		4.9	0.64	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Chlorodibromomethane	ND		4.9	0.62	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Chloroethane	ND		4.9	1.1	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Chloroform	ND		4.9	0.30	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Chloromethane	ND		4.9	0.29	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
cis-1,3-Dichloropropene	ND		4.9	0.70	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Dibromomethane	ND		4.9	0.50	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Dichlorobromomethane	ND		4.9	0.65	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Dichlorodifluoromethane	ND		4.9	0.40	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Ethyl methacrylate	ND		4.9	1.7	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Ethylbenzene	ND		4.9	0.34	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Ethylene Dibromide	ND		4.9	0.62	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Iodomethane	ND		4.9	0.24	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Methacrylonitrile	ND		24	5.7	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Methyl methacrylate	ND		4.9	1.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Methylene Chloride	ND		4.9	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
m-Xylene & p-Xylene	ND		9.7	0.82	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
o-Xylene	ND		4.9	0.63	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Propionitrile	ND		49	27	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Styrene	ND		4.9	0.24	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Tetrachloroethene	ND		4.9	0.65	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Toluene	ND		4.9	0.37	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
trans-1,2-Dichloroethene	ND		4.9	0.50	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
trans-1,3-Dichloropropene	ND		4.9	2.1	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
trans-1,4-Dichloro-2-butene	ND		4.9	1.1	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Trichloroethene	ND		4.9	1.1	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Trichlorofluoromethane	ND		4.9	0.46	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Vinyl acetate	ND		9.7	2.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1
Vinyl chloride	ND		4.9	0.59	ug/Kg	☼	04/02/22 11:00	04/05/22 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*04/02/22 11:00*	*04/05/22 23:16*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/02/22 11:00*	*04/05/22 23:16*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*04/02/22 11:00*	*04/05/22 23:16*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*04/02/22 11:00*	*04/05/22 23:16*	*1*

Client Sample ID: MW-2022-9 (26-30')
Lab Sample ID: 480-196344-5

Date Collected: 04/01/22 12:05
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,2,4-Trichlorobenzene	ND		380	27	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,2-Dichlorobenzene	ND		380	26	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,4-Dioxane	ND		110	63	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1,4-Naphthoquinone	ND		380	71	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,3,4,6-Tetrachlorophenol	ND		190	40	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,4,5-Trichlorophenol	ND		190	53	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,4,6-Trichlorophenol	ND		190	39	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,4-Dichlorophenol	ND		190	21	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,4-Dinitrophenol	ND		1900	900	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,4-Dinitrotoluene	ND		190	40	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,6-Dichlorophenol	ND		380	71	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2,6-Dinitrotoluene	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Acetylaminofluorene	ND		380	49	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Chloronaphthalene	ND		190	32	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Chlorophenol	ND		380	35	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Methylnaphthalene	ND		190	39	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Methylphenol	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Nitrophenol	ND		190	55	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Picoline	ND		380	43	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
2-Toluidine	ND		380	93	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
3,3'-Dimethylbenzidine	ND		750	380	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
3-Methylphenol	ND		380	30	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4,6-Dinitro-2-methylphenol	ND		380	190	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Aminobiphenyl	ND		380	79	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Chloro-3-methylphenol	ND		190	48	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Chloroaniline	ND		190	48	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Methylphenol	ND		380	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
4-Nitroquinoline-1-oxide	ND		750	380	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
a,a-Dimethylphenethylamine	ND		380	380	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Acenaphthene	ND		190	29	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1

Client Sample ID: MW-2022-9 (26-30')
Lab Sample ID: 480-196344-5

Date Collected: 04/01/22 12:05
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Acetophenone	ND		190	26	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Aniline	ND		380	47	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Anthracene	ND		190	48	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Aramite, Total	ND		380	180	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
~~Benzidine~~	~~ND~~	~~F1~~	~~5700~~	~~2400~~	~~ug/Kg~~	~~☼~~	~~04/05/22 08:32~~	~~04/06/22 15:57~~	R 1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Benzo[a]pyrene	ND		190	29	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Benzo[g,h,i]perylene	ND		190	21	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Benzyl alcohol	ND		380	26	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
bis (2-chloroisopropyl) ether	ND		190	39	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Bis(2-chloroethoxy)methane	ND		190	41	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Bis(2-ethylhexyl) phthalate	**290**		190	66	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Butyl benzyl phthalate	ND		190	32	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Chrysene	ND		190	43	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Diallate	ND		380	48	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Dibenzofuran	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Dimethoate	ND		380	47	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Dimethyl phthalate	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Di-n-octyl phthalate	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Dinoseb	ND		380	67	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Diphenylamine	ND		380	49	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Disulfoton	ND		380	290	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Chlorobenzilate	ND		380	61	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Ethyl methanesulfonate	ND		380	83	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Famphur	ND		750	180	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Fluoranthene	ND		190	21	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Fluorene	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Hexachlorobutadiene	ND		190	29	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Hexachloropropene	ND		380	96	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Isodrin	ND		380	66	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Isophorone	ND		190	41	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Isosafrole	ND		380	50	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Kepone	ND		750	380	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Methapyrilene	ND		1700	380	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Methyl methanesulfonate	ND		380	87	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Naphthalene	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Nitrobenzene	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitro-o-toluidine	ND		380	49	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1

Client Sample ID: MW-2022-9 (26-30')
Lab Sample ID: 480-196344-5

Date Collected: 04/01/22 12:05
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		380	88	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosodimethylamine	ND		380	82	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosomethylethylamine	ND		380	87	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosomorpholine	ND		380	85	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosopiperidine	ND		380	77	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
N-Nitrosopyrrolidine	ND		380	57	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
o,o',o''-Triethylphosphorothioate	ND		380	49	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Ethyl Parathion	ND		380	42	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Methyl parathion	ND		380	65	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
p-Dimethylamino azobenzene	ND		380	64	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Pentachlorobenzene	ND		380	79	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Pentachloronitrobenzene	ND		380	96	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Pentachlorophenol	ND		380	190	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Phenacetin	ND		380	51	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Phenanthrene	ND		190	29	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Phenol	ND		190	30	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Phorate	ND		380	100	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
p-Phenylene diamine	ND		910	380	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Pronamide	ND		380	74	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Pyrene	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Pyridine	ND		380	27	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Safrole	ND		380	51	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Sulfotepp	ND		380	61	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1
Thionazin	ND		380	66	ug/Kg	☼	04/05/22 08:32	04/06/22 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*04/05/22 08:32*	*04/06/22 15:57*	*1*
2-Fluorobiphenyl (Surr)	*84*		*60 - 120*	*04/05/22 08:32*	*04/06/22 15:57*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*04/05/22 08:32*	*04/06/22 15:57*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*04/05/22 08:32*	*04/06/22 15:57*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*04/05/22 08:32*	*04/06/22 15:57*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*04/05/22 08:32*	*04/06/22 15:57*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
4,4'-DDT	1.9 U	~~0.89 J B~~	1.9	0.44	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
alpha-BHC	ND	~~F2~~	1.9	0.34	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
Chlordane (technical)	ND		19	4.2	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
cis-Chlordane	ND		1.9	0.94	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
Dieldrin	ND	~~F2~~	1.9	0.45	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	04/04/22 15:36	05/05/22 11:13	1

Client Sample ID: MW-2022-9 (26-30')
Date Collected: 04/01/22 12:05
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-5
Matrix: Solid
Percent Solids: 87.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Endrin	ND	F2	1.9	0.37	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
gamma-BHC (Lindane)	ND	F2	1.9	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
Toxaphene	ND		19	11	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1
trans-Chlordane	ND		1.9	0.60	ug/Kg	☼	04/04/22 15:36	04/05/22 11:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*57*		*45 - 120*	*04/04/22 15:36*	*04/05/22 11:13*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*04/04/22 15:36*	*04/05/22 11:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.050	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1
PCB-1221	ND		0.26	0.050	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1
PCB-1232	ND		0.26	0.050	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1
PCB-1242	ND		0.26	0.050	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1
PCB-1248	ND		0.26	0.050	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	04/04/22 08:14	04/05/22 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*107*		*65 - 174*	*04/04/22 08:14*	*04/05/22 17:25*	*1*
Tetrachloro-m-xylene	*100*		*60 - 154*	*04/04/22 08:14*	*04/05/22 17:25*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	04/08/22 06:34	04/11/22 15:26	1
2,4-D	ND		19	12	ug/Kg	☼	04/08/22 06:34	04/11/22 15:26	1
Silvex (2,4,5-TP)	ND		19	6.8	ug/Kg	☼	04/08/22 06:34	04/11/22 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*04/08/22 06:34*	*04/11/22 15:26*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1
Disulfoton	ND		37	24	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1
Famphur	ND		37	20	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1
Methyl parathion	ND		37	21	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1
Ethyl Parathion	ND		37	20	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1
Phorate	ND		37	12	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1
Sulfotepp	ND		37	14	ug/Kg	☼	04/07/22 18:22	04/09/22 02:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*20 - 135*	*04/07/22 18:22*	*04/09/22 02:18*	*1*

Client Sample ID: MW-2022-9 (26-30')
Lab Sample ID: 480-196344-5

Date Collected: 04/01/22 12:05
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 87.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*80*		*20 - 135*	*04/07/22 18:22*	*04/09/22 02:18*	*1*
Triphenylphosphate	*89*		*33 - 168*	*04/07/22 18:22*	*04/09/22 02:18*	*1*
Triphenylphosphate	*91*		*33 - 168*	*04/07/22 18:22*	*04/09/22 02:18*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**2.2**	**J B**	5.7	0.025	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,4,6,7,8-HpCDF	**1.7**	**J I B** JNX	5.7	0.0043	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,4,7,8,9-HpCDF	5.7 U	**0.43 J B**	5.7	0.0056	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,4,7,8-HxCDD	5.7 U	**0.073 J I B**	5.7	0.0063	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,4,7,8-HxCDF		**0.88 J B**	5.7	0.019	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,6,7,8-HxCDD	5.7 U	**0.11 J I B**	5.7	0.0065	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,6,7,8-HxCDF	5.7 U	**0.45 J B**	5.7	0.018	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,7,8,9-HxCDD		**0.090 J I** JNX	5.7	0.0061	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,7,8,9-HxCDF		**0.089 J I** JNX	5.7	0.020	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,7,8-PeCDD	5.7 U	**0.15 J I B**	5.7	0.0098	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
1,2,3,7,8-PeCDF		**0.64 J B**	5.7	0.013	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
2,3,4,6,7,8-HxCDF		**0.21 J I** JNX	5.7	0.017	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
2,3,4,7,8-PeCDF		**0.50 J I B** JNX	5.7	0.0094	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
2,3,7,8-TCDD	1.1 U	**0.055 J I B**	1.1	0.0091	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
2,3,7,8-TCDF		ND	1.1	0.025	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
OCDD		**23 B**	11	0.029	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
OCDF		**3.5 J B**	11	0.015	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total HpCDD		**2.2 J B**	5.7	0.025	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total HpCDF		**2.1 J I B** JNX	5.7	0.0050	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total HxCDD	5.7 U	**0.27 J I B**	5.7	0.0063	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total HxCDF	5.7 U	**1.6 J I B**	5.7	0.019	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total PeCDD	5.7 U	**0.15 J I B**	5.7	0.0098	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total PeCDF	5.7 U	**1.1 J I B**	5.7	0.011	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total TCDD	1.1 U	**0.055 J I B**	1.1	0.0091	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1
Total TCDF		ND	1.1	0.025	ng/Kg	☼	04/12/22 15:00	04/14/22 22:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*84*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*85*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*87*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,6,7,8-HxCDF	*92*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,7,8,9-HxCDD	*88*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,7,8,9-HxCDF	*91*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-2,3,4,6,7,8-HxCDF	*92*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-2,3,7,8-TCDD	*77*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-2,3,7,8-TCDF	*79*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*
13C-OCDD	*76*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*

Client Sample ID: MW-2022-9 (26-30')
Lab Sample ID: 480-196344-5

Date Collected: 04/01/22 12:05
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 87.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*76*		*40 - 135*	*04/12/22 15:00*	*04/14/22 22:28*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.9	0.48	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Arsenic	**3.2**		2.4	0.48	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Barium	**18.0**		0.60	0.13	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Beryllium	**0.20**	**J**	0.24	0.033	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Cadmium	**0.062**	**J**	0.24	0.036	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Chromium	**5.8**		0.60	0.24	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Cobalt	**5.8**		0.60	0.060	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Copper	**6.7**		1.2	0.25	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Lead	**6.4**		1.2	0.29	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Nickel	**9.4**		6.0	0.27	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Selenium	ND		4.8	0.48	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Silver	ND		0.72	0.24	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Thallium	ND		7.2	0.36	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Tin	ND		2.4	0.51	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Vanadium	**6.9**		0.60	0.13	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1
Zinc	**29.8**		2.4	0.76	mg/Kg	☼	04/06/22 13:10	04/08/22 00:07	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	04/07/22 10:48	04/07/22 13:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.53	mg/Kg	☼	04/04/22 10:22	04/04/22 11:43	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.4	10.5	mg/Kg	☼		04/06/22 15:50	1

Client Sample ID: MW-2022-9 (29')
Lab Sample ID: 480-196344-6

Date Collected: 04/01/22 12:06
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 91.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.44	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,1,1-Trichloroethane	ND		4.4	0.32	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,1,2,2-Tetrachloroethane	ND		4.4	0.72	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,1,2-Trichloroethane	ND		4.4	0.57	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,1-Dichloroethane	ND		4.4	0.54	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,1-Dichloroethene	ND		4.4	0.54	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,2,3-Trichloropropane	ND		4.4	0.45	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,2-Dibromo-3-Chloropropane	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,2-Dichloroethane	ND		4.4	0.22	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
1,2-Dichloropropane	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
2-Chloro-1,3-butadiene	ND		4.4	2.7	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1

Client Sample ID: MW-2022-9 (29')
Date Collected: 04/01/22 12:06
Date Received: 04/02/22 10:00

Lab Sample ID: 480-196344-6
Matrix: Solid
Percent Solids: 91.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		8.8	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
3-Chloro-1-propene	ND		4.4	2.1	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Acetone	ND		22	3.7	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Acetonitrile	ND		44	5.4	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Acrolein	ND		22	7.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Acrylonitrile	ND		22	4.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Benzene	ND		4.4	0.22	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Bromoform	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Bromomethane	ND		4.4	0.40	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Carbon disulfide	ND		4.4	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Carbon tetrachloride	ND		4.4	0.43	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Chlorobenzene	ND		4.4	0.58	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Chlorodibromomethane	ND		4.4	0.57	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Chloroethane	ND		4.4	1.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Chloroform	ND		4.4	0.27	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Chloromethane	ND		4.4	0.27	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
cis-1,3-Dichloropropene	ND		4.4	0.64	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Dibromomethane	ND		4.4	0.45	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Dichlorobromomethane	ND		4.4	0.59	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Dichlorodifluoromethane	ND		4.4	0.36	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Ethyl methacrylate	ND		4.4	1.5	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Ethylbenzene	ND		4.4	0.30	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Ethylene Dibromide	ND		4.4	0.57	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Iodomethane	ND		4.4	0.21	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Methacrylonitrile	ND		22	5.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Methyl methacrylate	ND		4.4	0.93	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Methylene Chloride	ND		4.4	2.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
m-Xylene & p-Xylene	ND		8.8	0.74	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
o-Xylene	ND		4.4	0.58	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Propionitrile	ND		44	25	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Styrene	ND		4.4	0.22	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Tetrachloroethene	ND		4.4	0.59	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Toluene	ND		4.4	0.33	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
trans-1,2-Dichloroethene	ND		4.4	0.46	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
trans-1,3-Dichloropropene	ND		4.4	1.9	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
trans-1,4-Dichloro-2-butene	ND		4.4	1.0	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Trichloroethene	ND		4.4	0.97	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Trichlorofluoromethane	ND		4.4	0.42	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Vinyl acetate	ND		8.8	2.2	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1
Vinyl chloride	ND		4.4	0.54	ug/Kg	☼	04/02/22 11:00	04/05/22 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/02/22 11:00*	*04/05/22 23:40*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/02/22 11:00*	*04/05/22 23:40*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*	*04/02/22 11:00*	*04/05/22 23:40*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*04/02/22 11:00*	*04/05/22 23:40*	*1*

Client Sample ID: MW-2022-9 (36-40')
Lab Sample ID: 480-196344-7

Date Collected: 04/01/22 13:50
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 88.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,2-Dichlorobenzene	ND		370	25	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,3-Dinitrobenzene	ND		370	44	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,4-Dinitrophenol	ND		1800	870	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,6-Dichlorophenol	ND		370	69	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Chlorophenol	ND		370	34	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Picoline	ND		370	42	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
2-Toluidine	ND		370	90	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
3,3'-Dimethylbenzidine	ND		730	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
3-Methylphenol	ND		370	29	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Aminobiphenyl	ND		370	76	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Methylphenol	ND		370	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
4-Nitroquinoline-1-oxide	ND		730	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
7,12-Dimethylbenz(a)anthracene	ND		370	54	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
a,a-Dimethylphenethylamine	ND		370	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Acenaphthene	ND		190	28	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1

Client Sample ID: MW-2022-9 (36-40')
Lab Sample ID: 480-196344-7

Date Collected: 04/01/22 13:50
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 88.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Acetophenone	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Aniline	ND		370	45	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Anthracene	ND		190	47	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Aramite, Total	ND		370	180	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzidine	ND		5500	2300	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Benzyl alcohol	ND		370	25	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Bis(2-ethylhexyl) phthalate	**210**		190	64	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Chrysene	ND		190	42	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Diallate	ND		370	47	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Dimethoate	ND		370	45	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Dinoseb	ND		370	65	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Diphenylamine	ND		370	48	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Disulfoton	ND		370	280	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Ethyl methanesulfonate	ND		370	81	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Famphur	ND		730	180	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Fluorene	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Hexachloroethane	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Hexachloropropene	ND		370	93	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Isodrin	ND		370	64	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Isophorone	ND		190	40	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Isosafrole	ND		370	49	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Kepone	ND		730	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Methapyrilene	ND		1700	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Methyl methanesulfonate	ND		370	84	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Naphthalene	ND		190	24	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1

Client Sample ID: MW-2022-9 (36-40')
Lab Sample ID: 480-196344-7

Date Collected: 04/01/22 13:50
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 88.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		370	85	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosodimethylamine	ND		370	80	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosomethylethylamine	ND		370	84	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosomorpholine	ND		370	82	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosopiperidine	ND		370	74	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
N-Nitrosopyrrolidine	ND		370	55	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Methyl parathion	ND		370	63	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
p-Dimethylamino azobenzene	ND		370	62	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Pentachlorobenzene	ND		370	76	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Pentachloronitrobenzene	ND		370	93	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Phenacetin	ND		370	50	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Phenanthrene	ND		190	28	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Phenol	ND		190	29	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Phorate	ND		370	100	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
p-Phenylene diamine	ND		890	370	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Pronamide	ND		370	72	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Pyrene	ND		190	22	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Pyridine	ND		370	27	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Safrole	ND		370	50	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Sulfotepp	ND		370	59	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1
Thionazin	ND		370	64	ug/Kg	☼	04/05/22 08:32	04/06/22 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*54 - 120*	*04/05/22 08:32*	*04/06/22 16:48*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*04/05/22 08:32*	*04/06/22 16:48*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*04/05/22 08:32*	*04/06/22 16:48*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*04/05/22 08:32*	*04/06/22 16:48*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*04/05/22 08:32*	*04/06/22 16:48*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*04/05/22 08:32*	*04/06/22 16:48*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.36	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
4,4'-DDE	ND		1.8	0.39	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
4,4'-DDT	1.8 U	~~0.84 J B~~	1.8	0.43	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Chlordane (technical)	ND		18	4.1	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Chlorobenzilate	ND		18	6.2	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
cis-Chlordane	ND		1.8	0.92	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1

Client Sample ID: MW-2022-9 (36-40')
Lab Sample ID: 480-196344-7

Date Collected: 04/01/22 13:50
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 88.8

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Endrin	ND		1.8	0.37	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Endrin aldehyde	ND		1.8	0.47	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Heptachlor epoxide	ND		1.8	0.48	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Methoxychlor	ND		1.8	0.38	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
Toxaphene	ND		18	11	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1
trans-Chlordane	ND		1.8	0.59	ug/Kg	☼	04/04/22 15:36	04/05/22 12:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*45 - 120*	*04/04/22 15:36*	*04/05/22 12:50*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*04/04/22 15:36*	*04/05/22 12:50*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.047	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1
PCB-1221	ND		0.24	0.047	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1
PCB-1232	ND		0.24	0.047	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1
PCB-1242	ND		0.24	0.047	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1
PCB-1248	ND		0.24	0.047	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/04/22 08:14	04/04/22 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*04/04/22 08:14*	*04/04/22 23:44*	*1*
Tetrachloro-m-xylene	*109*		*60 - 154*	*04/04/22 08:14*	*04/04/22 23:44*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	5.9	ug/Kg	☼	04/08/22 06:34	04/11/22 16:56	1
2,4-D	ND		19	12	ug/Kg	☼	04/08/22 06:34	04/11/22 16:56	1
Silvex (2,4,5-TP)	ND		19	6.7	ug/Kg	☼	04/08/22 06:34	04/11/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*68*		*28 - 129*	*04/08/22 06:34*	*04/11/22 16:56*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1
Disulfoton	ND		37	25	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1
Famphur	ND		37	20	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1
Methyl parathion	ND		37	21	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1
Ethyl Parathion	ND		37	21	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1
Phorate	ND		37	13	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1
Sulfotepp	ND		37	14	ug/Kg	☼	04/07/22 18:22	04/09/22 02:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*20 - 135*	*04/07/22 18:22*	*04/09/22 02:50*	*1*

Client Sample ID: MW-2022-9 (36-40')
Lab Sample ID: 480-196344-7

Date Collected: 04/01/22 13:50
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 88.8

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*91*		*20 - 135*	*04/07/22 18:22*	*04/09/22 02:50*	*1*
Triphenylphosphate	*100*		*33 - 168*	*04/07/22 18:22*	*04/09/22 02:50*	*1*
Triphenylphosphate	*100*		*33 - 168*	*04/07/22 18:22*	*04/09/22 02:50*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.6 U	~~0.60 J B~~	5.6	0.013	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,4,6,7,8-HpCDF	5.6 U	~~0.15 J I B~~	5.6	0.0023	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,4,7,8,9-HpCDF	5.6 U	~~0.055 J I B~~	5.6	0.0031	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,4,7,8-HxCDD	ND		5.6	0.0037	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,4,7,8-HxCDF	5.6 U	~~0.063 J I B~~	5.6	0.0049	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,6,7,8-HxCDD	ND		5.6	0.0034	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,6,7,8-HxCDF	5.6 U	~~0.066 J I B~~	5.6	0.0048	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,7,8,9-HxCDD		**0.026** ~~J I~~ JNX	5.6	0.0037	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,7,8,9-HxCDF		**0.041** ~~J I~~ JNX	5.6	0.0053	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,7,8-PeCDD	ND		5.6	0.011	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
1,2,3,7,8-PeCDF	5.6 U	~~0.091 J I B~~	5.6	0.0074	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
2,3,4,6,7,8-HxCDF		**0.042** ~~J I~~ JNX	5.6	0.0046	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
2,3,4,7,8-PeCDF	5.6 U	~~0.11 J I B~~	5.6	0.0053	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
2,3,7,8-TCDD	1.1 U	~~0.057 J I B~~	1.1	0.0069	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
2,3,7,8-TCDF		**0.097** ~~J I~~ JNX	1.1	0.0044	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
OCDD	11 U	~~4.0 J B~~	11	0.014	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
OCDF	11 U	~~0.31 J I B~~	11	0.0051	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total HpCDD	5.6 U	~~0.60 J I B~~	5.6	0.013	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total HpCDF	5.6 U	~~0.21 J I B~~	5.6	0.0027	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total HxCDD	5.6 U	~~0.026 J I B~~	5.6	0.0036	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total HxCDF	5.6 U	~~0.21 J I B~~	5.6	0.0049	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total PeCDD	ND		5.6	0.011	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total PeCDF	5.6 U	~~0.20 J I B~~	5.6	0.0063	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total TCDD	1.1 U	~~0.057 J I B~~	1.1	0.0069	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1
Total TCDF		**0.097** ~~J I~~ JNX	1.1	0.0044	ng/Kg	☼	04/12/22 15:00	04/14/22 23:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*81*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*88*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,7,8,9-HxCDD	*83*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*89*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*88*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-2,3,7,8-TCDF	*78*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*
13C-OCDD	*71*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*

Client Sample ID: MW-2022-9 (36-40')
Lab Sample ID: 480-196344-7

Date Collected: 04/01/22 13:50
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 88.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*71*		*40 - 135*	*04/12/22 15:00*	*04/14/22 23:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.2	0.43	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Arsenic	**1.8**	**J**	2.2	0.43	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Barium	**14.8**		0.54	0.12	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Beryllium	**0.13**	**J**	0.22	0.030	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Cadmium	**0.069**	**J**	0.22	0.032	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Chromium	**4.6**		0.54	0.22	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Cobalt	**4.0**		0.54	0.054	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Copper	**4.8**		1.1	0.23	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Lead	**5.3**		1.1	0.26	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Nickel	**7.4**		5.4	0.25	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Selenium	ND		4.3	0.43	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Silver	ND		0.65	0.22	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Thallium	ND		6.5	0.32	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Tin	ND		2.2	0.46	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Vanadium	**4.5**		0.54	0.12	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1
Zinc	**28.7**		2.2	0.69	mg/Kg	☼	04/06/22 13:10	04/08/22 00:11	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0053	mg/Kg	☼	04/07/22 10:48	04/07/22 13:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	04/04/22 10:22	04/04/22 11:44	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.8	11.3	mg/Kg	☼		04/06/22 15:50	1

Client Sample ID: MW-2022-9 (39')
Lab Sample ID: 480-196344-8

Date Collected: 04/01/22 13:51
Matrix: Solid
Date Received: 04/02/22 10:00
Percent Solids: 75.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.0	0.60	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,1,1-Trichloroethane	ND		6.0	0.43	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,1,2,2-Tetrachloroethane	ND		6.0	0.97	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,1,2-Trichloroethane	ND		6.0	0.77	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,1-Dichloroethane	ND		6.0	0.73	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,1-Dichloroethene	ND		6.0	0.73	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,2,3-Trichloropropane	ND		6.0	0.61	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,2-Dibromo-3-Chloropropane	ND		6.0	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,2-Dichloroethane	ND		6.0	0.30	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
1,2-Dichloropropane	ND		6.0	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
2-Butanone (MEK)	ND		30	2.2	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
2-Chloro-1,3-butadiene	ND		6.0	3.7	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1

Client Sample ID: MW-2022-9 (39')
Lab Sample ID: 480-196344-8

Date Collected: 04/01/22 13:51
Matrix: Solid

Date Received: 04/02/22 10:00
Percent Solids: 75.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		12	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
2-Hexanone	ND		30	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
3-Chloro-1-propene	ND		6.0	2.9	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
4-Methyl-2-pentanone (MIBK)	ND		30	2.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Acetone	**16**	**J**	30	5.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Acetonitrile	ND		60	7.3	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Acrolein	ND		30	9.4	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Acrylonitrile	ND		30	5.3	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Benzene	ND		6.0	0.29	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Bromoform	ND		6.0	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Bromomethane	ND		6.0	0.54	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Carbon disulfide	ND		6.0	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Carbon tetrachloride	ND		6.0	0.58	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Chlorobenzene	ND		6.0	0.79	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Chlorodibromomethane	ND		6.0	0.76	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Chloroethane	ND		6.0	1.3	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Chloroform	ND		6.0	0.37	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Chloromethane	ND		6.0	0.36	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
cis-1,3-Dichloropropene	ND		6.0	0.86	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Dibromomethane	ND		6.0	0.61	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Dichlorobromomethane	ND		6.0	0.80	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Dichlorodifluoromethane	ND		6.0	0.49	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Ethyl methacrylate	ND		6.0	2.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Ethylbenzene	ND		6.0	0.41	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Ethylene Dibromide	ND		6.0	0.76	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Iodomethane	ND		6.0	0.29	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Methacrylonitrile	ND		30	7.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Methyl methacrylate	ND		6.0	1.3	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Methylene Chloride	ND		6.0	2.7	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
m-Xylene & p-Xylene	ND		12	1.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
o-Xylene	ND		6.0	0.78	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Propionitrile	ND		60	33	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Styrene	ND		6.0	0.30	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Tetrachloroethene	ND		6.0	0.80	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Toluene	ND		6.0	0.45	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
trans-1,2-Dichloroethene	ND		6.0	0.61	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
trans-1,3-Dichloropropene	ND		6.0	2.6	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
trans-1,4-Dichloro-2-butene	ND		6.0	1.3	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Trichloroethene	6.0 U	~~1.4 J B~~	6.0	1.3	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Trichlorofluoromethane	ND		6.0	0.56	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Vinyl acetate	ND		12	3.0	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1
Vinyl chloride	ND		6.0	0.73	ug/Kg	☼	04/02/22 11:00	04/07/22 03:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*64 - 126*	*04/02/22 11:00*	*04/07/22 03:29*	*1*
4-Bromofluorobenzene (Surr)	*79*		*72 - 126*	*04/02/22 11:00*	*04/07/22 03:29*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*	*04/02/22 11:00*	*04/07/22 03:29*	*1*
Toluene-d8 (Surr)	*117*		*71 - 125*	*04/02/22 11:00*	*04/07/22 03:29*	*1*

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-196619-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47488R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 Field Duplicate Analysis 9
2.3 System Performance and Overall Assessment 9
2.4 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 10
3.3 Laboratory Control Sample Analysis 11
3.4 Field Duplicate Analysis 11
3.5 System Performance and Overall Assessment 12
3.6 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 Field Duplicate Analysis 13
4.3 System Performance and Overall Assessment 14
4.4 Data Validation Checklist 14
5 Pesticide/Herbicide Analyses 14
5.1 Holding Times 14
5.2 Blank Contamination 15
5.3 Field Duplicate Analysis 15
5.4 System Performance and Overall Assessment 16
5.5 Data Validation Checklist 16
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 16
6.1 Holding Times 16
6.2 Blank Contamination 17
6.3 Field Duplicate Analysis 20
6.4 Compound Identification 21
6.5 System Performance and Overall Assessment 21

6.6 Data Validation Checklist 22
7 Metals Analyses 22
7.1 Holding Times 22
7.2 Field Duplicate Analysis 22
7.3 System Performance and Overall Assessment 23
7.4 Data Validation Checklist 24
8 General Chemistry Analyses 24
8.1 Holding Times 24
8.2 Field Duplicate Analysis 24
8.3 System Performance and Overall Assessment 25
8.4 Data Validation Checklist for General Chemistry 25
9 Overall Data Usability 25

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Field Duplicate Sample Results 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 10
Table 8. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 10
Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 10. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 11. Field Duplicate Sample Results 12
Table 12. Holding Time for Method SW-846 8082A 13
Table 13. Field Duplicate Sample Results 13
Table 14. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 15. Summary of Blank Contamination Qualifications 15
Table 16. Field Duplicate Sample Results 15
Table 17. Holding Time for Method SW-846 8290A 17
Table 18. Summary of Blank Contamination Qualifications 17
Table 19. Field Duplicate Sample Results 20

Table 20. Holding Time for Method SW-846 6010C/7471B 22
Table 21. Field Duplicate Sample Results..... 23
Table 22. Specified Holding Times 24
Table 23. Field Duplicate Sample Results..... 25
Table 24. Overall Summary of Data Usability 26

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196619-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-8 (0-1)	480-196619-1	Soil	04/07/22		X	X	X	X	X	X
MW-2022-8 (13-15)	480-196619-2	Soil	04/07/22		X	X	X	X	X	X
DUP-1- 040722	480-196619-3	Soil	04/07/22	MW-2022-8 (0-1)	X	X	X	X	X	X
MW-2022-8 (27-30)	480-196619-4	Soil	04/08/22		X	X	X	X	X	X
MW-2022-8 (43-46)	480-196619-5	Soil	04/08/22		X	X	X	X	X	X
MW-2022-8 (58-62)	480-196619-6	Soil	04/08/22		X	X	X	X	X	X
MW-2022-8 (68-70)	480-196619-7	Soil	04/08/22		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	6	1	0	0	0	0	7
SVOCs	6	1	0	0	0	0	7
PCBs	6	1	0	0	0	0	7
PEST	6	1	0	0	0	0	7
HERB	6	1	0	0	0	0	7
PCDD/PCDF	6	1	0	0	0	0	7
Metals	6	1	0	0	0	0	7
MISC	6	1	0	0	0	0	7

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 5. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	All target compounds	U	U	AC

Note:
U – Non detect
AC – Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field Duplicate (RPD)		X		X	

Notes:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample MW-2022-8 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
MW-2022-8 (0-1)	a,a-Dimethylphenethylamine	< 10%	< 10%
	Benzidine	< 10%	< 10%
	p-Phenylene diamine	< 10%	< 10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 8. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R

Control Limit	Sample Result	Qualification
	Detect	J

3.3 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compounds	LCS Recovery
MW-2022-8 (0-1) MW-2022-8 (13-15) DUP-1- 040722 MW-2022-8 (27-30) MW-2022-8 (43-46) MW-2022-8 (58-62) MW-2022-8 (68-70)	a,a-Dimethylphenethylamine	< 10%
	p-Phenylene diamine	< 10%

Note:
LL Lower control limit

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 10. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 11. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	Benzo[a]anthracene	19 J	920 U	AC
	Benzo[b]fluoranthene	30 J	920 U	AC
	Benzo[g,h,i]perylene	26 J	920 U	AC
	Fluoranthene	28 J	920 U	AC
	Indeno[1,2,3-cd]pyrene	23 J	920 U	AC
	Pyrene	27 J	920 U	AC

Note:
U – Non detect
AC – Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

3.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.6 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	

Notes:

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. Results for duplicate samples are summarized in the following table.

Table 13. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	All target compounds	U	U	AC

Note:
U – Non detect
AC – Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

4.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.4 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)		X		X	

Notes:
RPD Relative percent difference
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2022-8 (0-1)	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
	Methoxychlor	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-8 (13-15)	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
DUP-1- 040722	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
	Methoxychlor	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-8 (58-62)	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-8 (68-70)	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL

Note:
RL Reporting limit

5.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 16. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	4,4'-DDD	0.44 J	1.8 U	AC
	4,4'-DDE	4.7	7.1	AC

Sample ID / Duplicate ID	Compound	Sample Result (µg/Kg)	Duplicate Result (µg/Kg)	RPD

Note:
U – Non detect
AC – Acceptable
The calculated differences between the parent sample and field duplicate were acceptable.

5.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.5 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Field Duplicate (RPD)		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 17. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 18. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-8 (0-1)	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-8 (13-15)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,6,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL
DUP-1- 040722	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-8 (27-30)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-8 (43-46)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	2,3,4,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-8 (58-62)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	2,3,4,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-8 (68-70)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,7,8,9-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8-PeCDF	Detected sample results <RL and <BAL	“U” at the RL
	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	OCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB – Method blank
RL – Reporting limit

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 19. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result (ng/Kg)	Duplicate Result (ng/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	1,2,3,4,6,7,8-HpCDD	6.2	16	AC
	1,2,3,4,6,7,8-HpCDF	1.9 J	5.1	AC
	1,2,3,4,7,8-HxCDD	0.18 J	0.47 J	AC
	1,2,3,4,7,8-HxCDF	5.2 U	0.61 J	AC
	1,2,3,6,7,8-HxCDD	0.22 J	0.74 J	AC
	1,2,3,6,7,8-HxCDF	0.30 J	0.56 J	AC
	1,2,3,7,8,9-HxCDD	5.2 U	0.70 J	AC
	1,2,3,7,8-PeCDD	0.13 J	0.33 J	AC
	1,2,3,7,8-PeCDF	0.20 J	0.29 J	AC
	2,3,4,6,7,8-HxCDF	5.2 U	0.92 J	AC
	2,3,4,7,8-PeCDF	5.2 U	0.90 J	AC
	2,3,7,8-TCDD	0.90 J	4.2	AC
	2,3,7,8-TCDF	0.18 J	0.64 J	AC

Sample ID / Duplicate ID	Compound	Sample Result (ng/Kg)	Duplicate Result (ng/Kg)	RPD
	OCDD	56	140	86%
	OCDF	4.2 J	11	AC
	Total HpCDD	6.2	16	AC
	Total HpCDF	2.1 J	5.4 J	AC
	Total HxCDD	0.71 J	1.9 J	AC
	Total HxCDF	0.89 J	2.1 J	AC
	Total PeCDD	0.13 J	0.33 J	AC
	Total PeCDF	0.49 J	1.2 J	AC
	Total TCDD	0.90 J	4.2	AC
	Total TCDF	0.18 J	0.64 J	AC

Notes:
U non-detect
AC Acceptable

The compound OCDD associated with samples MW-2022-8 (0-1) and DUP-1-040722 exhibited a field duplicate RPD greater than the control limit. The associated sample results were qualified as estimated (J).

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.6 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Field Duplicate (RPD)		X	X		
Compound identification and quantitation					

Notes:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical

method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 21. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	Antimony	3.4 J	2.9 J	AC
	Arsenic	5.3	8.1	AC
	Barium	22.5	43.5	64%
	Beryllium	0.26	0.34	AC
	Cadmium	0.11 J	0.14 J	AC
	Chromium	6.5	8.3	24%
	Cobalt	7.5	7.9	5%
	Copper	8.5	12.1	35%
	Lead	7.4	15.4	70%
	Nickel	12.6	13.0	AC
	Selenium	1.4 J	1.4 J	AC
	Vanadium	9.0	11.6	25%
	Zinc	37.4	48.2	25%
	Mercury	0.0092 J	0.47	NC

Note:
AC Acceptable

The analytes Barium and Lead associated with samples MW-2022-8 (0-1) and DUP-1-040722 exhibited a field duplicate RPD greater than the control limit. Further, the analytes Mercury associated with samples MW-2022-8 (0-1) and DUP-1-040722 exhibited a field duplicate difference greater than the control limit. The associated sample results were qualified as estimated (J).

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

METALS; SW-846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the

RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 23. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD
MW-2022-8 (0-1) / DUP-1- 040722	Cyanide, Total	U	U	AC
	Sulfide	U	U	AC

Note:
AC Acceptable

The calculated differences between the parent sample and field duplicate were acceptable.

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Field Duplicate (RPD)		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

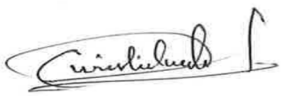
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 24. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.3%	15
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 10, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 10, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.4
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@Eurofinset.com	State of Origin:	Page: Page 4 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-992-0568(Tel)	PO #: Purchase Order not required			
Email: daniel.meandro@arcadis.com	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-8(0-1)	4/7/22	1300	G	S			X	X	X	X	X										
MW-2022-8(13-15)	4/7/22	1530	G	S			X	X	X	X	X										
DUP-1-040722	4/7/22	-:-	G	S			X	X	X	X	X										
MW-2022-8(27-30)	4/8/22	0845	G	S			X	X	X	X	X										
MW-2022-8(43-46)	4/8/22	0940	G	S			X	X	X	X	X										
MW-2022-8(58-62)	4/8/22	1115	G	S			X	X	X	X	X										
MW-2022-8(66-70)	4/8/22	1315	G	S			X	X	X	X	X										

480-196619 Chain of Custody

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/8/22 1400	Arcadis	[signature]	4/9/22 1000	TAB
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 3.0

Ver: 06/08/2021

05/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

AP DD

Chain of Custody Record



480-196619 Chain of Custody

fins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	5.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	Massachusetts — Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-196619-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 4/24/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (0-1) (480-196619-1)	4/7/22	13:00 Eastern		Solid			X		
MW-2022-8 (13-15) (480-196619-2)	4/7/22	15:30 Eastern		Solid			X		
DUP-1- 040722 (480-196619-3)	4/7/22	Eastern		Solid			X		
MW-2022-8 (27-30) (480-196619-4)	4/8/22	08:45 Eastern		Solid			X		
MW-2022-8 (43-46) (480-196619-5)	4/8/22	09:40 Eastern		Solid			X		
MW-2022-8 (58-62) (480-196619-6)	4/8/22	11:15 Eastern		Solid			X		
MW-2022-8 (68-70) (480-196619-7)	4/8/22	13:15 Eastern		Solid			X		

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 4/12/22 1800	Company: TAB	Received by: DW	Date/Time: 4-13-22	Company: EETAPIT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: DW 10001515	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

05/16/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71165.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Env, LLC		Accreditations Required (See note): State - Massachusetts		Job #: 480-196619-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 4/24/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (0-1) (480-196619-1)	4/7/22	13:00 Eastern		Solid			X	1	
MW-2022-8 (13-15) (480-196619-2)	4/7/22	15:30 Eastern		Solid			X	1	
DUP-1- 040722 (480-196619-3)	4/7/22	Eastern		Solid			X	1	
MW-2022-8 (27-30) (480-196619-4)	4/8/22	08:45 Eastern		Solid			X	1	
MW-2022-8 (43-46) (480-196619-5)	4/8/22	09:40 Eastern		Solid			X	1	
MW-2022-8 (58-62) (480-196619-6)	4/8/22	11:15 Eastern		Solid			X	1	
MW-2022-8 (68-70) (480-196619-7)	4/8/22	13:15 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 4/11/22 1600	Company: TAT3	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/12/22 1132	Company ECLE

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.6

Ver: 06/08/2021

Client Sample ID: MW-2022-8 (0-1)
Date Collected: 04/07/22 13:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-1
Matrix: Solid
Percent Solids: 92.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,1,1-Trichloroethane	ND		5.2	0.37	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.84	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,1,2-Trichloroethane	ND		5.2	0.67	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,1-Dichloroethane	ND		5.2	0.63	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,1-Dichloroethene	ND		5.2	0.63	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,2,3-Trichloropropane	ND		5.2	0.53	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
2-Chloro-1,3-butadiene	ND		5.2	3.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
2-Chloroethyl vinyl ether	ND		10	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Acetone	ND		26	4.3	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Acetonitrile	ND		52	6.3	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Acrolein	ND		26	8.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Benzene	ND		5.2	0.25	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Bromomethane	ND		5.2	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Carbon tetrachloride	ND		5.2	0.50	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Chlorobenzene	ND		5.2	0.68	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Chlorodibromomethane	ND		5.2	0.66	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Chloroform	ND		5.2	0.32	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Chloromethane	ND		5.2	0.31	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
cis-1,3-Dichloropropene	ND		5.2	0.74	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Dibromomethane	ND		5.2	0.53	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Dichlorobromomethane	ND		5.2	0.69	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Ethylene Dibromide	ND		5.2	0.66	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Methacrylonitrile	ND		26	6.1	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Methyl methacrylate	ND		5.2	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
m-Xylene & p-Xylene	ND		10	0.87	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
o-Xylene	ND		5.2	0.67	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Propionitrile	ND		52	29	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Styrene	ND		5.2	0.26	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Tetrachloroethene	ND		5.2	0.69	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Toluene	ND		5.2	0.39	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
trans-1,2-Dichloroethene	ND		5.2	0.53	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1

Client Sample ID: MW-2022-8 (0-1)
Date Collected: 04/07/22 13:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-1
Matrix: Solid
Percent Solids: 92.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1
Vinyl chloride	ND		5.2	0.63	ug/Kg	☼	04/09/22 11:00	04/11/22 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/09/22 11:00*	*04/11/22 00:29*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/09/22 11:00*	*04/11/22 00:29*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/09/22 11:00*	*04/11/22 00:29*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*04/09/22 11:00*	*04/11/22 00:29*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,2,4-Trichlorobenzene	ND		350	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,2-Dichlorobenzene	ND		350	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,3,5-Trinitrobenzene	ND		350	15	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,3-Dichlorobenzene	ND		350	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,3-Dinitrobenzene	ND		350	43	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,4-Dichlorobenzene	ND		350	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1,4-Naphthoquinone	ND		350	67	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,4-Dinitrophenol	ND		1800	840	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,6-Dichlorophenol	ND		350	67	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Acetylaminofluorene	ND		350	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Methylphenol	ND		180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Nitroaniline	ND		350	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Picoline	ND		350	41	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
2-Toluidine	ND		350	87	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
3 & 4 Methylphenol	ND		350	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
3,3'-Dichlorobenzidine	ND		350	220	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
3,3'-Dimethylbenzidine	ND		710	350	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
3-Methylcholanthrene	ND		350	59	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
3-Methylphenol	ND		350	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
3-Nitroaniline	ND		350	51	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1

Client Sample ID: MW-2022-8 (0-1)
Date Collected: 04/07/22 13:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-1
Matrix: Solid
Percent Solids: 92.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Aminobiphenyl	ND		350	74	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Chloroaniline	ND		180	45	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Methylphenol	ND		350	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Nitroaniline	ND		350	96	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
4-Nitroquinoline-1-oxide	ND		710	350	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
7,12-Dimethylbenz(a)anthracene	ND		350	53	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*- F1~~	~~350~~	~~350~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:09~~	R 1
Acenaphthene	ND		180	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Acenaphthylene	ND		180	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Acetophenone	ND		180	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Aniline	ND		350	44	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Anthracene	ND		180	45	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Aramite, Total	ND		350	170	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
~~Benzidine~~	~~ND~~	~~F1~~	~~5400~~	~~2300~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:09~~	R 1
Benzo[a]anthracene	**19**	**J**	180	18	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Benzo[b]fluoranthene	**30**	**J**	180	29	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Benzo[g,h,i]perylene	**26**	**J**	180	19	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Benzyl alcohol	ND		350	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Bis(2-ethylhexyl) phthalate	ND		180	62	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Chrysene	ND		180	41	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Diallate	ND		350	45	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Dibenzofuran	ND		180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Dimethoate	ND		350	44	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Dimethyl phthalate	ND		180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Dinoseb	ND		350	63	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Diphenylamine	ND		350	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Disulfoton	ND		350	270	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Chlorobenzilate	ND		350	57	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Ethyl methanesulfonate	ND		350	78	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Famphur	ND		710	170	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Fluoranthene	**28**	**J**	180	19	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Fluorene	ND		180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1

Client Sample ID: MW-2022-8 (0-1)
Date Collected: 04/07/22 13:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-1
Matrix: Solid
Percent Solids: 92.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Hexachloroethane	ND		180	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Hexachloropropene	ND		350	90	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Indeno[1,2,3-cd]pyrene	**23**	**J**	180	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Isodrin	ND		350	62	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Isophorone	ND		180	39	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Isosafrole	ND		350	47	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Kepone	ND		710	350	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Methyl methanesulfonate	ND		350	82	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Naphthalene	ND		180	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitro-o-toluidine	ND		350	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosodiethylamine	ND		350	83	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosodimethylamine	ND		350	77	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosodi-n-butylamine	ND		350	97	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosomethylethylamine	ND		350	82	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosomorpholine	ND		350	80	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosopiperidine	ND		350	72	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
N-Nitrosopyrrolidine	ND		350	54	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
o,o',o''-Triethylphosphorothioate	ND		350	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Ethyl Parathion	ND		350	40	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Methyl parathion	ND		350	61	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
p-Dimethylamino azobenzene	ND		350	60	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Pentachlorobenzene	ND		350	74	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Pentachloronitrobenzene	ND		350	90	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Phenacetin	ND		350	48	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Phenanthrene	ND		180	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Phenol	ND		180	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Phorate	ND		350	98	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
~~p-Phenylene diamine~~	~~ND~~	~~* F1~~	~~860~~	~~350~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:09~~	R 1
Pronamide	ND		350	70	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Pyrene	**27**	**J**	180	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Pyridine	ND		350	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Safrole	ND		350	48	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Sulfotepp	ND		350	57	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1
Thionazin	ND		350	62	ug/Kg	☼	04/11/22 15:35	04/12/22 22:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*04/11/22 15:35*	*04/12/22 22:09*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*04/11/22 15:35*	*04/12/22 22:09*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*04/11/22 15:35*	*04/12/22 22:09*	*1*
Nitrobenzene-d5 (Surr)	*71*		*53 - 120*	*04/11/22 15:35*	*04/12/22 22:09*	*1*
Phenol-d5 (Surr)	*71*		*54 - 120*	*04/11/22 15:35*	*04/12/22 22:09*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*04/11/22 15:35*	*04/12/22 22:09*	*1*

Client Sample ID: MW-2022-8 (0-1)
Date Collected: 04/07/22 13:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-1
Matrix: Solid
Percent Solids: 92.4

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.44**	**J**	1.8	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
4,4'-DDE	**4.7**		1.8	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
4,4'-DDT	2.2 U	~~2.2 B~~	1.8	0.42	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
cis-Chlordane	ND		1.8	0.89	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Methoxychlor	1.8 U	~~1.4 J B~~	1.8	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
Toxaphene	ND		18	10	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	04/11/22 15:44	04/12/22 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*04/11/22 15:44*	*04/12/22 13:13*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*04/11/22 15:44*	*04/12/22 13:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.046	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1
PCB-1221	ND		0.24	0.046	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1
PCB-1232	ND		0.24	0.046	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1
PCB-1242	ND		0.24	0.046	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1
PCB-1248	ND		0.24	0.046	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/11/22 11:56	04/12/22 03:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*04/11/22 11:56*	*04/12/22 03:20*	*1*
Tetrachloro-m-xylene	*129*		*60 - 154*	*04/11/22 11:56*	*04/12/22 03:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	04/13/22 13:26	04/18/22 18:38	1
2,4-D	ND		18	11	ug/Kg	☼	04/13/22 13:26	04/18/22 18:38	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	04/13/22 13:26	04/18/22 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*44*		*28 - 129*	*04/13/22 13:26*	*04/18/22 18:38*	*1*

Client Sample ID: MW-2022-8 (0-1)
Date Collected: 04/07/22 13:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-1
Matrix: Solid
Percent Solids: 92.4

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		35	20	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1
Disulfoton	ND		35	23	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1
Famphur	ND		35	19	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1
Methyl parathion	ND		35	20	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1
Ethyl Parathion	ND		35	19	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1
Phorate	ND		35	12	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1
Sulfotepp	ND		35	14	ug/Kg	☼	04/13/22 19:36	04/18/22 10:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*20 - 135*	*04/13/22 19:36*	*04/18/22 10:46*	*1*
Tributyl phosphate	*82*		*20 - 135*	*04/13/22 19:36*	*04/18/22 10:46*	*1*
Triphenylphosphate	*92*		*33 - 168*	*04/13/22 19:36*	*04/18/22 10:46*	*1*
Triphenylphosphate	*99*		*33 - 168*	*04/13/22 19:36*	*04/18/22 10:46*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**6.2**	**B**	5.2	0.041	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,4,6,7,8-HpCDF	**1.9**	**J B**	5.2	0.0085	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,4,7,8,9-HpCDF	5.2 U	**0.22 J I B**	5.2	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,4,7,8-HxCDD	**0.18**	**J I** JNX	5.2	0.0070	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,4,7,8-HxCDF	5.2 U	**0.32 J I B**	5.2	0.021	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,6,7,8-HxCDD	**0.22**	**J B**	5.2	0.0068	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,6,7,8-HxCDF	**0.30**	**J I B** JNX	5.2	0.020	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,7,8,9-HxCDD	5.2 U	**0.31 J I B**	5.2	0.0070	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,7,8,9-HxCDF	ND		5.2	0.019	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,7,8-PeCDD	**0.13**	**J I** JNX	5.2	0.0074	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
1,2,3,7,8-PeCDF	**0.20**	**J I B** JNX	5.2	0.015	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
2,3,4,6,7,8-HxCDF	5.2 U	**0.27 J B**	5.2	0.020	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
2,3,4,7,8-PeCDF	5.2 U	**0.29 J I B**	5.2	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
2,3,7,8-TCDD	**0.90**	**J I** JNX	1.0	0.0060	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
2,3,7,8-TCDF	**0.18**	**J**	1.0	0.0076	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
OCDD	**56**	**B** J	10	0.039	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
OCDF	**4.2**	**J I B** JNX	10	0.0046	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total HpCDD	**6.2**	**B**	5.2	0.041	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total HpCDF	**2.1**	**J I B** JNX	5.2	0.010	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total HxCDD	**0.71**	**J I B** JNX	5.2	0.0069	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total HxCDF	5.2 U	**0.89 J I B**	5.2	0.020	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total PeCDD	**0.13**	**J I** JNX	5.2	0.0074	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total PeCDF	5.2 U	**0.49 J I B**	5.2	0.013	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total TCDD	**0.90**	**J I** JNX	1.0	0.0060	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1
Total TCDF	**0.18**	**J I** JNX	1.0	0.0076	ng/Kg	☼	04/14/22 15:07	04/15/22 19:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,6,7,8-HxCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,7,8,9-HxCDD	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*

Client Sample ID: MW-2022-8 (0-1)
Lab Sample ID: 480-196619-1

Date Collected: 04/07/22 13:00
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 92.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*92*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-2,3,4,7,8-PeCDF	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-2,3,7,8-TCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-2,3,7,8-TCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-OCDD	*70*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*
13C-OCDF	*72*		*40 - 135*	*04/14/22 15:07*	*04/15/22 19:24*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**3.4**	**J**	17.0	0.45	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Arsenic	**5.3**		2.3	0.45	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Barium	**22.5**	~~F1 F2~~ J	0.57	0.12	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Beryllium	**0.26**		0.23	0.032	mg/Kg	☼	04/12/22 15:31	04/18/22 14:58	1
Cadmium	**0.11**	**J**	0.23	0.034	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Chromium	**6.5**		0.57	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Cobalt	**7.5**		0.57	0.057	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Copper	**8.5**		1.1	0.24	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Lead	**7.4**	J	1.1	0.27	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Nickel	**12.6**		5.7	0.26	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Selenium	**1.4**	**J**	4.5	0.45	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Silver	ND		0.68	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Thallium	ND		6.8	0.34	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Tin	ND		2.3	0.49	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Vanadium	**9.0**		0.57	0.12	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1
Zinc	**37.4**		2.3	0.73	mg/Kg	☼	04/12/22 15:31	04/14/22 18:39	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0092**	**J**	0.022	0.0051	mg/Kg	☼	04/14/22 10:37	04/14/22 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.49	mg/Kg	☼	04/11/22 11:14	04/11/22 12:56	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.1	11.5	mg/Kg	☼		04/14/22 16:01	1

Client Sample ID: MW-2022-8 (13-15)
Lab Sample ID: 480-196619-2

Date Collected: 04/07/22 15:30
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 87.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.5	0.45	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,1,1-Trichloroethane	ND		4.5	0.33	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,1,2,2-Tetrachloroethane	ND		4.5	0.73	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,1,2-Trichloroethane	ND		4.5	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1

Client Sample ID: MW-2022-8 (13-15)
Date Collected: 04/07/22 15:30
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-2
Matrix: Solid
Percent Solids: 87.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.5	0.55	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,1-Dichloroethene	ND		4.5	0.55	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,2,3-Trichloropropane	ND		4.5	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,2-Dibromo-3-Chloropropane	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,2-Dichloroethane	ND		4.5	0.23	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
1,2-Dichloropropane	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
2-Chloro-1,3-butadiene	ND		4.5	2.8	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
2-Chloroethyl vinyl ether	ND		9.0	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
3-Chloro-1-propene	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Acetone	ND		22	3.8	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Acetonitrile	ND		45	5.5	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Acrolein	ND		22	7.1	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Acrylonitrile	ND		22	4.0	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Benzene	ND		4.5	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Bromoform	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Bromomethane	ND		4.5	0.40	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Carbon disulfide	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Carbon tetrachloride	ND		4.5	0.44	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Chlorobenzene	ND		4.5	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Chlorodibromomethane	ND		4.5	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Chloroethane	ND		4.5	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Chloroform	ND		4.5	0.28	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Chloromethane	ND		4.5	0.27	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
cis-1,3-Dichloropropene	ND		4.5	0.65	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Dibromomethane	ND		4.5	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Dichlorobromomethane	ND		4.5	0.60	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Dichlorodifluoromethane	ND		4.5	0.37	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Ethyl methacrylate	ND		4.5	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Ethylbenzene	ND		4.5	0.31	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Ethylene Dibromide	ND		4.5	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Iodomethane	ND		4.5	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Methacrylonitrile	ND		22	5.3	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Methyl methacrylate	ND		4.5	0.94	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Methylene Chloride	ND		4.5	2.1	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
m-Xylene & p-Xylene	ND		9.0	0.76	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
o-Xylene	ND		4.5	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Propionitrile	ND		45	25	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Styrene	ND		4.5	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Tetrachloroethene	ND		4.5	0.60	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Toluene	ND		4.5	0.34	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
trans-1,2-Dichloroethene	ND		4.5	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
trans-1,3-Dichloropropene	ND		4.5	2.0	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
trans-1,4-Dichloro-2-butene	ND		4.5	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Trichloroethene	ND		4.5	0.99	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Trichlorofluoromethane	ND		4.5	0.43	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1
Vinyl acetate	ND		9.0	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1

Client Sample ID: MW-2022-8 (13-15)
Date Collected: 04/07/22 15:30
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-2
Matrix: Solid
Percent Solids: 87.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.5	0.55	ug/Kg	☼	04/09/22 11:00	04/11/22 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/09/22 11:00*	*04/11/22 00:54*	*1*
4-Bromofluorobenzene (Surr)	*95*		*72 - 126*	*04/09/22 11:00*	*04/11/22 00:54*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*	*04/09/22 11:00*	*04/11/22 00:54*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*04/09/22 11:00*	*04/11/22 00:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,2-Diphenylhydrazine	ND		370	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,3,5-Trinitrobenzene	ND		370	16	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,3-Dichlorobenzene	ND		370	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,4-Dioxane	ND		110	62	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1,4-Naphthoquinone	ND		370	70	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,3,4,6-Tetrachlorophenol	ND		190	40	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,4,5-Trichlorophenol	ND		190	52	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,4,6-Trichlorophenol	ND		190	39	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,4-Dinitrophenol	ND		1900	890	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,4-Dinitrotoluene	ND		190	40	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,6-Dichlorophenol	ND		370	70	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2,6-Dinitrotoluene	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Acetylaminofluorene	ND		370	49	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Chloronaphthalene	ND		190	32	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Methylnaphthalene	ND		190	39	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Methylphenol	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Picoline	ND		370	43	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
2-Toluidine	ND		370	92	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
3,3'-Dichlorobenzidine	ND		370	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
3,3'-Dimethylbenzidine	ND		750	370	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
3-Methylphenol	ND		370	29	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Aminobiphenyl	ND		370	78	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Chloro-3-methylphenol	ND		190	48	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1

Client Sample ID: MW-2022-8 (13-15)
Date Collected: 04/07/22 15:30
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-2
Matrix: Solid
Percent Solids: 87.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		190	48	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Methylphenol	ND		370	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
4-Nitroquinoline-1-oxide	ND		750	370	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~370~~	~~370~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:33~~	R 1
Acenaphthene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Acenaphthylene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Acetophenone	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Aniline	ND		370	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Anthracene	ND		190	48	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Aramite, Total	ND		370	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzidine	ND		5700	2400	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
bis (2-chloroisopropyl) ether	ND		190	39	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Bis(2-chloroethoxy)methane	ND		190	41	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Bis(2-ethylhexyl) phthalate	**72**	**J**	190	66	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Butyl benzyl phthalate	ND		190	32	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Chrysene	ND		190	43	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Diallate	ND		370	48	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Dibenzofuran	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Dimethoate	ND		370	46	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Dimethyl phthalate	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Di-n-octyl phthalate	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Dinoseb	ND		370	67	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Diphenylamine	ND		370	49	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Disulfoton	ND		370	280	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Chlorobenzilate	ND		370	60	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Ethyl methanesulfonate	ND		370	83	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Famphur	ND		750	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Fluorene	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Hexachloropropene	ND		370	95	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1

Client Sample ID: MW-2022-8 (13-15)
Lab Sample ID: 480-196619-2
Date Collected: 04/07/22 15:30
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 87.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		370	66	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Isophorone	ND		190	41	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Isosafrole	ND		370	50	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Kepone	ND		750	370	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Methapyrilene	ND		1700	370	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Methyl methanesulfonate	ND		370	86	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Naphthalene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Nitrobenzene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitro-o-toluidine	ND		370	49	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosodiethylamine	ND		370	87	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosodimethylamine	ND		370	82	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosomethylethylamine	ND		370	86	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosomorpholine	ND		370	84	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosopiperidine	ND		370	76	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
N-Nitrosopyrrolidine	ND		370	57	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
o,o',o''-Triethylphosphorothioate	ND		370	49	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Ethyl Parathion	ND		370	42	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Methyl parathion	ND		370	65	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
p-Dimethylamino azobenzene	ND		370	64	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Pentachlorobenzene	ND		370	78	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Pentachloronitrobenzene	ND		370	95	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Phenacetin	ND		370	51	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Phenanthrene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Phenol	ND		190	29	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Phorate	ND		370	100	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~910~~	~~370~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:33~~	R 1
Pronamide	ND		370	74	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Pyrene	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Pyridine	ND		370	27	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Safrole	ND		370	51	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Sulfotepp	ND		370	60	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1
Thionazin	ND		370	66	ug/Kg	☼	04/11/22 15:35	04/12/22 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*54 - 120*	*04/11/22 15:35*	*04/12/22 22:33*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*04/11/22 15:35*	*04/12/22 22:33*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*04/11/22 15:35*	*04/12/22 22:33*	*1*
Nitrobenzene-d5 (Surr)	*71*		*53 - 120*	*04/11/22 15:35*	*04/12/22 22:33*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*04/11/22 15:35*	*04/12/22 22:33*	*1*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*04/11/22 15:35*	*04/12/22 22:33*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
4,4'-DDT	1.9 U	~~0.82~~ ~~J B~~	1.9	0.44	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1

Client Sample ID: MW-2022-8 (13-15)
Date Collected: 04/07/22 15:30
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-2
Matrix: Solid
Percent Solids: 87.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
cis-Chlordane	ND		1.9	0.93	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Endrin	ND		1.9	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Endrin aldehyde	**0.62**	**J**	1.9	0.48	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
Toxaphene	ND		19	11	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	04/11/22 15:44	04/12/22 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*78*		*45 - 120*	*04/11/22 15:44*	*04/12/22 12:54*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*04/11/22 15:44*	*04/12/22 12:54*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	04/11/22 11:56	04/12/22 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*108*		*65 - 174*	*04/11/22 11:56*	*04/12/22 03:33*	*1*
Tetrachloro-m-xylene	*141*		*60 - 154*	*04/11/22 11:56*	*04/12/22 03:33*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.0	ug/Kg	☼	04/13/22 13:26	04/18/22 19:08	1
2,4-D	ND		19	12	ug/Kg	☼	04/13/22 13:26	04/18/22 19:08	1
Silvex (2,4,5-TP)	ND		19	6.8	ug/Kg	☼	04/13/22 13:26	04/18/22 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*67*		*28 - 129*	*04/13/22 13:26*	*04/18/22 19:08*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	21	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1

Client Sample ID: MW-2022-8 (13-15)
Date Collected: 04/07/22 15:30
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-2
Matrix: Solid
Percent Solids: 87.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		38	25	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1
Famphur	ND		38	20	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1
Methyl parathion	ND		38	22	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1
Phorate	ND		38	13	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1
Sulfotepp	ND		38	15	ug/Kg	☼	04/13/22 19:36	04/18/22 11:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*20 - 135*	*04/13/22 19:36*	*04/18/22 11:18*	*1*
Tributyl phosphate	*86*		*20 - 135*	*04/13/22 19:36*	*04/18/22 11:18*	*1*
Triphenylphosphate	*92*		*33 - 168*	*04/13/22 19:36*	*04/18/22 11:18*	*1*
Triphenylphosphate	*97*		*33 - 168*	*04/13/22 19:36*	*04/18/22 11:18*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.7 U	~~0.84 J B~~		5.7	0.020	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,4,6,7,8-HpCDF	5.7 U	~~0.18 J B~~		5.7	0.0053	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,4,7,8,9-HpCDF	5.7 U	~~0.023 J I B~~		5.7	0.0072	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,4,7,8-HxCDD		0.12 ~~J I~~	JNX	5.7	0.013	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,4,7,8-HxCDF	5.7 U	~~0.13 J B~~		5.7	0.018	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,6,7,8-HxCDD	5.7 U	~~0.092 J I B~~		5.7	0.013	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,6,7,8-HxCDF	5.7 U	~~0.054 J B~~		5.7	0.017	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,7,8,9-HxCDD	5.7 U	~~0.078 J I B~~		5.7	0.013	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,7,8,9-HxCDF		ND		5.7	0.019	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,7,8-PeCDD		ND		5.7	0.011	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
1,2,3,7,8-PeCDF	5.7 U	~~0.084 J I B~~		5.7	0.011	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
2,3,4,6,7,8-HxCDF	5.7 U	~~0.039 J I B~~		5.7	0.016	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
2,3,4,7,8-PeCDF		ND		5.7	0.0084	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
2,3,7,8-TCDD		0.037 ~~J I~~	JNX	1.1	0.0050	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
2,3,7,8-TCDF		ND		1.1	0.011	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
OCDD	11 U	~~2.3 J B~~		11	0.017	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
OCDF	11 U	~~0.17 J B~~		11	0.0030	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total HpCDD	5.7 U	~~0.84 J B~~		5.7	0.020	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total HpCDF	5.7 U	~~0.20 J I B~~		5.7	0.0062	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total HxCDD	5.7 U	~~0.29 J I B~~		5.7	0.013	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total HxCDF	5.7 U	~~0.22 J I B~~		5.7	0.017	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total PeCDD		ND		5.7	0.011	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total PeCDF	5.7 U	~~0.084 J I B~~		5.7	0.010	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total TCDD		0.037 ~~J I~~	JNX	1.1	0.0050	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1
Total TCDF		ND		1.1	0.011	ng/Kg	☼	04/14/22 15:07	04/18/22 13:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*88*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,4,7,8-HxCDD	*77*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,6,7,8-HxCDF	*89*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,7,8,9-HxCDD	*80*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*

Client Sample ID: MW-2022-8 (13-15)
Lab Sample ID: 480-196619-2

Date Collected: 04/07/22 15:30
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 87.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*93*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-OCDD	*77*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*
13C-OCDF	*82*		*40 - 135*	*04/14/22 15:07*	*04/18/22 13:06*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.0**	**J**	17.3	0.46	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Arsenic	**3.5**		2.3	0.46	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Barium	**20.1**		0.58	0.13	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Beryllium	**0.21**	**J**	0.23	0.032	mg/Kg	☼	04/12/22 15:31	04/18/22 15:28	1
Cadmium	**0.050**	**J**	0.23	0.035	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Chromium	**4.7**		0.58	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Cobalt	**5.0**		0.58	0.058	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Copper	**7.2**		1.2	0.24	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Lead	**5.9**		1.2	0.28	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Nickel	**8.5**		5.8	0.27	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Selenium	**0.51**	**J**	4.6	0.46	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Silver	ND		0.69	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Thallium	ND		6.9	0.35	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Tin	ND		2.3	0.50	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Vanadium	**6.2**		0.58	0.13	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1
Zinc	**28.2**		2.3	0.74	mg/Kg	☼	04/12/22 15:31	04/14/22 18:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0054	mg/Kg	☼	04/14/22 10:37	04/14/22 13:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	~~F1~~	1.1	0.52	mg/Kg	☼	04/11/22 11:14	04/11/22 12:59	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.5	11.7	mg/Kg	☼		04/14/22 16:01	1

Client Sample ID: DUP-1- 040722
Lab Sample ID: 480-196619-3

Date Collected: 04/07/22 00:00
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 89.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.82	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,1,2-Trichloroethane	ND		5.1	0.66	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1

Client Sample ID: DUP-1- 040722
Lab Sample ID: 480-196619-3

Date Collected: 04/07/22 00:00
Matrix: Solid

Date Received: 04/09/22 10:00
Percent Solids: 89.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.1	0.62	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,1-Dichloroethene	ND		5.1	0.62	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,2-Dichloroethane	ND		5.1	0.26	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
1,2-Dichloropropane	ND		5.1	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
2-Butanone (MEK)	ND		25	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
2-Chloro-1,3-butadiene	ND		5.1	3.2	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
2-Chloroethyl vinyl ether	ND		10	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
3-Chloro-1-propene	ND		5.1	2.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.7	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Acetone	ND		25	4.3	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Acetonitrile	ND		51	6.2	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Acrolein	ND		25	8.0	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Acrylonitrile	ND		25	4.6	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Benzene	ND		5.1	0.25	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Bromoform	ND		5.1	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Carbon disulfide	ND		5.1	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Carbon tetrachloride	ND		5.1	0.49	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Chlorobenzene	ND		5.1	0.67	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Chlorodibromomethane	ND		5.1	0.65	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Chloroethane	ND		5.1	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Chloroform	ND		5.1	0.31	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
cis-1,3-Dichloropropene	ND		5.1	0.73	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Dibromomethane	ND		5.1	0.52	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Dichlorobromomethane	ND		5.1	0.68	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Ethyl methacrylate	ND		5.1	1.7	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Ethylene Dibromide	ND		5.1	0.65	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Methacrylonitrile	ND		25	6.0	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Methyl methacrylate	ND		5.1	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Methylene Chloride	ND		5.1	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
m-Xylene & p-Xylene	ND		10	0.85	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
o-Xylene	ND		5.1	0.66	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Propionitrile	ND		51	28	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Styrene	ND		5.1	0.25	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Tetrachloroethene	ND		5.1	0.68	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Toluene	ND		5.1	0.38	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
trans-1,2-Dichloroethene	ND		5.1	0.52	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
trans-1,3-Dichloropropene	ND		5.1	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
trans-1,4-Dichloro-2-butene	ND		5.1	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Trichlorofluoromethane	ND		5.1	0.48	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1

Client Sample ID: DUP-1- 040722
Lab Sample ID: 480-196619-3

Date Collected: 04/07/22 00:00
Matrix: Solid

Date Received: 04/09/22 10:00
Percent Solids: 89.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.1	0.62	ug/Kg	☼	04/09/22 11:00	04/11/22 01:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*04/09/22 11:00*	*04/11/22 01:18*	*1*
4-Bromofluorobenzene (Surr)	*92*		*72 - 126*	*04/09/22 11:00*	*04/11/22 01:18*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/09/22 11:00*	*04/11/22 01:18*	*1*
Toluene-d8 (Surr)	*101*		*71 - 125*	*04/09/22 11:00*	*04/11/22 01:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		920	160	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,2,4-Trichlorobenzene	ND		1800	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,2-Dichlorobenzene	ND		1800	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,2-Diphenylhydrazine	ND		1800	100	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,3,5-Trinitrobenzene	ND		1800	74	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,3-Dichlorobenzene	ND		1800	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,3-Dinitrobenzene	ND		1800	220	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,4-Dichlorobenzene	ND		1800	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,4-Dioxane	ND		540	300	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1,4-Naphthoquinone	ND		1800	340	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
1-Naphthylamine	ND		1800	620	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,3,4,6-Tetrachlorophenol	ND		920	190	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,4,5-Trichlorophenol	ND		920	250	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,4,6-Trichlorophenol	ND		920	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,4-Dichlorophenol	ND		920	98	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,4-Dimethylphenol	ND		920	220	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,4-Dinitrophenol	ND		9000	4300	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,4-Dinitrotoluene	ND		920	190	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,6-Dichlorophenol	ND		1800	340	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2,6-Dinitrotoluene	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Acetylaminofluorene	ND		1800	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Chloronaphthalene	ND		920	150	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Chlorophenol	ND		1800	170	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Methylnaphthalene	ND		920	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Methylphenol	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Naphthylamine	ND		1800	610	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Nitroaniline	ND		1800	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Nitrophenol	ND		920	260	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Picoline	ND		1800	210	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
2-Toluidine	ND		1800	440	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
3 & 4 Methylphenol	ND		1800	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
3,3'-Dichlorobenzidine	ND		1800	1100	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
3,3'-Dimethylbenzidine	ND		3600	1800	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
3-Nitroaniline	ND		1800	250	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4,6-Dinitro-2-methylphenol	ND		1800	920	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Aminobiphenyl	ND		1800	370	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Bromophenyl phenyl ether	ND		920	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Chloro-3-methylphenol	ND		920	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5

Client Sample ID: DUP-1- 040722
Lab Sample ID: 480-196619-3
Date Collected: 04/07/22 00:00
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 89.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		920	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Chlorophenyl phenyl ether	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Nitroaniline	ND		1800	480	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Nitrophenol	ND		1800	650	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
4-Nitroquinoline-1-oxide	ND		3600	1800	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
7,12-Dimethylbenz(a)anthracene	ND		1800	270	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~1800~~	~~1800~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:58~~	R 5
Acenaphthene	ND		920	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Acenaphthylene	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Acetophenone	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Aniline	ND		1800	220	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Anthracene	ND		920	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Aramite, Total	ND		1800	870	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzidine	ND		27000	11000	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzo[a]anthracene	ND		920	92	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzo[a]pyrene	ND		920	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzo[b]fluoranthene	ND		920	150	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzo[g,h,i]perylene	ND		920	98	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzo[k]fluoranthene	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Benzyl alcohol	ND		1800	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
bis (2-chloroisopropyl) ether	ND		920	180	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Bis(2-chloroethoxy)methane	ND		920	200	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Bis(2-chloroethyl)ether	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Bis(2-ethylhexyl) phthalate	ND		920	310	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Butyl benzyl phthalate	ND		920	150	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Chrysene	ND		920	210	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Diallate	ND		1800	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Dibenz(a,h)anthracene	ND		920	160	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Dibenzofuran	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Diethyl phthalate	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Dimethoate	ND		1800	220	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Dimethyl phthalate	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Di-n-butyl phthalate	ND		920	160	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Di-n-octyl phthalate	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Dinoseb	ND		1800	320	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Diphenylamine	ND		1800	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Disulfoton	ND		1800	1400	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Chlorobenzilate	ND		1800	290	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Ethyl methanesulfonate	ND		1800	400	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Famphur	ND		3600	870	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Fluoranthene	ND		920	98	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Fluorene	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Hexachlorobenzene	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Hexachlorobutadiene	ND		920	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Hexachlorocyclopentadiene	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Hexachloroethane	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Hexachloropropene	ND		1800	460	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Indeno[1,2,3-cd]pyrene	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5

Client Sample ID: DUP-1- 040722
Lab Sample ID: 480-196619-3
Date Collected: 04/07/22 00:00
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 89.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		1800	310	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Isophorone	ND		920	200	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Isosafrole	ND		1800	240	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Kepone	ND		3600	1800	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Methapyrilene	ND		8100	1800	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Methyl methanesulfonate	ND		1800	410	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Naphthalene	ND		920	120	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Nitrobenzene	ND		920	100	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitro-o-toluidine	ND		1800	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosodiethylamine	ND		1800	420	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosodimethylamine	ND		1800	390	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosodi-n-butylamine	ND		1800	490	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosodi-n-propylamine	ND		920	160	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosodiphenylamine	ND		920	750	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosomethylethylamine	ND		1800	410	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosomorpholine	ND		1800	400	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosopiperidine	ND		1800	360	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
N-Nitrosopyrrolidine	ND		1800	270	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
o,o',o''-Triethylphosphorothioate	ND		1800	230	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Ethyl Parathion	ND		1800	200	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Methyl parathion	ND		1800	310	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
p-Dimethylamino azobenzene	ND		1800	300	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Pentachlorobenzene	ND		1800	370	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Pentachloronitrobenzene	ND		1800	460	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Pentachlorophenol	ND		1800	920	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Phenacetin	ND		1800	240	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Phenanthrene	ND		920	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Phenol	ND		920	140	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Phorate	ND		1800	490	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
~~p-Phenylene diamine~~	~~ND~~	~~*~~	~~4300~~	~~1800~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 22:58~~	R 5
Pronamide	ND		1800	350	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Pyrene	ND		920	110	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Pyridine	ND		1800	130	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Safrole	ND		1800	240	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Sulfotepp	ND		1800	290	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5
Thionazin	ND		1800	310	ug/Kg	☼	04/11/22 15:35	04/12/22 22:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*54 - 120*	*04/11/22 15:35*	*04/12/22 22:58*	*5*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*04/11/22 15:35*	*04/12/22 22:58*	*5*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*04/11/22 15:35*	*04/12/22 22:58*	*5*
Nitrobenzene-d5 (Surr)	*72*		*53 - 120*	*04/11/22 15:35*	*04/12/22 22:58*	*5*
Phenol-d5 (Surr)	*74*		*54 - 120*	*04/11/22 15:35*	*04/12/22 22:58*	*5*
p-Terphenyl-d14 (Surr)	*89*		*79 - 130*	*04/11/22 15:35*	*04/12/22 22:58*	*5*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
4,4'-DDE	**7.1**		1.8	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
4,4'-DDT	2.9 U	~~**2.9 B**~~	1.8	0.42	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1

Client Sample ID: DUP-1- 040722
Date Collected: 04/07/22 00:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-3
Matrix: Solid
Percent Solids: 89.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
cis-Chlordane	ND		1.8	0.90	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Methoxychlor	1.8 U	~~1.2 J B~~	1.8	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
Toxaphene	ND		18	11	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	04/11/22 15:44	04/12/22 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*04/11/22 15:44*	*04/12/22 13:33*	*1*
Tetrachloro-m-xylene	*63*		*30 - 124*	*04/11/22 15:44*	*04/12/22 13:33*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1
PCB-1254	ND		0.21	0.098	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1
PCB-1260	ND		0.21	0.098	mg/Kg	☼	04/11/22 11:56	04/12/22 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*04/11/22 11:56*	*04/12/22 03:07*	*1*
Tetrachloro-m-xylene	*120*		*60 - 154*	*04/11/22 11:56*	*04/12/22 03:07*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	04/13/22 13:26	04/18/22 19:37	1
2,4-D	ND		18	12	ug/Kg	☼	04/13/22 13:26	04/18/22 19:37	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	04/13/22 13:26	04/18/22 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*30*		*28 - 129*	*04/13/22 13:26*	*04/18/22 19:37*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1

Client Sample ID: DUP-1- 040722
Date Collected: 04/07/22 00:00
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-3
Matrix: Solid
Percent Solids: 89.9

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		36	24	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1
Famphur	ND		36	19	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1
Methyl parathion	ND		36	20	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1
Phorate	ND		36	12	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1
Sulfotepp	ND		36	14	ug/Kg	☼	04/13/22 19:36	04/18/22 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*77*		*20 - 135*	*04/13/22 19:36*	*04/18/22 11:49*	*1*
Tributyl phosphate	*78*		*20 - 135*	*04/13/22 19:36*	*04/18/22 11:49*	*1*
Triphenylphosphate	*84*		*33 - 168*	*04/13/22 19:36*	*04/18/22 11:49*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/13/22 19:36*	*04/18/22 11:49*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**16**	**B**	5.5	0.063	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,4,6,7,8-HpCDF	**5.1**	**J B**	5.5	0.019	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,4,7,8,9-HpCDF	5.5 U **0.32**	**J I B**	5.5	0.025	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,4,7,8-HxCDD	**0.47**	**J**	5.5	0.0092	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,4,7,8-HxCDF	**0.61**	**J I B** JNX	5.5	0.040	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,6,7,8-HxCDD	**0.74**	**J B** J	5.5	0.0092	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,6,7,8-HxCDF	**0.56**	**J I B** JNX	5.5	0.037	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,7,8,9-HxCDD	**0.70**	**J I B** JNX	5.5	0.0094	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,7,8,9-HxCDF	ND		5.5	0.042	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,7,8-PeCDD	**0.33**	**J I** JNX	5.5	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
1,2,3,7,8-PeCDF	**0.29**	**J B**	5.5	0.027	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
2,3,4,6,7,8-HxCDF	**0.92**	**J B**	5.5	0.035	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
2,3,4,7,8-PeCDF	**0.90**	**J B**	5.5	0.021	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
2,3,7,8-TCDD	**4.2**		1.1	0.0092	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
2,3,7,8-TCDF	**0.64**	**J**	1.1	0.031	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
OCDD	**140**	**B** J	11	0.059	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
OCDF	**11**	**I B** JNX	11	0.015	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total HpCDD	**16**	**B**	5.5	0.063	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total HpCDF	**5.4**	**J I B** JNX	5.5	0.022	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total HxCDD	**1.9**	**J I B** JNX	5.5	0.0093	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total HxCDF	**2.1**	**J I B** JNX	5.5	0.039	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total PeCDD	**0.33**	**J I** JNX	5.5	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total PeCDF	**1.2**	**J I B** JNX	5.5	0.024	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total TCDD	**4.2**	**I** JNX	1.1	0.0092	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1
Total TCDF	**0.64**	**J I** JNX	1.1	0.031	ng/Kg	☼	04/14/22 15:07	04/15/22 20:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,7,8,9-HxCDD	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*

Client Sample ID: DUP-1- 040722
Lab Sample ID: 480-196619-3

Date Collected: 04/07/22 00:00
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 89.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*89*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,7,8-PeCDD	*67*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-OCDD	*70*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*
13C-OCDF	*72*		*40 - 135*	*04/14/22 15:07*	*04/15/22 20:13*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.9**	**J**	17.3	0.46	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Arsenic	**8.1**		2.3	0.46	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Barium	**43.5**	J	0.58	0.13	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Beryllium	**0.34**		0.23	0.032	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Cadmium	**0.14**	**J**	0.23	0.035	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Chromium	**8.3**		0.58	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Cobalt	**7.9**		0.58	0.058	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Copper	**12.1**		1.2	0.24	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Lead	**15.4**	J	1.2	0.28	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Nickel	**13.0**		5.8	0.26	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Selenium	**1.4**	**J**	4.6	0.46	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Silver	ND		0.69	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Thallium	ND		6.9	0.35	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Tin	ND		2.3	0.50	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Vanadium	**11.6**		0.58	0.13	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1
Zinc	**48.2**		2.3	0.74	mg/Kg	☼	04/12/22 15:31	04/14/22 19:13	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.47**	J	0.023	0.0053	mg/Kg	☼	04/14/22 10:37	04/14/22 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.97	0.47	mg/Kg	☼	04/11/22 11:14	04/11/22 13:02	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.9	11.4	mg/Kg	☼		04/14/22 16:01	1

Client Sample ID: MW-2022-8 (27-30)
Lab Sample ID: 480-196619-4

Date Collected: 04/08/22 08:45
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		15	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,1,1-Trichloroethane	ND		15	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,1,2,2-Tetrachloroethane	ND		15	2.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,1,2-Trichloroethane	ND		15	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1

Client Sample ID: MW-2022-8 (27-30)
Date Collected: 04/08/22 08:45
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-4
Matrix: Solid
Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		15	1.8	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,1-Dichloroethene	ND		15	1.8	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,2,3-Trichloropropane	ND		15	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,2-Dibromo-3-Chloropropane	ND		15	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,2-Dichloroethane	ND		15	0.74	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
1,2-Dichloropropane	ND		15	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
2-Butanone (MEK)	ND		74	5.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
2-Chloro-1,3-butadiene	ND		15	9.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
2-Chloroethyl vinyl ether	ND		29	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
2-Hexanone	ND		74	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
3-Chloro-1-propene	ND		15	7.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
4-Methyl-2-pentanone (MIBK)	ND		74	4.8	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Acetone	**29**	**J**	74	12	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Acetonitrile	ND		150	18	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Acrolein	ND		74	23	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Acrylonitrile	ND		74	13	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Benzene	ND		15	0.72	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Bromoform	ND		15	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Bromomethane	ND		15	1.3	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Carbon disulfide	ND		15	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Carbon tetrachloride	ND		15	1.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Chlorobenzene	ND		15	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Chlorodibromomethane	ND		15	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Chloroethane	ND		15	3.3	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Chloroform	ND		15	0.91	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Chloromethane	ND		15	0.89	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
cis-1,3-Dichloropropene	ND		15	2.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Dibromomethane	ND		15	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Dichlorobromomethane	ND		15	2.0	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Dichlorodifluoromethane	ND		15	1.2	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Ethyl methacrylate	ND		15	5.0	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Ethylbenzene	ND		15	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Ethylene Dibromide	ND		15	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Iodomethane	ND		15	0.71	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Methacrylonitrile	ND		74	17	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Methyl methacrylate	ND		15	3.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Methylene Chloride	ND		15	6.8	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
m-Xylene & p-Xylene	ND		29	2.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
o-Xylene	ND		15	1.9	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Propionitrile	ND		150	82	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Styrene	ND		15	0.74	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Tetrachloroethene	ND		15	2.0	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Toluene	ND		15	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
trans-1,2-Dichloroethene	ND		15	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
trans-1,3-Dichloropropene	ND		15	6.5	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
trans-1,4-Dichloro-2-butene	ND		15	3.3	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Trichloroethene	ND		15	3.2	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Trichlorofluoromethane	ND		15	1.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1
Vinyl acetate	ND		29	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1

Client Sample ID: MW-2022-8 (27-30)
Date Collected: 04/08/22 08:45
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-4
Matrix: Solid
Percent Solids: 88.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		15	1.8	ug/Kg	☼	04/09/22 11:00	04/11/22 01:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*64 - 126*	*04/09/22 11:00*	*04/11/22 01:42*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*04/09/22 11:00*	*04/11/22 01:42*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/09/22 11:00*	*04/11/22 01:42*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/09/22 11:00*	*04/11/22 01:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,4-Dioxane	ND		110	62	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1,4-Naphthoquinone	ND		370	70	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,4,5-Trichlorophenol	ND		190	52	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,4-Dinitrophenol	ND		1900	880	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,6-Dichlorophenol	ND		370	70	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Picoline	ND		370	43	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
2-Toluidine	ND		370	91	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
3-Methylphenol	ND		370	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Aminobiphenyl	ND		370	78	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1

Client Sample ID: MW-2022-8 (27-30)
Date Collected: 04/08/22 08:45
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-4
Matrix: Solid
Percent Solids: 88.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		190	47	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Methylphenol	ND		370	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~370~~	~~370~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 23:22~~	R 1
Acenaphthene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Acenaphthylene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Acetophenone	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Aniline	ND		370	46	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Anthracene	ND		190	47	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Aramite, Total	ND		370	180	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzidine	ND		5600	2400	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Bis(2-ethylhexyl) phthalate	**67**	**J**	190	65	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Chrysene	ND		190	43	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Diallate	ND		370	47	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Dimethoate	ND		370	46	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Dinoseb	ND		370	66	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Diphenylamine	ND		370	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Disulfoton	ND		370	280	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Chlorobenzilate	ND		370	60	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Ethyl methanesulfonate	ND		370	82	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Famphur	ND		740	180	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Fluorene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Hexachloropropene	ND		370	94	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1

Client Sample ID: MW-2022-8 (27-30)
Lab Sample ID: 480-196619-4
Date Collected: 04/08/22 08:45
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 88.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		370	65	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Isophorone	ND		190	40	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Isosafrole	ND		370	49	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Kepone	ND		740	370	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Methapyrilene	ND		1700	370	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Naphthalene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosodiethylamine	ND		370	86	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosodimethylamine	ND		370	81	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosomorpholine	ND		370	83	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosopiperidine	ND		370	75	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Ethyl Parathion	ND		370	42	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Methyl parathion	ND		370	64	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
p-Dimethylamino azobenzene	ND		370	63	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Pentachlorobenzene	ND		370	78	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Pentachloronitrobenzene	ND		370	94	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Phenacetin	ND		370	51	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Phenanthrene	ND		190	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Phenol	ND		190	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Phorate	ND		370	100	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~900~~	~~370~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 23:22~~	R 1
Pronamide	ND		370	73	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Pyrene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Pyridine	ND		370	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Safrole	ND		370	51	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Sulfotepp	ND		370	60	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1
Thionazin	ND		370	65	ug/Kg	☼	04/11/22 15:35	04/12/22 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*54 - 120*	*04/11/22 15:35*	*04/12/22 23:22*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*04/11/22 15:35*	*04/12/22 23:22*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*04/11/22 15:35*	*04/12/22 23:22*	*1*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*04/11/22 15:35*	*04/12/22 23:22*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*04/11/22 15:35*	*04/12/22 23:22*	*1*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*04/11/22 15:35*	*04/12/22 23:22*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
4,4'-DDE	ND		1.8	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
4,4'-DDT	ND		1.8	0.43	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1

Client Sample ID: MW-2022-8 (27-30)
Date Collected: 04/08/22 08:45
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-4
Matrix: Solid
Percent Solids: 88.0

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Chlordane (technical)	ND		18	4.1	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Chlorobenzilate	ND		18	6.2	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
cis-Chlordane	ND		1.8	0.92	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Endrin aldehyde	**1.1**	**J**	1.8	0.47	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Methoxychlor	ND		1.8	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
Toxaphene	ND		18	11	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	04/11/22 15:44	04/12/22 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*78*		*45 - 120*	*04/11/22 15:44*	*04/12/22 13:53*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*04/11/22 15:44*	*04/12/22 13:53*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/11/22 11:56	04/12/22 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*65 - 174*	*04/11/22 11:56*	*04/12/22 03:47*	*1*
Tetrachloro-m-xylene	*110*		*60 - 154*	*04/11/22 11:56*	*04/12/22 03:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.0	ug/Kg	☼	04/13/22 13:26	04/18/22 20:07	1
2,4-D	ND		19	12	ug/Kg	☼	04/13/22 13:26	04/18/22 20:07	1
Silvex (2,4,5-TP)	ND		19	6.8	ug/Kg	☼	04/13/22 13:26	04/18/22 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*79*		*28 - 129*	*04/13/22 13:26*	*04/18/22 20:07*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1

Client Sample ID: MW-2022-8 (27-30)
Date Collected: 04/08/22 08:45
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-4
Matrix: Solid
Percent Solids: 88.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		37	24	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1
Famphur	ND		37	20	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1
Methyl parathion	ND		37	21	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1
Ethyl Parathion	ND		37	20	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1
Phorate	ND		37	12	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1
Sulfotepp	ND		37	14	ug/Kg	☼	04/13/22 19:36	04/18/22 12:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*82*		*20 - 135*	*04/13/22 19:36*	*04/18/22 12:21*	*1*
Tributyl phosphate	*82*		*20 - 135*	*04/13/22 19:36*	*04/18/22 12:21*	*1*
Triphenylphosphate	*86*		*33 - 168*	*04/13/22 19:36*	*04/18/22 12:21*	*1*
Triphenylphosphate	*90*		*33 - 168*	*04/13/22 19:36*	*04/18/22 12:21*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.7 U 0.23	J I B	5.7	0.021	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,4,6,7,8-HpCDF	ND		5.7	0.0025	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,4,7,8,9-HpCDF	ND		5.7	0.0033	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,4,7,8-HxCDD	0.033	J I JNX	5.7	0.0038	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,4,7,8-HxCDF	5.7 U 0.092	J I B	5.7	0.0078	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,6,7,8-HxCDD	ND		5.7	0.0038	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,6,7,8-HxCDF	ND		5.7	0.0077	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,7,8,9-HxCDD	5.7 U 0.020	J I B	5.7	0.0038	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,7,8,9-HxCDF	5.7 U 0.047	J I B	5.7	0.0084	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,7,8-PeCDD	ND		5.7	0.0084	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
1,2,3,7,8-PeCDF	ND		5.7	0.0054	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
2,3,4,6,7,8-HxCDF	ND		5.7	0.0076	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
2,3,4,7,8-PeCDF	5.7 U 0.085	J I B	5.7	0.0041	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
2,3,7,8-TCDD	ND		1.1	0.0064	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
2,3,7,8-TCDF	ND		1.1	0.0045	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
OCDD	11 U 0.94	J B	11	0.013	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
OCDF	11 U 0.089	J I B	11	0.0056	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total HpCDD	5.7 U 0.23	J I B	5.7	0.021	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total HpCDF	ND		5.7	0.0033	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total HxCDD	5.7 U 0.053	J I B	5.7	0.0038	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total HxCDF	5.7 U 0.14	J I B	5.7	0.0079	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total PeCDD	ND		5.7	0.0084	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total PeCDF	5.7 U 0.085	J I B	5.7	0.0048	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total TCDD	ND		1.1	0.0064	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1
Total TCDF	ND		1.1	0.0045	ng/Kg	☼	04/14/22 15:07	04/15/22 21:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,6,7,8-HxCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,7,8,9-HxCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*

Client Sample ID: MW-2022-8 (27-30)
Lab Sample ID: 480-196619-4

Date Collected: 04/08/22 08:45
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 88.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*88*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-2,3,7,8-TCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-OCDD	*68*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*
13C-OCDF	*68*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:02*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.8**	**J**	16.8	0.45	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Arsenic	**3.0**		2.2	0.45	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Barium	**21.2**		0.56	0.12	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Beryllium	**0.23**		0.22	0.031	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Cadmium	**0.076**	**J**	0.22	0.034	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Chromium	**5.0**		0.56	0.22	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Cobalt	**6.2**		0.56	0.056	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Copper	**7.7**		1.1	0.23	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Lead	**5.3**		1.1	0.27	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Nickel	**9.8**		5.6	0.26	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Selenium	**0.54**	**J**	4.5	0.45	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Silver	ND		0.67	0.22	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Thallium	ND		6.7	0.34	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Tin	ND		2.2	0.48	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Vanadium	**6.0**		0.56	0.12	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1
Zinc	**26.0**		2.2	0.72	mg/Kg	☼	04/12/22 15:31	04/14/22 19:16	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	04/14/22 10:37	04/14/22 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.51	mg/Kg	☼	04/11/22 11:14	04/11/22 13:03	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.8	11.9	mg/Kg	☼		04/14/22 16:01	1

Client Sample ID: MW-2022-8 (43-46)
Lab Sample ID: 480-196619-5

Date Collected: 04/08/22 09:40
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 83.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.5	0.45	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,1,1-Trichloroethane	ND		4.5	0.33	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,1,2,2-Tetrachloroethane	ND		4.5	0.73	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,1,2-Trichloroethane	ND		4.5	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1

Client Sample ID: MW-2022-8 (43-46)
Date Collected: 04/08/22 09:40
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-5
Matrix: Solid
Percent Solids: 83.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.5	0.55	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,1-Dichloroethene	ND		4.5	0.55	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,2,3-Trichloropropane	ND		4.5	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,2-Dibromo-3-Chloropropane	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,2-Dichloroethane	ND		4.5	0.23	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
1,2-Dichloropropane	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
2-Chloro-1,3-butadiene	ND		4.5	2.8	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
2-Chloroethyl vinyl ether	ND		9.0	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
3-Chloro-1-propene	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Acetone	ND		22	3.8	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Acetonitrile	ND		45	5.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Acrolein	ND		22	7.1	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Acrylonitrile	ND		22	4.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Benzene	ND		4.5	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Bromoform	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Bromomethane	ND		4.5	0.40	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Carbon disulfide	ND		4.5	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Carbon tetrachloride	ND		4.5	0.44	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Chlorobenzene	ND		4.5	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Chlorodibromomethane	ND		4.5	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Chloroethane	ND		4.5	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Chloroform	ND		4.5	0.28	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Chloromethane	ND		4.5	0.27	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
cis-1,3-Dichloropropene	ND		4.5	0.65	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Dibromomethane	ND		4.5	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Dichlorobromomethane	ND		4.5	0.60	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Dichlorodifluoromethane	ND		4.5	0.37	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Ethyl methacrylate	ND		4.5	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Ethylbenzene	ND		4.5	0.31	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Ethylene Dibromide	ND		4.5	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Iodomethane	ND		4.5	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Methacrylonitrile	ND		22	5.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Methyl methacrylate	ND		4.5	0.94	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Methylene Chloride	ND		4.5	2.1	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
m-Xylene & p-Xylene	ND		9.0	0.76	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
o-Xylene	ND		4.5	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Propionitrile	ND		45	25	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Styrene	ND		4.5	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Tetrachloroethene	ND		4.5	0.60	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Toluene	ND		4.5	0.34	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
trans-1,2-Dichloroethene	ND		4.5	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
trans-1,3-Dichloropropene	ND		4.5	2.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
trans-1,4-Dichloro-2-butene	ND		4.5	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Trichloroethene	ND		4.5	0.99	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Trichlorofluoromethane	ND		4.5	0.43	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1
Vinyl acetate	ND		9.0	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1

Client Sample ID: MW-2022-8 (43-46)
Date Collected: 04/08/22 09:40
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-5
Matrix: Solid
Percent Solids: 83.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.5	0.55	ug/Kg	☼	04/09/22 11:00	04/11/22 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/09/22 11:00*	*04/11/22 02:06*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/09/22 11:00*	*04/11/22 02:06*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/09/22 11:00*	*04/11/22 02:06*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*04/09/22 11:00*	*04/11/22 02:06*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,3-Dichlorobenzene	ND		390	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1,4-Naphthoquinone	ND		390	73	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,4-Dinitrophenol	ND		1900	920	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,6-Dichlorophenol	ND		390	73	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Acetylaminofluorene	ND		390	50	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Chlorophenol	ND		390	36	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Methylphenol	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Picoline	ND		390	45	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
2-Toluidine	ND		390	95	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
3,3'-Dichlorobenzidine	ND		390	230	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
3-Methylphenol	ND		390	31	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Aminobiphenyl	ND		390	81	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1

Client Sample ID: MW-2022-8 (43-46)
Date Collected: 04/08/22 09:40
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-5
Matrix: Solid
Percent Solids: 83.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		200	49	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Methylphenol	ND		390	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Nitroaniline	ND		390	100	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~390~~	~~390~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/12/22 23:47~~	R 1
Acenaphthene	ND		200	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Acetophenone	ND		200	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Aniline	ND		390	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Anthracene	ND		200	49	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Aramite, Total	ND		390	190	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzidine	ND		5900	2500	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Bis(2-ethylhexyl) phthalate	**110**	**J**	200	68	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Chrysene	ND		200	45	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Diallate	ND		390	49	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Dibenzofuran	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Dimethoate	ND		390	48	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Dinoseb	ND		390	69	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Diphenylamine	ND		390	50	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Disulfoton	ND		390	290	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Chlorobenzilate	ND		390	62	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Ethyl methanesulfonate	ND		390	86	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Famphur	ND		780	190	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Fluoranthene	ND		200	21	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Fluorene	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Hexachloropropene	ND		390	99	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1

Client Sample ID: MW-2022-8 (43-46)
Date Collected: 04/08/22 09:40
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-5
Matrix: Solid
Percent Solids: 83.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	68	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Isophorone	ND		200	42	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Isosafrole	ND		390	52	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Kepone	ND		780	390	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Methyl methanesulfonate	ND		390	89	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Naphthalene	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Nitrobenzene	ND		200	22	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitro-o-toluidine	ND		390	50	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosodiethylamine	ND		390	90	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosomethylethylamine	ND		390	89	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosomorpholine	ND		390	87	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosopiperidine	ND		390	79	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
o,o',o''-Triethylphosphorothioate	ND		390	50	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Ethyl Parathion	ND		390	43	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Methyl parathion	ND		390	67	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Pentachlorobenzene	ND		390	81	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Pentachloronitrobenzene	ND		390	99	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Phenacetin	ND		390	53	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Phenanthrene	ND		200	29	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Phenol	ND		200	31	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Phorate	ND		390	110	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
p-Phenylene diamine	ND	*-	940	390	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	R 1
Pronamide	ND		390	76	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Pyrene	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Pyridine	ND		390	28	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Safrole	ND		390	53	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Sulfotepp	ND		390	62	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1
Thionazin	ND		390	68	ug/Kg	☼	04/11/22 15:35	04/12/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*113*		*54 - 120*	*04/11/22 15:35*	*04/12/22 23:47*	*1*
2-Fluorobiphenyl (Surr)	*104*		*60 - 120*	*04/11/22 15:35*	*04/12/22 23:47*	*1*
2-Fluorophenol (Surr)	*92*		*52 - 120*	*04/11/22 15:35*	*04/12/22 23:47*	*1*
Nitrobenzene-d5 (Surr)	*91*		*53 - 120*	*04/11/22 15:35*	*04/12/22 23:47*	*1*
Phenol-d5 (Surr)	*90*		*54 - 120*	*04/11/22 15:35*	*04/12/22 23:47*	*1*
p-Terphenyl-d14 (Surr)	*118*		*79 - 130*	*04/11/22 15:35*	*04/12/22 23:47*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1

Client Sample ID: MW-2022-8 (43-46)
Date Collected: 04/08/22 09:40
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-5
Matrix: Solid
Percent Solids: 83.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.48	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
alpha-BHC	ND		2.0	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
beta-BHC	ND		2.0	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
cis-Chlordane	ND		2.0	0.98	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Endosulfan II	ND		2.0	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Endrin aldehyde	**1.2**	**J**	2.0	0.50	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Endrin ketone	ND		2.0	0.48	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
Toxaphene	ND		20	11	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/11/22 15:44	04/12/22 14:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*80*		*45 - 120*	*04/11/22 15:44*	*04/12/22 14:12*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*04/11/22 15:44*	*04/12/22 14:12*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.053	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1
PCB-1221	ND		0.27	0.053	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1
PCB-1232	ND		0.27	0.053	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1
PCB-1242	ND		0.27	0.053	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1
PCB-1248	ND		0.27	0.053	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1
PCB-1254	ND		0.27	0.13	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1
PCB-1260	ND		0.27	0.13	mg/Kg	☼	04/11/22 11:56	04/12/22 04:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*04/11/22 11:56*	*04/12/22 04:00*	*1*
Tetrachloro-m-xylene	*125*		*60 - 154*	*04/11/22 11:56*	*04/12/22 04:00*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	04/13/22 13:26	04/18/22 20:37	1
2,4-D	ND		20	12	ug/Kg	☼	04/13/22 13:26	04/18/22 20:37	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	04/13/22 13:26	04/18/22 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*73*		*28 - 129*	*04/13/22 13:26*	*04/18/22 20:37*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1

Client Sample ID: MW-2022-8 (43-46)
Date Collected: 04/08/22 09:40
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-5
Matrix: Solid
Percent Solids: 83.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		39	26	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1
Famphur	ND		39	21	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1
Methyl parathion	ND		39	22	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1
Ethyl Parathion	ND		39	21	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1
Phorate	ND		39	13	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1
Sulfotepp	ND		39	15	ug/Kg	☼	04/13/22 19:36	04/18/22 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*43*		*20 - 135*	*04/13/22 19:36*	*04/18/22 12:52*	*1*
Tributyl phosphate	*43*		*20 - 135*	*04/13/22 19:36*	*04/18/22 12:52*	*1*
Triphenylphosphate	*83*		*33 - 168*	*04/13/22 19:36*	*04/18/22 12:52*	*1*
Triphenylphosphate	*87*		*33 - 168*	*04/13/22 19:36*	*04/18/22 12:52*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.8 U	~~0.24~~	~~J B~~		5.8	0.019	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,4,6,7,8-HpCDF	5.8 U	~~0.093~~	~~J I B~~		5.8	0.0024	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,4,7,8,9-HpCDF	5.8 U	~~0.052~~	~~J I B~~		5.8	0.0030	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,4,7,8-HxCDD		0.066	J I	JNX	5.8	0.0051	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,4,7,8-HxCDF	5.8 U	~~0.16~~	~~J I B~~		5.8	0.0097	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,6,7,8-HxCDD	5.8 U	~~0.096~~	~~J I B~~		5.8	0.0050	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,6,7,8-HxCDF	5.8 U	~~0.12~~	~~J B~~		5.8	0.0099	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,7,8,9-HxCDD	5.8 U	~~0.044~~	~~J I B~~		5.8	0.0050	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,7,8,9-HxCDF		ND			5.8	0.010	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,7,8-PeCDD		0.16	J I	JNX	5.8	0.0084	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
1,2,3,7,8-PeCDF		0.24	J I B	JNX	5.8	0.0070	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
2,3,4,6,7,8-HxCDF	5.8 U	~~0.090~~	~~J B~~		5.8	0.0094	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
2,3,4,7,8-PeCDF	5.8 U	~~0.18~~	~~J I B~~		5.8	0.0053	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
2,3,7,8-TCDD		0.12	J I	JNX	1.2	0.0065	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
2,3,7,8-TCDF		0.048	J I	JNX	1.2	0.0045	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
OCDD	12 U	1.2	J B		12	0.023	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
OCDF	12 U	~~0.070~~	~~J I B~~		12	0.0070	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total HpCDD	5.8 U	~~0.24~~	~~J B~~		5.8	0.019	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total HpCDF	5.8 U	~~0.15~~	~~J I B~~		5.8	0.0027	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total HxCDD	5.8 U	~~0.21~~	~~J I B~~		5.8	0.0050	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total HxCDF	5.8 U	~~0.37~~	~~J I B~~		5.8	0.0098	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total PeCDD		0.16	~~J I~~	JNX	5.8	0.0084	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total PeCDF	5.8 U	~~0.42~~	~~J I B~~		5.8	0.0061	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total TCDD		0.12	J I	JNX	1.2	0.0065	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1
Total TCDF		0.048	J I	JNX	1.2	0.0045	ng/Kg	☼	04/14/22 15:07	04/15/22 21:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*90*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,6,7,8-HxCDF	*92*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,7,8,9-HxCDD	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*

Client Sample ID: MW-2022-8 (43-46)
Lab Sample ID: 480-196619-5

Date Collected: 04/08/22 09:40
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 83.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*95*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-2,3,4,6,7,8-HxCDF	*91*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-2,3,7,8-TCDD	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-2,3,7,8-TCDF	*84*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-OCDD	*75*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*
13C-OCDF	*78*		*40 - 135*	*04/14/22 15:07*	*04/15/22 21:51*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.8**	**J**	18.5	0.49	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Arsenic	**3.3**		2.5	0.49	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Barium	**16.8**		0.62	0.14	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Beryllium	**0.21**	**J**	0.25	0.034	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Cadmium	**0.069**	**J**	0.25	0.037	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Chromium	**5.0**		0.62	0.25	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Cobalt	**5.2**		0.62	0.062	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Copper	**7.2**		1.2	0.26	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Lead	**5.4**		1.2	0.30	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Nickel	**8.8**		6.2	0.28	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Selenium	ND		4.9	0.49	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Silver	ND		0.74	0.25	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Thallium	ND		7.4	0.37	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Tin	ND		2.5	0.53	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Vanadium	**6.2**		0.62	0.14	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1
Zinc	**27.3**		2.5	0.79	mg/Kg	☼	04/12/22 15:31	04/14/22 19:20	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0056	mg/Kg	☼	04/14/22 10:37	04/14/22 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.55	mg/Kg	☼	04/11/22 11:14	04/11/22 13:04	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.5	12.3	mg/Kg	☼		04/14/22 16:01	1

Client Sample ID: MW-2022-8 (58-62)
Lab Sample ID: 480-196619-6

Date Collected: 04/08/22 11:15
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 89.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.44	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,1,1-Trichloroethane	ND		4.4	0.32	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,1,2,2-Tetrachloroethane	ND		4.4	0.72	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,1,2-Trichloroethane	ND		4.4	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1

Client Sample ID: MW-2022-8 (58-62)
Date Collected: 04/08/22 11:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-6
Matrix: Solid
Percent Solids: 89.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.4	0.54	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,1-Dichloroethene	ND		4.4	0.54	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,2,3-Trichloropropane	ND		4.4	0.45	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,2-Dibromo-3-Chloropropane	ND		4.4	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,2-Dichloroethane	ND		4.4	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
1,2-Dichloropropane	ND		4.4	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
2-Butanone (MEK)	ND		22	1.6	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
2-Chloro-1,3-butadiene	ND		4.4	2.7	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
2-Chloroethyl vinyl ether	ND		8.9	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
3-Chloro-1-propene	ND		4.4	2.1	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Acetone	ND		22	3.7	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Acetonitrile	ND		44	5.4	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Acrolein	ND		22	7.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Acrylonitrile	ND		22	4.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Benzene	ND		4.4	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Bromoform	ND		4.4	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Bromomethane	ND		4.4	0.40	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Carbon disulfide	ND		4.4	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Carbon tetrachloride	ND		4.4	0.43	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Chlorobenzene	ND		4.4	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Chlorodibromomethane	ND		4.4	0.57	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Chloroethane	ND		4.4	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Chloroform	ND		4.4	0.27	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Chloromethane	ND		4.4	0.27	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
cis-1,3-Dichloropropene	ND		4.4	0.64	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Dibromomethane	ND		4.4	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Dichlorobromomethane	ND		4.4	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Dichlorodifluoromethane	ND		4.4	0.37	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Ethyl methacrylate	ND		4.4	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Ethylbenzene	ND		4.4	0.31	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Ethylene Dibromide	ND		4.4	0.57	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Iodomethane	ND		4.4	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Methacrylonitrile	ND		22	5.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Methyl methacrylate	ND		4.4	0.93	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Methylene Chloride	ND		4.4	2.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
m-Xylene & p-Xylene	ND		8.9	0.74	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
o-Xylene	ND		4.4	0.58	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Propionitrile	ND		44	25	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Styrene	ND		4.4	0.22	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Tetrachloroethene	ND		4.4	0.59	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Toluene	ND		4.4	0.34	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
trans-1,2-Dichloroethene	ND		4.4	0.46	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
trans-1,3-Dichloropropene	ND		4.4	2.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
trans-1,4-Dichloro-2-butene	ND		4.4	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Trichloroethene	ND		4.4	0.98	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Trichlorofluoromethane	ND		4.4	0.42	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1
Vinyl acetate	ND		8.9	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1

Client Sample ID: MW-2022-8 (58-62)
Date Collected: 04/08/22 11:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-6
Matrix: Solid
Percent Solids: 89.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.4	0.54	ug/Kg	☼	04/09/22 11:00	04/11/22 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*04/09/22 11:00*	*04/11/22 02:30*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*04/09/22 11:00*	*04/11/22 02:30*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*	*04/09/22 11:00*	*04/11/22 02:30*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/09/22 11:00*	*04/11/22 02:30*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,4-Dichlorobenzene	ND		360	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1,4-Naphthoquinone	ND		360	68	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,3,4,6-Tetrachlorophenol	ND		190	38	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,4,5-Trichlorophenol	ND		190	50	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,4,6-Trichlorophenol	ND		190	37	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,4-Dinitrophenol	ND		1800	860	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,4-Dinitrotoluene	ND		190	38	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,6-Dichlorophenol	ND		360	68	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Methylnaphthalene	ND		190	37	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Picoline	ND		360	42	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
2-Toluidine	ND		360	89	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
3 & 4 Methylphenol	ND		360	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
3-Methylphenol	ND		360	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
3-Nitroaniline	ND		360	52	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4,6-Dinitro-2-methylphenol	ND		360	190	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Aminobiphenyl	ND		360	76	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Bromophenyl phenyl ether	ND		190	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Chloro-3-methylphenol	ND		190	46	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1

Client Sample ID: MW-2022-8 (58-62)
Date Collected: 04/08/22 11:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-6
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		190	46	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Nitroaniline	ND		360	98	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
7,12-Dimethylbenz(a)anthracene	ND		360	54	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~360~~	~~360~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/13/22 00:11~~	R 1
Acenaphthene	ND		190	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Acenaphthylene	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Acetophenone	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Aniline	ND		360	45	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Anthracene	ND		190	46	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Aramite, Total	ND		360	180	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzidine	ND		5500	2300	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzo[a]pyrene	ND		190	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
bis (2-chloroisopropyl) ether	ND		190	37	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Bis(2-ethylhexyl) phthalate	**100**	**J**	190	64	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Chrysene	ND		190	42	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Diallate	ND		360	46	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Dimethoate	ND		360	45	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Dinoseb	ND		360	65	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Disulfoton	ND		360	270	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Ethyl methanesulfonate	ND		360	80	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Famphur	ND		720	180	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Fluorene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Hexachlorobutadiene	ND		190	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Hexachloroethane	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Hexachloropropene	ND		360	92	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1

Client Sample ID: MW-2022-8 (58-62)
Date Collected: 04/08/22 11:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-6
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		360	64	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Isophorone	ND		190	40	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Isosafrole	ND		360	48	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Kepone	ND		720	360	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Naphthalene	ND		190	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosodiethylamine	ND		360	85	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosodimethylamine	ND		360	79	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosodi-n-butylamine	ND		360	99	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosomorpholine	ND		360	81	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosopiperidine	ND		360	74	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
N-Nitrosopyrrolidine	ND		360	55	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Ethyl Parathion	ND		360	41	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Methyl parathion	ND		360	63	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Pentachlorobenzene	ND		360	76	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Pentachloronitrobenzene	ND		360	92	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Pentachlorophenol	ND		360	190	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Phenacetin	ND		360	49	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Phenanthrene	ND		190	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Phenol	ND		190	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Phorate	ND		360	100	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~880~~	~~360~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/13/22 00:11~~	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Pyrene	ND		190	22	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Pyridine	ND		360	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Safrole	ND		360	49	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1
Thionazin	ND		360	64	ug/Kg	☼	04/11/22 15:35	04/13/22 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*04/11/22 15:35*	*04/13/22 00:11*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*04/11/22 15:35*	*04/13/22 00:11*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*04/11/22 15:35*	*04/13/22 00:11*	*1*
Nitrobenzene-d5 (Surr)	*73*		*53 - 120*	*04/11/22 15:35*	*04/13/22 00:11*	*1*
Phenol-d5 (Surr)	*70*		*54 - 120*	*04/11/22 15:35*	*04/13/22 00:11*	*1*
p-Terphenyl-d14 (Surr)	*100*		*79 - 130*	*04/11/22 15:35*	*04/13/22 00:11*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
4,4'-DDE	ND		1.8	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
4,4'-DDT	1.8 U	~~1.3 J B~~	1.8	0.43	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1

Client Sample ID: MW-2022-8 (58-62)
Date Collected: 04/08/22 11:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-6
Matrix: Solid
Percent Solids: 89.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Chlordane (technical)	ND		18	4.1	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Chlorobenzilate	ND		18	6.2	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
cis-Chlordane	ND		1.8	0.92	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Endrin aldehyde	**1.2**	**J**	1.8	0.47	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Heptachlor epoxide	ND		1.8	0.48	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Methoxychlor	ND		1.8	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
Toxaphene	ND		18	11	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1
trans-Chlordane	ND		1.8	0.59	ug/Kg	☼	04/11/22 15:44	04/12/22 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*59*		*45 - 120*	*04/11/22 15:44*	*04/12/22 14:32*	*1*
Tetrachloro-m-xylene	*59*		*30 - 124*	*04/11/22 15:44*	*04/12/22 14:32*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	04/11/22 11:56	04/12/22 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*106*		*65 - 174*	*04/11/22 11:56*	*04/12/22 04:13*	*1*
Tetrachloro-m-xylene	*139*		*60 - 154*	*04/11/22 11:56*	*04/12/22 04:13*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	04/13/22 13:26	04/18/22 21:07	1
2,4-D	ND		18	12	ug/Kg	☼	04/13/22 13:26	04/18/22 21:07	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	04/13/22 13:26	04/18/22 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*77*		*28 - 129*	*04/13/22 13:26*	*04/18/22 21:07*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1

Client Sample ID: MW-2022-8 (58-62)
Date Collected: 04/08/22 11:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-6
Matrix: Solid
Percent Solids: 89.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		36	24	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1
Famphur	ND		36	19	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1
Methyl parathion	ND		36	21	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1
Phorate	ND		36	12	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1
Sulfotepp	ND		36	14	ug/Kg	☼	04/13/22 19:36	04/18/22 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*20 - 135*	*04/13/22 19:36*	*04/18/22 14:27*	*1*
Tributyl phosphate	*91*		*20 - 135*	*04/13/22 19:36*	*04/18/22 14:27*	*1*
Triphenylphosphate	*93*		*33 - 168*	*04/13/22 19:36*	*04/18/22 14:27*	*1*
Triphenylphosphate	*98*		*33 - 168*	*04/13/22 19:36*	*04/18/22 14:27*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.6 U	~~0.21 J B~~	5.6	0.017	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,4,6,7,8-HpCDF	5.6 U	~~0.12 J I B~~	5.6	0.0025	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,4,7,8,9-HpCDF	5.6 U	~~0.032 J I B~~	5.6	0.0034	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,4,7,8-HxCDD	ND		5.6	0.0056	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,4,7,8-HxCDF	5.6 U	~~0.11 J B~~	5.6	0.011	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,6,7,8-HxCDD	5.6 U	~~0.042 J I B~~	5.6	0.0054	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,6,7,8-HxCDF	5.6 U	~~0.12 J I B~~	5.6	0.011	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,7,8,9-HxCDD	5.6 U	~~0.064 J I B~~	5.6	0.0057	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,7,8,9-HxCDF	5.6 U	~~0.092 J I B~~	5.6	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,7,8-PeCDD		0.11 ~~J I~~ JNX	5.6	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
1,2,3,7,8-PeCDF	5.6 U	~~0.17 J I B~~	5.6	0.0077	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
2,3,4,6,7,8-HxCDF	5.6 U	~~0.080 J I B~~	5.6	0.0097	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
2,3,4,7,8-PeCDF	5.6 U	~~0.095 J B~~	5.6	0.0062	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
2,3,7,8-TCDD		0.10 J I JNX	1.1	0.0080	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
2,3,7,8-TCDF		0.017 J I JNX	1.1	0.0050	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
OCDD	11 U	~~0.92 J I B~~	11	0.0064	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
OCDF	11 U	~~0.17 J I B~~	11	0.0055	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total HpCDD	5.6 U	~~0.21 J B~~	5.6	0.017	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total HpCDF	5.6 U	~~0.15 J I B~~	5.6	0.0029	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total HxCDD	5.6 U	~~0.11 J I B~~	5.6	0.0056	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total HxCDF	5.6 U	~~0.40 J I B~~	5.6	0.011	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total PeCDD		0.11 ~~J I~~ JNX	5.6	0.012	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total PeCDF	5.6 U	~~0.27 J I B~~	5.6	0.0070	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total TCDD		0.10 J I JNX	1.1	0.0080	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1
Total TCDF		0.017 J I JNX	1.1	0.0050	ng/Kg	☼	04/14/22 15:07	04/15/22 22:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*88*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,6,7,8-HxCDF	*88*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,7,8,9-HxCDD	*85*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*

Client Sample ID: MW-2022-8 (58-62)
Lab Sample ID: 480-196619-6

Date Collected: 04/08/22 11:15
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 89.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*93*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-2,3,4,6,7,8-HxCDF	*91*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-2,3,7,8-TCDD	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-2,3,7,8-TCDF	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-OCDD	*75*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*
13C-OCDF	*76*		*40 - 135*	*04/14/22 15:07*	*04/15/22 22:39*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.1**	**J**	17.7	0.47	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Arsenic	**3.7**		2.4	0.47	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Barium	**17.7**		0.59	0.13	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Beryllium	**0.20**	**J**	0.24	0.033	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Cadmium	**0.060**	**J**	0.24	0.035	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Chromium	**4.9**		0.59	0.24	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Cobalt	**5.7**		0.59	0.059	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Copper	**7.0**		1.2	0.25	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Lead	**5.8**		1.2	0.28	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Nickel	**9.0**		5.9	0.27	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Selenium	ND		4.7	0.47	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Silver	ND		0.71	0.24	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Thallium	ND		7.1	0.35	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Tin	ND		2.4	0.51	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Vanadium	**6.1**		0.59	0.13	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1
Zinc	**28.7**		2.4	0.76	mg/Kg	☼	04/12/22 15:31	04/14/22 19:24	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0049	mg/Kg	☼	04/14/22 10:37	04/14/22 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.51	mg/Kg	☼	04/11/22 11:14	04/11/22 13:06	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.5	11.7	mg/Kg	☼		04/14/22 16:01	1

Client Sample ID: MW-2022-8 (68-70)
Lab Sample ID: 480-196619-7

Date Collected: 04/08/22 13:15
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 82.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.76	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,1,2-Trichloroethane	ND		4.7	0.61	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1

Client Sample ID: MW-2022-8 (68-70)
Date Collected: 04/08/22 13:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-7
Matrix: Solid
Percent Solids: 82.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.7	0.57	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,1-Dichloroethene	ND		4.7	0.57	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,2,3-Trichloropropane	ND		4.7	0.48	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,2-Dichloroethane	ND		4.7	0.24	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
1,2-Dichloropropane	ND		4.7	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
2-Chloro-1,3-butadiene	ND		4.7	2.9	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
2-Chloroethyl vinyl ether	ND		9.4	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
3-Chloro-1-propene	ND		4.7	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Acetone	**4.0**	**J**	23	3.9	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Acetonitrile	ND		47	5.7	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Acrolein	ND		23	7.4	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Acrylonitrile	ND		23	4.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Benzene	ND		4.7	0.23	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Bromoform	ND		4.7	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Bromomethane	ND		4.7	0.42	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Carbon disulfide	ND		4.7	2.3	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Carbon tetrachloride	ND		4.7	0.45	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Chlorobenzene	ND		4.7	0.62	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Chlorodibromomethane	ND		4.7	0.60	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Chloroform	ND		4.7	0.29	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Chloromethane	ND		4.7	0.28	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
cis-1,3-Dichloropropene	ND		4.7	0.67	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Dibromomethane	ND		4.7	0.48	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Dichlorobromomethane	ND		4.7	0.63	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Ethylbenzene	ND		4.7	0.32	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Ethylene Dibromide	ND		4.7	0.60	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Methacrylonitrile	ND		23	5.5	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Methyl methacrylate	ND		4.7	0.98	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Methylene Chloride	ND		4.7	2.2	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
m-Xylene & p-Xylene	ND		9.4	0.79	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
o-Xylene	ND		4.7	0.61	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Propionitrile	ND		47	26	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Styrene	ND		4.7	0.23	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Tetrachloroethene	ND		4.7	0.63	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Toluene	ND		4.7	0.35	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
trans-1,2-Dichloroethene	ND		4.7	0.48	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Trichlorofluoromethane	ND		4.7	0.44	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1
Vinyl acetate	ND		9.4	2.4	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1

Client Sample ID: MW-2022-8 (68-70)
Date Collected: 04/08/22 13:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-7
Matrix: Solid
Percent Solids: 82.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.7	0.57	ug/Kg	☼	04/09/22 11:00	04/11/22 02:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/09/22 11:00*	*04/11/22 02:54*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/09/22 11:00*	*04/11/22 02:54*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/09/22 11:00*	*04/11/22 02:54*	*1*
Toluene-d8 (Surr)	*97*		*71 - 125*	*04/09/22 11:00*	*04/11/22 02:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Methylphenol	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Picoline	ND		390	45	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
2-Toluidine	ND		390	97	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
3-Methylphenol	ND		390	31	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1

Client Sample ID: MW-2022-8 (68-70)
Date Collected: 04/08/22 13:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-7
Matrix: Solid
Percent Solids: 82.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		200	50	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Methylphenol	ND		390	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
a,a-Dimethylphenethylamine	ND	*	390	390	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	R 1
Acenaphthene	ND		200	30	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Acetophenone	ND		200	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Aniline	ND		390	49	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Anthracene	ND		200	50	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Aramite, Total	ND		390	190	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzidine	ND		6000	2500	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Chrysene	ND		200	45	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Diallate	ND		390	50	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Dibenzofuran	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Dimethoate	ND		390	49	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Dinoseb	ND		390	70	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Diphenylamine	ND		390	51	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Disulfoton	ND		390	300	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Famphur	ND		790	190	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Fluoranthene	ND		200	21	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Fluorene	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Hexachloropropene	ND		390	100	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1

Client Sample ID: MW-2022-8 (68-70)
Lab Sample ID: 480-196619-7
Date Collected: 04/08/22 13:15
Matrix: Solid
Date Received: 04/09/22 10:00
Percent Solids: 82.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	69	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Isophorone	ND		200	43	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Isosafrole	ND		390	53	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Kepone	ND		790	390	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Naphthalene	ND		200	26	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Nitrobenzene	ND		200	23	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Methyl parathion	ND		390	68	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Phenacetin	ND		390	54	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Phenanthrene	ND		200	30	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Phenol	ND		200	31	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Phorate	ND		390	110	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~950~~	~~390~~	~~ug/Kg~~	~~☼~~	~~04/11/22 15:35~~	~~04/13/22 00:36~~	R 1
Pronamide	ND		390	78	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Pyrene	ND		200	24	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Pyridine	ND		390	29	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Safrole	ND		390	54	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Sulfotepp	ND		390	63	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1
Thionazin	ND		390	69	ug/Kg	☼	04/11/22 15:35	04/13/22 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*54 - 120*	*04/11/22 15:35*	*04/13/22 00:36*	*1*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*	*04/11/22 15:35*	*04/13/22 00:36*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*04/11/22 15:35*	*04/13/22 00:36*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*04/11/22 15:35*	*04/13/22 00:36*	*1*
Phenol-d5 (Surr)	*73*		*54 - 120*	*04/11/22 15:35*	*04/13/22 00:36*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*04/11/22 15:35*	*04/13/22 00:36*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
4,4'-DDT	2.0 U	~~0.87~~ ~~J B~~	2.0	0.46	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1

Client Sample ID: MW-2022-8 (68-70)
Date Collected: 04/08/22 13:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-7
Matrix: Solid
Percent Solids: 82.6

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
cis-Chlordane	ND		2.0	0.99	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
Toxaphene	ND		20	12	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/11/22 15:44	04/12/22 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*79*		*45 - 120*	*04/11/22 15:44*	*04/12/22 14:51*	*1*
Tetrachloro-m-xylene	*76*		*30 - 124*	*04/11/22 15:44*	*04/12/22 14:51*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	04/11/22 11:56	04/12/22 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*65 - 174*	*04/11/22 11:56*	*04/12/22 04:27*	*1*
Tetrachloro-m-xylene	*124*		*60 - 154*	*04/11/22 11:56*	*04/12/22 04:27*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	04/13/22 13:26	04/18/22 21:36	1
2,4-D	ND		20	12	ug/Kg	☼	04/13/22 13:26	04/18/22 21:36	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	04/13/22 13:26	04/18/22 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*82*		*28 - 129*	*04/13/22 13:26*	*04/18/22 21:36*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1

Client Sample ID: MW-2022-8 (68-70)
Date Collected: 04/08/22 13:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-7
Matrix: Solid
Percent Solids: 82.6

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		40	27	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1
Famphur	ND		40	21	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1
Methyl parathion	ND		40	23	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1
Phorate	ND		40	14	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1
Sulfotepp	ND		40	16	ug/Kg	☼	04/13/22 19:36	04/18/22 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*34*		*20 - 135*	*04/13/22 19:36*	*04/18/22 14:58*	*1*
Tributyl phosphate	*34*		*20 - 135*	*04/13/22 19:36*	*04/18/22 14:58*	*1*
Triphenylphosphate	*77*		*33 - 168*	*04/13/22 19:36*	*04/18/22 14:58*	*1*
Triphenylphosphate	*81*		*33 - 168*	*04/13/22 19:36*	*04/18/22 14:58*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.9 U	~~0.20 J I B~~	5.9	0.022	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,4,6,7,8-HpCDF	5.9 U	~~0.045 J B~~	5.9	0.0024	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,4,7,8,9-HpCDF	5.9 U	~~0.019 J I B~~	5.9	0.0032	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,4,7,8-HxCDD	ND		5.9	0.0055	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,4,7,8-HxCDF	ND		5.9	0.015	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,6,7,8-HxCDD	5.9 U	~~0.026 J I B~~	5.9	0.0054	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,6,7,8-HxCDF	5.9 U	~~0.078 J I B~~	5.9	0.015	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,7,8,9-HxCDD	5.9 U	~~0.011 J I B~~	5.9	0.0054	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,7,8,9-HxCDF	5.9 U	~~0.051 J I B~~	5.9	0.016	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,7,8-PeCDD	ND		5.9	0.0088	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
1,2,3,7,8-PeCDF	5.9 U	~~0.030 J I B~~	5.9	0.0071	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
2,3,4,6,7,8-HxCDF	ND		5.9	0.014	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
2,3,4,7,8-PeCDF	ND		5.9	0.0055	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
2,3,7,8-TCDD	ND		1.2	0.0068	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
2,3,7,8-TCDF	ND		1.2	0.0043	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
OCDD	12 U	~~0.98 J B~~	12	0.0061	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
OCDF	12 U	~~0.14 J I B~~	12	0.0052	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total HpCDD	5.9 U	~~0.20 J I B~~	5.9	0.022	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total HpCDF	5.9 U	~~0.064 J I B~~	5.9	0.0028	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total HxCDD	5.9 U	~~0.037 J I B~~	5.9	0.0054	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total HxCDF	5.9 U	~~0.13 J I B~~	5.9	0.015	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total PeCDD	ND		5.9	0.0088	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total PeCDF	5.9 U	~~0.030 J I B~~	5.9	0.0063	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total TCDD	ND		1.2	0.0068	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1
Total TCDF	ND		1.2	0.0043	ng/Kg	☼	04/14/22 15:07	04/15/22 23:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,7,8,9-HxCDD	*79*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*

Client Sample ID: MW-2022-8 (68-70)
Date Collected: 04/08/22 13:15
Date Received: 04/09/22 10:00

Lab Sample ID: 480-196619-7
Matrix: Solid
Percent Solids: 82.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*86*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-2,3,7,8-TCDD	*79*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-2,3,7,8-TCDF	*82*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-OCDD	*69*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*
13C-OCDF	*69*		*40 - 135*	*04/14/22 15:07*	*04/15/22 23:28*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.6**	**J**	19.2	0.51	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Arsenic	**3.9**		2.6	0.51	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Barium	**28.1**		0.64	0.14	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Beryllium	**0.23**	**J**	0.26	0.036	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Cadmium	**0.078**	**J**	0.26	0.038	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Chromium	**4.3**		0.64	0.26	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Cobalt	**11.6**		0.64	0.064	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Copper	**11.1**		1.3	0.27	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Lead	**6.1**		1.3	0.31	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Nickel	**12.1**		6.4	0.30	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Selenium	**1.1**	**J**	5.1	0.51	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Silver	ND		0.77	0.26	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Thallium	ND		7.7	0.38	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Tin	ND		2.6	0.55	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Vanadium	**5.9**		0.64	0.14	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1
Zinc	**29.9**		2.6	0.82	mg/Kg	☼	04/12/22 15:31	04/14/22 19:28	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.025	0.0057	mg/Kg	☼	04/14/22 10:37	04/14/22 13:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.54	mg/Kg	☼	04/11/22 11:14	04/11/22 13:10	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.6	12.3	mg/Kg	☼		04/14/22 16:01	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDGs # 480-196848-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47529R
Review Level: Tier I
Project: 30131071.0003

Contents

1 Summary 3
1.1 Analytical Data Package Documentation 3
1.2 Data Validation Procedures 4
2 Volatile Organic Compound Analyses 6
2.1 Holding Times 6
2.2 Field Duplicate Analysis 7
2.3 Data Validation Checklist 7
3 Semivolatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 8
3.3 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 9
3.4 Field Duplicate Analysis 10
3.5 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 11
4.1 Holding Times 11
4.2 Field Duplicate Analysis 12
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 Field Duplicate Analysis 13
5.3 Data Validation Checklist 13
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 14
6.1 Holding Times 14
6.2 Blank Contamination 14
6.3 Field Duplicate Analysis 16
6.4 Compound Identification 16
6.5 Data Validation Checklist 17
7 Metals Analyses 17
7.1 Holding Times 17
7.2 Field Duplicate Analysis 18
7.3 Data Validation Checklist 18

8 General Chemistry Analyses 19
8.1 Holding Times 19
8.2 Field Duplicate Analysis 19
8.3 Data Validation Checklist for General Chemistry 19
9 Overall Data Usability 20

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 3
Table 2. Evaluation of Data Package Completeness 4
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 6
Table 4. Specified Holding Times 6
Table 25. Specified Holding Times 8
Table 35. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 8
Table 36. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 9
Table 37. Samples with Relative Percent Difference Greater than Control Limits 9
Table 38. Relative Percent Difference Evaluation Criteria and Qualifications 9
Table 39. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 10
Table 40. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 10
Table 46. Holding Time for Method SW-846 8082A 12
Table 54. Data Validation Checklist for Polychlorinated Biphenyls 12
Table 55. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 65. Data Validation Checklist 13
Table 66. Holding Time for Method SW-846 8290A 14
Table 67. Summary of Blank Contamination Qualifications 15
Table 78. Need a Title 18
Table 113. Specified Holding Times 19
Table 114. Overall Summary of Data Usability 20

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196848-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
PZ-2022-5 (45-49)	480-196848-1	Soil	4/14/2022		X	X	X	X		X	X
MW-2022-4 (74-78)	480-196848-2	Soil	4/14/2022		X	X	X	X		X	X
PZ-2022-5 (58-62)	480-196848-3	Soil	4/14/2022		X	X	X	X		X	X

Notes:
HERB = herbicides
MET = metals
MISC = miscellaneous analyses (cyanide, sulfide)
PEST = pesticides

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	3	0	0	0	0	0	0
SVOCs	3	0	0	0	0	0	0
PCBs	3	0	0	0	0	0	0
PEST	3	0	0	0	0	0	0
HERB	3	0	0	0	0	0	0
PCDD/PCDF	3	0	0	0	0	0	0
Metals	3	0	0	0	0	0	0
MISC	3	0	0	0	0	0	0

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Specified Holding Times

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on a sample within this SDG.

2.3 Data Validation Checklist

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Specified Holding Times

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Table 6. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample Locations	Compound	MS Recovery	MSD Recovery
PZ-2022-5 (45-49)	a,a-Dimethylphenethylamine	<10%	<10%
	p-Phenylene diamine	<10%	<10%
	Hexachlorocyclopentadiene	AC	<LL but >10%

Note:
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 7. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Sample locations associated with MS/MSD recoveries exhibiting an RPD greater than the control limit are presented in the following table.

Table 8. Samples with Relative Percent Difference Greater than Control Limits

Sample Locations	Compound
PZ-2022-5 (45-49)	Hexachlorocyclopentadiene
	Famphur

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 9. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.3 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 10. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample Locations	Compound	LCS Recovery	LCSD Recovery
PZ-2022-5 (45-49) MW-2022-4 (74-78) PZ-2022-5 (58-62)	a,a-Dimethylphenethylamine	<10%	Not analyzed

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 11. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.4 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

3.5 Data Validation Checklist

VOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS)		X		X	
Matrix Spike Duplicate(MSD)		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate analysis was not performed on a sample within this SDG.

4.3 Data Validation Checklist

Table 13. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

5.3 Data Validation Checklist

Table 15. Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Dilution Factor		X		X	
Moisture Content		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 16. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the

sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 17. Summary of Blank Contamination Qualifications

Sample Locations	Analytes	Sample Result	Qualification
PZ-2022-5 (45-49)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDF Total PeCDF	Detected sample results <RL and <BAL	““U” at the RL
MW-2022-4 (74-78)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
PZ-2022-5 (58-62)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD		

Sample Locations	Analytes	Sample Result	Qualification
	OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD Total PeCDF		

RL = reporting limit

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content	X				X
Ion abundance criteria for each instrument used		X	X		

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Need a Title

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7470	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Field duplicate analysis was not performed on a sample location within this SDG.

7.3 Data Validation Checklist

METALS; SW-846 6010/7470/7471	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X

Notes:
%R Percent recovery
RPD Relative percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Field/Lab Duplicate (RPD)	X				X
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 20. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	99%	4
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample

analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: November 9, 2022

PEER REVIEW: Dennis Capria

DATE: November 15, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.6
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@Eurofinset.com	State of Origin:	Page: Page 6 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-992-0568(Tel)	PO #: Purchase Order not required			
Email: daniel.meandro@arcadis.com	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-5(45-49)	4/14/22	0935	G	S			X	X	X	X	X										
MW-2022-4(74-76)	4/14/22	1006	G	S			X	X	X	X	X										
PZ-2022-5(58-62)	4/14/22	1055	G	S			X	X	X	X	X										

480-196848 Chain of Custody

Possible Hazard Identification
X Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client X Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	4/14/22 1550			4/15/22 1000	TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.0

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: PZ-2022-5 (45-49)
Date Collected: 04/14/22 09:35
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-1
Matrix: Solid
Percent Solids: 87.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.3	0.53	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,1,1-Trichloroethane	ND		5.3	0.39	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,1,2,2-Tetrachloroethane	ND		5.3	0.86	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,1,2-Trichloroethane	ND		5.3	0.69	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,1-Dichloroethane	ND		5.3	0.65	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,1-Dichloroethene	ND		5.3	0.65	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,2,3-Trichloropropane	ND		5.3	0.54	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,2-Dibromo-3-Chloropropane	ND		5.3	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,2-Dichloroethane	ND		5.3	0.27	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
1,2-Dichloropropane	ND		5.3	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
2-Butanone (MEK)	ND		27	2.0	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
2-Chloro-1,3-butadiene	ND		5.3	3.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
2-Chloroethyl vinyl ether	ND		11	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
2-Hexanone	ND		27	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
3-Chloro-1-propene	ND		5.3	2.6	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
4-Methyl-2-pentanone (MIBK)	ND		27	1.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Acetone	ND		27	4.5	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Acetonitrile	ND		53	6.5	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Acrolein	ND		27	8.4	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Acrylonitrile	ND		27	4.8	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Benzene	ND		5.3	0.26	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Bromoform	ND		5.3	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Bromomethane	ND		5.3	0.48	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Carbon disulfide	ND		5.3	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Carbon tetrachloride	ND		5.3	0.52	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Chlorobenzene	ND		5.3	0.70	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Chlorodibromomethane	ND		5.3	0.68	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Chloroethane	ND		5.3	1.2	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Chloroform	ND		5.3	0.33	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Chloromethane	ND		5.3	0.32	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
cis-1,3-Dichloropropene	ND		5.3	0.77	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Dibromomethane	ND		5.3	0.55	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Dichlorobromomethane	ND		5.3	0.71	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Dichlorodifluoromethane	ND		5.3	0.44	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Ethyl methacrylate	ND		5.3	1.8	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Ethylbenzene	ND		5.3	0.37	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Ethylene Dibromide	ND		5.3	0.68	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Iodomethane	ND		5.3	0.26	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Methacrylonitrile	ND		27	6.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Methyl methacrylate	ND		5.3	1.1	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Methylene Chloride	ND		5.3	2.5	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
m-Xylene & p-Xylene	ND		11	0.90	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
o-Xylene	ND		5.3	0.70	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Propionitrile	ND		53	30	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Styrene	ND		5.3	0.27	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Tetrachloroethene	ND		5.3	0.72	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Toluene	ND		5.3	0.40	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
trans-1,2-Dichloroethene	ND		5.3	0.55	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
trans-1,3-Dichloropropene	ND		5.3	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1

Client Sample ID: PZ-2022-5 (45-49)
Date Collected: 04/14/22 09:35
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-1
Matrix: Solid
Percent Solids: 87.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.3	1.2	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Trichloroethene	ND		5.3	1.2	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Trichlorofluoromethane	ND		5.3	0.50	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Vinyl acetate	ND		11	2.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1
Vinyl chloride	ND		5.3	0.65	ug/Kg	☼	04/15/22 15:00	04/18/22 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/15/22 15:00*	*04/18/22 23:17*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/15/22 15:00*	*04/18/22 23:17*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/15/22 15:00*	*04/18/22 23:17*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*04/15/22 15:00*	*04/18/22 23:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,4-Dinitrophenol	ND		1800	870	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,6-Dichlorophenol	ND		370	69	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Picoline	ND		370	42	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
2-Toluidine	ND		370	90	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
3-Methylphenol	ND		370	29	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1

Client Sample ID: PZ-2022-5 (45-49)
Date Collected: 04/14/22 09:35
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-1
Matrix: Solid
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Aminobiphenyl	ND		370	77	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Methylphenol	ND		370	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
a,a-Dimethylphenethylamine	R ~~ND~~	~~*- F1~~	~~370~~	~~370~~	~~ug/Kg~~	☼	04/18/22 15:35	04/21/22 19:57	1
Acenaphthene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Acenaphthylene	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Acetophenone	ND		190	26	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Aniline	ND		370	46	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Anthracene	ND		190	47	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Aramite, Total	ND		370	180	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzidine	ND		5600	2400	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Bis(2-ethylhexyl) phthalate	**280**		190	65	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Chrysene	ND		190	42	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Diallate	ND		370	47	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Dimethoate	ND		370	46	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Dinoseb	ND		370	66	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Diphenylamine	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Disulfoton	ND		370	280	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Ethyl methanesulfonate	ND		370	81	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Famphur	ND	~~F2~~ UJ	740	180	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Fluorene	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1

Client Sample ID: PZ-2022-5 (45-49)
Lab Sample ID: 480-196848-1
Date Collected: 04/14/22 09:35
Matrix: Solid
Date Received: 04/15/22 10:00
Percent Solids: 87.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND	~~F2 F1~~ UJ	190	26	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Hexachloropropene	ND		370	94	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Isodrin	ND		370	65	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Isophorone	ND		190	40	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Isosafrole	ND		370	49	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Kepone	ND		740	370	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Methapyrilene	ND		1700	370	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Naphthalene	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosodiethylamine	ND		370	86	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosodimethylamine	ND		370	80	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosomorpholine	ND		370	82	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosopiperidine	ND		370	75	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Methyl parathion	ND		370	63	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
p-Dimethylamino azobenzene	ND		370	62	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Pentachlorobenzene	ND		370	77	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Pentachloronitrobenzene	ND		370	94	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Phenacetin	ND		370	50	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Phenanthrene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Phenol	ND		190	29	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Phorate	ND		370	100	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
p-Phenylene diamine	R ~~ND F1~~		~~890~~	~~370~~	~~ug/Kg~~	☼	~~04/18/22 15:35~~	~~04/21/22 19:57~~	1
Pronamide	ND		370	72	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Pyrene	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Pyridine	ND		370	27	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Safrole	ND		370	50	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Sulfotepp	ND		370	59	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1
Thionazin	ND		370	65	ug/Kg	☼	04/18/22 15:35	04/21/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*75*		*54 - 120*	*04/18/22 15:35*	*04/21/22 19:57*	*1*
2-Fluorobiphenyl (Surr)	*80*		*60 - 120*	*04/18/22 15:35*	*04/21/22 19:57*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*04/18/22 15:35*	*04/21/22 19:57*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*04/18/22 15:35*	*04/21/22 19:57*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*04/18/22 15:35*	*04/21/22 19:57*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*04/18/22 15:35*	*04/21/22 19:57*	*1*

Client Sample ID: PZ-2022-5 (45-49)
Date Collected: 04/14/22 09:35
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-1
Matrix: Solid
Percent Solids: 87.3

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
cis-Chlordane	ND		1.9	0.93	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Endrin	ND		1.9	0.37	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
Toxaphene	ND		19	11	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	04/19/22 15:40	04/20/22 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*79*		*45 - 120*	*04/19/22 15:40*	*04/20/22 16:27*	*1*
Tetrachloro-m-xylene	*87*		*30 - 124*	*04/19/22 15:40*	*04/20/22 16:27*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	04/15/22 15:21	04/18/22 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*96*		*65 - 174*	*04/15/22 15:21*	*04/18/22 22:54*	*1*
Tetrachloro-m-xylene	*117*		*60 - 154*	*04/15/22 15:21*	*04/18/22 22:54*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	04/20/22 09:16	04/25/22 15:48	1
2,4-D	ND		19	12	ug/Kg	☼	04/20/22 09:16	04/25/22 15:48	1
Silvex (2,4,5-TP)	ND		19	6.8	ug/Kg	☼	04/20/22 09:16	04/25/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*62*		*28 - 129*	*04/20/22 09:16*	*04/25/22 15:48*	*1*

Client Sample ID: PZ-2022-5 (45-49)
Date Collected: 04/14/22 09:35
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-1
Matrix: Solid
Percent Solids: 87.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	21	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1
Disulfoton	ND		38	25	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1
Famphur	ND		38	20	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1
Methyl parathion	ND		38	22	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1
Phorate	ND		38	13	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1
Sulfotepp	ND		38	15	ug/Kg	☼	04/19/22 08:59	04/20/22 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*71*		*20 - 135*	*04/19/22 08:59*	*04/20/22 19:44*	*1*
Tributyl phosphate	*70*		*20 - 135*	*04/19/22 08:59*	*04/20/22 19:44*	*1*
Triphenylphosphate	*73*		*33 - 168*	*04/19/22 08:59*	*04/20/22 19:44*	*1*
Triphenylphosphate	*75*		*33 - 168*	*04/19/22 08:59*	*04/20/22 19:44*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.18 J I B~~	5.6 U	5.6	0.0094	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,4,6,7,8-HpCDF	~~0.11 J I B~~	5.6 U	5.6	0.0086	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,4,7,8,9-HpCDF	~~0.019 J I B~~	5.6 U	5.6	0.010	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,4,7,8-HxCDD	ND		5.6	0.013	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,4,7,8-HxCDF	~~0.063 J B~~	5.6 U	5.6	0.0087	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,6,7,8-HxCDD	ND		5.6	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,6,7,8-HxCDF	~~0.060 J B~~	5.6 U	5.6	0.0086	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,7,8,9-HxCDD	ND		5.6	0.013	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,7,8,9-HxCDF	ND		5.6	0.0097	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,7,8-PeCDD	ND		5.6	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
1,2,3,7,8-PeCDF	~~0.097 J B~~	5.6 U	5.6	0.011	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
2,3,4,6,7,8-HxCDF	~~0.047 J B~~	5.6 U	5.6	0.0081	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
2,3,4,7,8-PeCDF	ND		5.6	0.0084	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
2,3,7,8-TCDD	ND		1.1	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
2,3,7,8-TCDF	ND		1.1	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
OCDD	~~1.3 J B~~	5.6 U	11	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
OCDF	~~0.13 J I B~~	5.6 U	11	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total HpCDD	~~0.18 J I B~~	5.6 U	5.6	0.0094	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total HpCDF	~~0.13 J I B~~	5.6 U	5.6	0.0095	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total HxCDD	ND		5.6	0.013	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total HxCDF	~~0.17 J B~~	5.6 U	5.6	0.0088	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total PeCDD	ND		5.6	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total PeCDF	~~0.097 J B~~	5.6 U	5.6	0.0098	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total TCDD	ND		1.1	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1
Total TCDF	ND		1.1	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 20:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*62*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*68*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,7,8,9-HxCDD	*66*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*

Client Sample ID: PZ-2022-5 (45-49)
Lab Sample ID: 480-196848-1

Date Collected: 04/14/22 09:35
Matrix: Solid
Date Received: 04/15/22 10:00
Percent Solids: 87.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*71*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*65*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-2,3,4,7,8-PeCDF	*65*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-OCDD	*69*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*
13C-OCDF	*67*		*40 - 135*	*04/23/22 07:27*	*04/25/22 20:15*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.7	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Arsenic	**2.4**		2.4	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Barium	**15.7**		0.59	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Beryllium	**0.21**	**J**	0.24	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Cadmium	**0.071**	**J**	0.24	0.035	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Chromium	**4.4**		0.59	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Cobalt	**5.0**		0.59	0.059	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Copper	**5.9**		1.2	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Lead	**5.7**		1.2	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Nickel	**8.4**		5.9	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Selenium	ND		4.7	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Silver	ND		0.71	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Thallium	ND		7.1	0.35	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Tin	ND		2.4	0.51	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Vanadium	**5.8**		0.59	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:00	1
Zinc	**24.7**		2.4	0.75	mg/Kg	☼	04/22/22 16:08	04/28/22 14:38	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0054	mg/Kg	☼	04/19/22 11:13	04/19/22 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	04/18/22 13:57	04/19/22 14:02	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.5	11.7	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: MW-2022-4 (74-78)
Lab Sample ID: 480-196848-2

Date Collected: 04/14/22 10:08
Matrix: Solid
Date Received: 04/15/22 10:00
Percent Solids: 80.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.46	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,1,1-Trichloroethane	ND		4.6	0.33	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,1,2,2-Tetrachloroethane	ND		4.6	0.75	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,1,2-Trichloroethane	ND		4.6	0.60	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1

Client Sample ID: MW-2022-4 (74-78)
Date Collected: 04/14/22 10:08
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-2
Matrix: Solid
Percent Solids: 80.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.6	0.56	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,1-Dichloroethene	ND		4.6	0.56	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,2,3-Trichloropropane	ND		4.6	0.47	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,2-Dibromo-3-Chloropropane	ND		4.6	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,2-Dichloroethane	ND		4.6	0.23	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
1,2-Dichloropropane	ND		4.6	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
2-Chloro-1,3-butadiene	ND		4.6	2.9	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
2-Chloroethyl vinyl ether	ND		9.2	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
3-Chloro-1-propene	ND		4.6	2.2	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Acetone	**5.4**	**J**	23	3.9	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Acetonitrile	ND		46	5.6	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Acrolein	ND		23	7.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Acrylonitrile	ND		23	4.1	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Benzene	ND		4.6	0.23	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Bromoform	ND		4.6	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Bromomethane	ND		4.6	0.41	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Carbon disulfide	ND		4.6	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Carbon tetrachloride	ND		4.6	0.45	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Chlorobenzene	ND		4.6	0.61	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Chlorodibromomethane	ND		4.6	0.59	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Chloroethane	ND		4.6	1.0	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Chloroform	**0.59**	**J**	4.6	0.28	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Chloromethane	ND		4.6	0.28	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
cis-1,3-Dichloropropene	ND		4.6	0.66	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Dibromomethane	ND		4.6	0.47	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Dichlorobromomethane	ND		4.6	0.62	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Dichlorodifluoromethane	ND		4.6	0.38	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Ethyl methacrylate	ND		4.6	1.6	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Ethylbenzene	ND		4.6	0.32	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Ethylene Dibromide	ND		4.6	0.59	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Iodomethane	ND		4.6	0.22	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Methacrylonitrile	ND		23	5.4	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Methyl methacrylate	ND		4.6	0.97	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Methylene Chloride	ND		4.6	2.1	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
m-Xylene & p-Xylene	ND		9.2	0.77	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
o-Xylene	ND		4.6	0.60	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Propionitrile	ND		46	26	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Styrene	ND		4.6	0.23	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Tetrachloroethene	ND		4.6	0.62	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Toluene	ND		4.6	0.35	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
trans-1,2-Dichloroethene	ND		4.6	0.48	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
trans-1,3-Dichloropropene	ND		4.6	2.0	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
trans-1,4-Dichloro-2-butene	ND		4.6	1.0	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Trichloroethene	ND		4.6	1.0	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Trichlorofluoromethane	ND		4.6	0.44	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1
Vinyl acetate	ND		9.2	2.3	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1

Client Sample ID: MW-2022-4 (74-78)
Date Collected: 04/14/22 10:08
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-2
Matrix: Solid
Percent Solids: 80.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.6	0.56	ug/Kg	☼	04/15/22 15:00	04/18/22 23:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/15/22 15:00*	*04/18/22 23:41*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/15/22 15:00*	*04/18/22 23:41*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*	*04/15/22 15:00*	*04/18/22 23:41*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*04/15/22 15:00*	*04/18/22 23:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	35	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,2,4-Trichlorobenzene	ND		400	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,2-Dichlorobenzene	ND		400	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,2-Diphenylhydrazine	ND		400	23	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,3,5-Trinitrobenzene	ND		400	17	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,3-Dichlorobenzene	ND		400	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,3-Dinitrobenzene	ND		400	48	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,4-Dichlorobenzene	ND		400	31	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1,4-Naphthoquinone	ND		400	75	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
1-Naphthylamine	ND		400	140	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,3,4,6-Tetrachlorophenol	ND		210	42	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,4,5-Trichlorophenol	ND		210	56	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,4,6-Trichlorophenol	ND		210	41	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,4-Dichlorophenol	ND		210	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,4-Dimethylphenol	ND		210	49	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,4-Dinitrophenol	ND		2000	950	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,4-Dinitrotoluene	ND		210	42	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,6-Dichlorophenol	ND		400	75	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2,6-Dinitrotoluene	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Acetylaminofluorene	ND		400	52	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Chloronaphthalene	ND		210	34	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Chlorophenol	ND		400	37	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Methylnaphthalene	ND		210	41	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Methylphenol	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Naphthylamine	ND		400	140	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Nitroaniline	ND		400	30	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Nitrophenol	ND		210	58	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Picoline	ND		400	46	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
2-Toluidine	ND		400	98	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
3 & 4 Methylphenol	ND		400	31	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
3,3'-Dichlorobenzidine	ND		400	240	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
3,3'-Dimethylbenzidine	ND		800	400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
3-Methylcholanthrene	ND		400	66	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
3-Methylphenol	ND		400	31	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
3-Nitroaniline	ND		400	57	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4,6-Dinitro-2-methylphenol	ND		400	210	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Aminobiphenyl	ND		400	83	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Bromophenyl phenyl ether	ND		210	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Chloro-3-methylphenol	ND		210	51	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1

Client Sample ID: MW-2022-4 (74-78)
Date Collected: 04/14/22 10:08
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-2
Matrix: Solid
Percent Solids: 80.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		210	51	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Chlorophenyl phenyl ether	ND		210	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Methylphenol	ND		400	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Nitroaniline	ND		400	110	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Nitrophenol	ND		400	140	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
4-Nitroquinoline-1-oxide	ND		800	400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
7,12-Dimethylbenz(a)anthracene	ND		400	59	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
a,a-Dimethylphenethylamine	R	ND *-	400	400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Acenaphthene	ND		210	30	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Acenaphthylene	ND		210	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Acetophenone	ND		210	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Aniline	ND		400	49	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Anthracene	ND		210	51	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Aramite, Total	ND		400	190	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzidine	ND		6000	2600	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzo[a]pyrene	ND		210	30	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzo[b]fluoranthene	ND		210	33	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzo[g,h,i]perylene	ND		210	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzo[k]fluoranthene	ND		210	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Benzyl alcohol	ND		400	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
bis (2-chloroisopropyl) ether	ND		210	41	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Bis(2-chloroethoxy)methane	ND		210	43	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Bis(2-chloroethyl)ether	ND		210	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Bis(2-ethylhexyl) phthalate	ND		210	70	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Butyl benzyl phthalate	ND		210	34	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Chrysene	ND		210	46	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Diallate	ND		400	51	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Dibenz(a,h)anthracene	ND		210	36	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Dibenzofuran	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Diethyl phthalate	ND		210	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Dimethoate	ND		400	49	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Dimethyl phthalate	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Di-n-butyl phthalate	ND		210	35	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Di-n-octyl phthalate	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Dinoseb	ND		400	71	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Diphenylamine	ND		400	52	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Disulfoton	ND		400	300	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Chlorobenzilate	ND		400	64	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Ethyl methanesulfonate	ND		400	88	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Famphur	ND		800	190	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Fluoranthene	ND		210	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Fluorene	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Hexachlorobenzene	ND		210	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Hexachlorobutadiene	ND		210	30	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Hexachlorocyclopentadiene	ND		210	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Hexachloroethane	ND		210	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Hexachloropropene	ND		400	100	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Indeno[1,2,3-cd]pyrene	ND		210	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1

Client Sample ID: MW-2022-4 (74-78)
Date Collected: 04/14/22 10:08
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-2
Matrix: Solid
Percent Solids: 80.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		400	70	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Isophorone	ND		210	43	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Isosafrole	ND		400	53	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Kepone	ND		800	400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Methapyrilene	ND		1800	400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Methyl methanesulfonate	ND		400	92	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Naphthalene	ND		210	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Nitrobenzene	ND		210	23	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitro-o-toluidine	ND		400	52	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosodiethylamine	ND		400	93	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosodimethylamine	ND		400	87	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosodi-n-butylamine	ND		400	110	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosodi-n-propylamine	ND		210	35	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosomethylethylamine	ND		400	92	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosomorpholine	ND		400	89	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosopiperidine	ND		400	81	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
N-Nitrosopyrrolidine	ND		400	60	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
o,o',o''-Triethylphosphorothioate	ND		400	52	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Ethyl Parathion	ND		400	45	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Methyl parathion	ND		400	69	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
p-Dimethylamino azobenzene	ND		400	68	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Pentachlorobenzene	ND		400	83	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Pentachloronitrobenzene	ND		400	100	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Pentachlorophenol	ND		400	210	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Phenacetin	ND		400	54	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Phenanthrene	ND		210	30	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Phenol	ND		210	31	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Phorate	ND		400	110	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
p-Phenylene diamine	ND		970	400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Pronamide	ND		400	78	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Pyrene	ND		210	24	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Pyridine	ND		400	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Safrole	ND		400	54	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Sulfotepp	ND		400	64	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1
Thionazin	ND		400	70	ug/Kg	☼	04/18/22 15:35	04/21/22 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*78*		*54 - 120*	*04/18/22 15:35*	*04/21/22 20:21*	*1*
2-Fluorobiphenyl (Surr)	*84*		*60 - 120*	*04/18/22 15:35*	*04/21/22 20:21*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*04/18/22 15:35*	*04/21/22 20:21*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*04/18/22 15:35*	*04/21/22 20:21*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*04/18/22 15:35*	*04/21/22 20:21*	*1*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*04/18/22 15:35*	*04/21/22 20:21*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1

Client Sample ID: MW-2022-4 (74-78)
Date Collected: 04/14/22 10:08
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-2
Matrix: Solid
Percent Solids: 80.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.50	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Chlordane (technical)	ND		20	4.5	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Chlorobenzilate	ND		20	6.8	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
delta-BHC	ND		2.0	0.38	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Endosulfan I	ND		2.0	0.39	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Endosulfan sulfate	ND		2.0	0.38	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Endrin	ND		2.0	0.40	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Endrin aldehyde	ND		2.0	0.52	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Endrin ketone	ND		2.0	0.50	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Heptachlor	ND		2.0	0.44	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
Toxaphene	ND		20	12	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	04/19/22 15:40	04/20/22 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*86*		*45 - 120*	*04/19/22 15:40*	*04/20/22 16:47*	*1*
Tetrachloro-m-xylene	*103*		*30 - 124*	*04/19/22 15:40*	*04/20/22 16:47*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/15/22 15:21	04/18/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*65 - 174*	*04/15/22 15:21*	*04/18/22 23:47*	*1*
Tetrachloro-m-xylene	*112*		*60 - 154*	*04/15/22 15:21*	*04/18/22 23:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.5	ug/Kg	☼	04/20/22 09:16	04/25/22 16:18	1
2,4-D	ND		20	13	ug/Kg	☼	04/20/22 09:16	04/25/22 16:18	1
Silvex (2,4,5-TP)	ND		20	7.4	ug/Kg	☼	04/20/22 09:16	04/25/22 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*04/20/22 09:16*	*04/25/22 16:18*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1

Client Sample ID: MW-2022-4 (74-78)
Date Collected: 04/14/22 10:08
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-2
Matrix: Solid
Percent Solids: 80.9

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		40	27	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1
Famphur	ND		40	21	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1
Methyl parathion	ND		40	23	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1
Phorate	ND		40	14	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1
Sulfotepp	ND		40	16	ug/Kg	☼	04/19/22 08:59	04/20/22 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*82*		*20 - 135*	*04/19/22 08:59*	*04/20/22 20:15*	*1*
Tributyl phosphate	*81*		*20 - 135*	*04/19/22 08:59*	*04/20/22 20:15*	*1*
Triphenylphosphate	*88*		*33 - 168*	*04/19/22 08:59*	*04/20/22 20:15*	*1*
Triphenylphosphate	*89*		*33 - 168*	*04/19/22 08:59*	*04/20/22 20:15*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.35~~ ~~J I B~~ 6.0 U		6.0	0.049	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,4,6,7,8-HpCDF	~~0.15~~ ~~J I B~~ 6.0 U		6.0	0.0070	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,4,7,8,9-HpCDF	~~0.096~~ ~~J I B~~ 6.0 U		6.0	0.0078	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,4,7,8-HxCDD	ND		6.0	0.022	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,4,7,8-HxCDF	~~0.18~~ ~~J B~~ 6.0 U		6.0	0.021	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,6,7,8-HxCDD	~~0.11~~ ~~J B~~ 6.0 U		6.0	0.021	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,6,7,8-HxCDF	ND		6.0	0.020	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,7,8,9-HxCDD	~~0.10~~ ~~J B~~ 6.0 U		6.0	0.023	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,7,8,9-HxCDF	~~0.065~~ ~~J I B~~ 6.0 U		6.0	0.019	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,7,8-PeCDD	ND		6.0	0.011	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
1,2,3,7,8-PeCDF	~~0.078~~ ~~J I B~~ 6.0 U		6.0	0.0073	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
2,3,4,6,7,8-HxCDF	~~0.11~~ ~~J I B~~ 6.0 U		6.0	0.018	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
2,3,4,7,8-PeCDF	0.084 J		6.0	0.0052	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
2,3,7,8-TCDD	ND		1.2	0.0088	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
2,3,7,8-TCDF	0.032 ~~J I~~ JNX		1.2	0.0061	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
OCDD	~~1.3~~ ~~J I B~~ 12 U		12	0.041	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
OCDF	~~0.34~~ ~~J I B~~ 12 U		12	0.010	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total HpCDD	~~0.35~~ ~~J I B~~ 6.0 U		6.0	0.049	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total HpCDF	~~0.25~~ ~~J I B~~ 6.0 U		6.0	0.0074	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total HxCDD	~~0.21~~ ~~J B~~ 6.0 U		6.0	0.022	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total HxCDF	~~0.36~~ ~~J I B~~ 6.0 U		6.0	0.020	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total PeCDD	ND		6.0	0.011	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total PeCDF	~~0.16~~ ~~J I B~~ 6.0 U		6.0	0.0062	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total TCDD	ND		1.2	0.0088	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1
Total TCDF	0.032 ~~J I~~ JNX		1.2	0.0061	ng/Kg	☼	04/23/22 07:27	04/27/22 15:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*45*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*44*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*57*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,4,7,8-HxCDD	*55*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,4,7,8-HxCDF	*57*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,6,7,8-HxCDD	*56*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,6,7,8-HxCDF	*61*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,7,8,9-HxCDD	*57*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*

Client Sample ID: MW-2022-4 (74-78)
Lab Sample ID: 480-196848-2

Date Collected: 04/14/22 10:08
Matrix: Solid
Date Received: 04/15/22 10:00
Percent Solids: 80.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*74*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-2,3,7,8-TCDD	*70*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-OCDD	*36*	**5-*	*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*
13C-OCDF	*40*		*40 - 135*	*04/23/22 07:27*	*04/27/22 15:53*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.3	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Arsenic	**3.2**		2.4	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Barium	**22.4**		0.61	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Beryllium	**0.25**		0.24	0.034	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Cadmium	**0.11**	**J**	0.24	0.037	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Chromium	**5.5**		0.61	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Cobalt	**5.7**		0.61	0.061	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Copper	**6.8**		1.2	0.26	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Lead	**6.2**		1.2	0.29	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Nickel	**9.7**		6.1	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Selenium	ND		4.9	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Silver	ND		0.73	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Thallium	ND		7.3	0.37	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Tin	ND		2.4	0.53	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Vanadium	**6.4**		0.61	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:04	1
Zinc	**30.1**		2.4	0.78	mg/Kg	☼	04/22/22 16:08	04/28/22 14:42	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0055	mg/Kg	☼	04/19/22 11:13	04/19/22 14:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	04/18/22 13:57	04/19/22 14:03	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.9	11.9	mg/Kg	☼		04/20/22 15:30	1

Client Sample ID: PZ-2022-5 (58-62)
Lab Sample ID: 480-196848-3

Date Collected: 04/14/22 10:55
Matrix: Solid
Date Received: 04/15/22 10:00
Percent Solids: 87.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.48	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,1,1-Trichloroethane	ND		4.8	0.35	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,1,2,2-Tetrachloroethane	ND		4.8	0.78	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,1,2-Trichloroethane	ND		4.8	0.62	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1

Client Sample ID: PZ-2022-5 (58-62)
Date Collected: 04/14/22 10:55
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-3
Matrix: Solid
Percent Solids: 87.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.8	0.59	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,1-Dichloroethene	ND		4.8	0.59	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,2,3-Trichloropropane	ND		4.8	0.49	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,2-Dibromo-3-Chloropropane	ND		4.8	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,2-Dichloroethane	ND		4.8	0.24	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
2-Butanone (MEK)	ND		24	1.8	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
2-Chloro-1,3-butadiene	ND		4.8	3.0	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
2-Chloroethyl vinyl ether	ND		9.6	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
3-Chloro-1-propene	ND		4.8	2.3	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Acetone	ND		24	4.0	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Acetonitrile	ND		48	5.9	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Acrolein	ND		24	7.6	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Acrylonitrile	ND		24	4.3	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Benzene	ND		4.8	0.24	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Bromomethane	ND		4.8	0.43	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Carbon tetrachloride	ND		4.8	0.47	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Chlorobenzene	ND		4.8	0.63	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Chlorodibromomethane	ND		4.8	0.61	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Chloroethane	ND		4.8	1.1	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Chloroform	ND		4.8	0.30	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Chloromethane	ND		4.8	0.29	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
cis-1,3-Dichloropropene	ND		4.8	0.69	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Dibromomethane	ND		4.8	0.49	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Dichlorobromomethane	ND		4.8	0.64	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Dichlorodifluoromethane	ND		4.8	0.40	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Ethyl methacrylate	ND		4.8	1.6	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Ethylbenzene	ND		4.8	0.33	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Ethylene Dibromide	ND		4.8	0.62	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Iodomethane	ND		4.8	0.23	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Methacrylonitrile	ND		24	5.7	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Methyl methacrylate	ND		4.8	1.0	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Methylene Chloride	ND		4.8	2.2	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
m-Xylene & p-Xylene	ND		9.6	0.81	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
o-Xylene	ND		4.8	0.63	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Propionitrile	ND		48	27	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Styrene	ND		4.8	0.24	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Tetrachloroethene	ND		4.8	0.64	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Toluene	ND		4.8	0.36	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
trans-1,2-Dichloroethene	ND		4.8	0.50	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
trans-1,3-Dichloropropene	ND		4.8	2.1	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
trans-1,4-Dichloro-2-butene	ND		4.8	1.1	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Trichloroethene	ND		4.8	1.1	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Trichlorofluoromethane	ND		4.8	0.45	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1
Vinyl acetate	ND		9.6	2.4	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1

Client Sample ID: PZ-2022-5 (58-62)
Date Collected: 04/14/22 10:55
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-3
Matrix: Solid
Percent Solids: 87.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.8	0.59	ug/Kg	☼	04/15/22 15:00	04/19/22 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/15/22 15:00*	*04/19/22 00:05*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/15/22 15:00*	*04/19/22 00:05*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*04/15/22 15:00*	*04/19/22 00:05*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*04/15/22 15:00*	*04/19/22 00:05*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,4-Dinitrophenol	ND		1900	880	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,6-Dichlorophenol	ND		370	69	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Nitrophenol	ND		190	54	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Picoline	ND		370	42	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
2-Toluidine	ND		370	90	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
3-Methylphenol	ND		370	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Aminobiphenyl	ND		370	77	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1

Client Sample ID: PZ-2022-5 (58-62)
Date Collected: 04/14/22 10:55
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-3
Matrix: Solid
Percent Solids: 87.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		190	47	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Methylphenol	ND		370	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
a,a-Dimethylphenethylamine	R ND	*-	370	370	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Acenaphthene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Acenaphthylene	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Acetophenone	ND		190	26	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Aniline	ND		370	46	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Anthracene	ND		190	47	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Aramite, Total	ND		370	180	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzidine	ND		5600	2400	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzo[a]anthracene	**26**	**J**	190	19	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Bis(2-ethylhexyl) phthalate	**490**		190	65	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Chrysene	ND		190	42	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Diallate	ND		370	47	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Dimethoate	ND		370	46	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Dinoseb	ND		370	66	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Diphenylamine	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Disulfoton	ND		370	280	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Ethyl methanesulfonate	ND		370	81	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Famphur	ND		740	180	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Fluoranthene	ND		190	20	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Fluorene	ND		190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Hexachloropropene	ND		370	94	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1

Client Sample ID: PZ-2022-5 (58-62)
Lab Sample ID: 480-196848-3
Date Collected: 04/14/22 10:55
Matrix: Solid
Date Received: 04/15/22 10:00
Percent Solids: 87.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		370	65	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Isophorone	ND		190	40	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Isosafrole	ND		370	49	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Kepone	ND		740	370	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Methapyrilene	ND		1700	370	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Naphthalene	ND		190	25	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosodiethylamine	ND		370	86	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosodimethylamine	ND		370	80	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosomorpholine	ND		370	83	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosopiperidine	ND		370	75	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Methyl parathion	ND		370	64	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
p-Dimethylamino azobenzene	ND		370	63	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Pentachlorobenzene	ND		370	77	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Pentachloronitrobenzene	ND		370	94	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Phenacetin	ND		370	50	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Phenanthrene	ND		190	28	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Phenol	ND		190	29	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Phorate	ND		370	100	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
p-Phenylene diamine	ND		890	370	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Pronamide	ND		370	73	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Pyrene	**110**	**J**	190	22	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Pyridine	ND		370	27	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Safrole	ND		370	50	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Sulfotepp	ND		370	59	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1
Thionazin	ND		370	65	ug/Kg	☼	04/18/22 15:35	04/21/22 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*54 - 120*	*04/18/22 15:35*	*04/21/22 20:45*	*1*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*04/18/22 15:35*	*04/21/22 20:45*	*1*
2-Fluorophenol (Surr)	*81*		*52 - 120*	*04/18/22 15:35*	*04/21/22 20:45*	*1*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*04/18/22 15:35*	*04/21/22 20:45*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*04/18/22 15:35*	*04/21/22 20:45*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*04/18/22 15:35*	*04/21/22 20:45*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
4,4'-DDT	ND		1.9	0.43	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1

Client Sample ID: PZ-2022-5 (58-62)
Date Collected: 04/14/22 10:55
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-3
Matrix: Solid
Percent Solids: 87.5

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.46	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
alpha-BHC	ND		1.9	0.33	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
beta-BHC	ND		1.9	0.33	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Chlorobenzilate	ND		19	6.2	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
cis-Chlordane	ND		1.9	0.92	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Endosulfan II	ND		1.9	0.33	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Endrin	ND		1.9	0.37	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Endrin aldehyde	ND		1.9	0.47	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
Toxaphene	ND		19	11	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	04/19/22 15:40	04/20/22 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*68*		*45 - 120*	*04/19/22 15:40*	*04/20/22 17:06*	*1*
Tetrachloro-m-xylene	*111*		*30 - 124*	*04/19/22 15:40*	*04/20/22 17:06*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.042	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1
PCB-1221	ND		0.21	0.042	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1
PCB-1232	ND		0.21	0.042	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1
PCB-1242	ND		0.21	0.042	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1
PCB-1248	ND		0.21	0.042	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1
PCB-1254	ND		0.21	0.10	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1
PCB-1260	ND		0.21	0.10	mg/Kg	☼	04/15/22 15:21	04/19/22 00:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*65 - 174*	*04/15/22 15:21*	*04/19/22 00:00*	*1*
Tetrachloro-m-xylene	*115*		*60 - 154*	*04/15/22 15:21*	*04/19/22 00:00*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	04/20/22 09:16	04/25/22 16:48	1
2,4-D	ND		19	12	ug/Kg	☼	04/20/22 09:16	04/25/22 16:48	1
Silvex (2,4,5-TP)	ND		19	6.8	ug/Kg	☼	04/20/22 09:16	04/25/22 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*54*		*28 - 129*	*04/20/22 09:16*	*04/25/22 16:48*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1

Client Sample ID: PZ-2022-5 (58-62)
Date Collected: 04/14/22 10:55
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-3
Matrix: Solid
Percent Solids: 87.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		37	25	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1
Famphur	ND		37	20	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1
Methyl parathion	ND		37	21	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1
Ethyl Parathion	ND		37	21	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1
Phorate	ND		37	13	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1
Sulfotepp	ND		37	14	ug/Kg	☼	04/19/22 08:59	04/20/22 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*20 - 135*	*04/19/22 08:59*	*04/20/22 20:47*	*1*
Tributyl phosphate	*82*		*20 - 135*	*04/19/22 08:59*	*04/20/22 20:47*	*1*
Triphenylphosphate	*80*		*33 - 168*	*04/19/22 08:59*	*04/20/22 20:47*	*1*
Triphenylphosphate	*83*		*33 - 168*	*04/19/22 08:59*	*04/20/22 20:47*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.21~~	~~J I B~~ 5.7 U	5.7	0.030	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,4,6,7,8-HpCDF	~~0.14~~	~~J I B~~ 5.7 U	5.7	0.0063	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,4,7,8,9-HpCDF	~~0.091~~	~~J I B~~ 5.7 U	5.7	0.0086	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,4,7,8-HxCDD	~~0.097~~	~~J I B~~ 5.7 U	5.7	0.014	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,4,7,8-HxCDF	~~0.080~~	~~J B~~ 5.7 U	5.7	0.022	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,6,7,8-HxCDD	~~0.11~~	~~J B~~ 5.7 U	5.7	0.013	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,6,7,8-HxCDF	~~0.097~~	~~J I B~~ 5.7 U	5.7	0.022	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,7,8,9-HxCDD	~~0.14~~	~~J I B~~ 5.7 U	5.7	0.014	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,7,8,9-HxCDF	~~0.097~~	~~J I B~~ 5.7 U	5.7	0.027	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,7,8-PeCDD	~~0.073~~	~~J I B~~ 5.7 U	5.7	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
1,2,3,7,8-PeCDF	~~0.078~~	~~J B~~ 5.7 U	5.7	0.017	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
2,3,4,6,7,8-HxCDF	~~0.12~~	~~J B~~ 5.7 U	5.7	0.020	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
2,3,4,7,8-PeCDF	0.089	J	5.7	0.013	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
2,3,7,8-TCDD	0.028	~~J I~~ JNX	1.1	0.016	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
2,3,7,8-TCDF	0.018	~~J I~~ JNX	1.1	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
OCDD	~~1.3~~	~~J B~~ 5.7 U	11	0.030	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
OCDF	~~0.41~~	~~J B~~ 5.7 U	11	0.019	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total HpCDD	~~0.21~~	~~J I B~~ 5.7 U	5.7	0.030	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total HpCDF	~~0.23~~	~~J I B~~ 5.7 U	5.7	0.0075	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total HxCDD	~~0.35~~	~~J I B~~ 5.7 U	5.7	0.014	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total HxCDF	~~0.39~~	~~J I B~~ 5.7 U	5.7	0.023	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total PeCDD	~~0.073~~	~~J I B~~ 5.7 U	5.7	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total PeCDF	~~0.17~~	~~J B~~ 5.7 U	5.7	0.015	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total TCDD	~~0.028~~	~~J I~~ JNX	1.1	0.016	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1
Total TCDF	~~0.018~~	~~J I~~ JNX	1.1	0.012	ng/Kg	☼	04/23/22 07:27	04/25/22 21:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,4,7,8-HxCDD	*61*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,6,7,8-HxCDD	*68*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,6,7,8-HxCDF	*70*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,7,8,9-HxCDD	*63*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*

Client Sample ID: PZ-2022-5 (58-62)
Date Collected: 04/14/22 10:55
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196848-3
Matrix: Solid
Percent Solids: 87.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*65*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-2,3,4,6,7,8-HxCDF	*67*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-2,3,4,7,8-PeCDF	*59*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-OCDD	*68*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*
13C-OCDF	*64*		*40 - 135*	*04/23/22 07:27*	*04/25/22 21:52*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.8	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Arsenic	**2.4**		2.4	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Barium	**19.9**		0.59	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Beryllium	**0.22**	**J**	0.24	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Cadmium	**0.096**	**J**	0.24	0.036	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Chromium	**4.9**		0.59	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Cobalt	**4.7**		0.59	0.059	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Copper	**5.9**		1.2	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Lead	**5.5**		1.2	0.29	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Nickel	**8.3**		5.9	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Selenium	ND		4.8	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Silver	ND		0.71	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Thallium	ND		7.1	0.36	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Tin	ND		2.4	0.51	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Vanadium	**6.1**		0.59	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:08	1
Zinc	**26.2**		2.4	0.76	mg/Kg	☼	04/22/22 16:08	04/28/22 14:46	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0052	mg/Kg	☼	04/19/22 11:13	04/19/22 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	F1	0.98	0.47	mg/Kg	☼	04/18/22 13:57	04/19/22 14:08	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.3	11.5	mg/Kg	☼		04/20/22 15:30	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDGs # 480-196984-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47530R
Review Level: Tier I
Project: 30131071.0003

Contents

1 Summary 1
1.1 Analytical Data Package Documentation 1
1.2 Data Validation Procedures 2
2 Volatile Organic Compound Analyses 4
2.1 Holding Times 4
2.2 Field Duplicate Analysis 5
2.3 Data Validation Checklist 5
3 Semivolatile Organic Compound Analyses 5
3.1 Holding Times 5
3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 6
3.3 Field Duplicate Analysis 7
3.4 System Performance and Overall Assessment 7
3.5 Data Validation Checklist 8
4 Polychlorinated Biphenyl Analyses 8
4.1 Holding Times 8
4.2 Field Duplicate Analysis 9
4.3 Data Validation Checklist 9
5 Pesticide/Herbicide Analyses 9
5.1 Holding Times 9
5.2 Field Duplicate Analysis 10
5.3 Data Validation Checklist 10
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 11
6.1 Holding Times 11
6.2 Blank Contamination 11
6.3 Field Duplicate Analysis 12
6.4 Compound Identification 12
6.5 Data Validation Checklist 13
7 Metals Analyses 13
7.1 Holding Times 13
7.2 Field Duplicate Analysis 14
7.3 Data Validation Checklist 14
8 General Chemistry Analyses 15

8.1 Holding Times 15
8.2 Field Duplicate Analysis 15
8.3 Data Validation Checklist for General Chemistry 15
9 Overall Data Usability 16

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 1
Table 2. Evaluation of Data Package Completeness 1
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 4
Table 4. Specified Holding Times 4
Table 25. Specified Holding Times 6
Table 39. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 6
Table 40. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 7
Table 46. Holding Time for Method SW-846 8082A 8
Table 54. Data Validation Checklist for Polychlorinated Biphenyls 9
Table 55. Holding Time for Method SW-846 8081B/8141B/8151A 10
Table 65. Data Validation Checklist 10
Table 66. Holding Time for Method SW-846 8290A 11
Table 67. Summary of Blank Contamination Qualifications 11
Table 78. Need a Title 14
Table 113. Specified Holding Times 15
Table 114. Overall Summary of Data Usability 16

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-196984-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
PZ-2022-5 (72-76)	480-196984-1	Soil	4/18/2022		X	X	X	X		X	X
FB-041922	480-196984-2	Soil	4/19/2022		X	X	X	X		X	X
TB-041922	480-196984-3	Soil	4/17/2022		X						

Notes:
HERB = herbicides
MET = metals
MISC = miscellaneous analyses (cyanide, sulfide)
PEST = pesticides

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers

U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  U Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	2	0	0	0	0
SVOCs	1	0	1	0	0	0	0
PCBs	1	0	1	0	0	0	0
PEST	1	0	1	0	0	0	0
HERB	1	0	1	0	0	0	0
PCDD/PCDF	1	0	1	0	0	0	0
Metals	1	0	1	0	0	0	0
MISC	1	0	1	0	0	0	0

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Specified Holding Times

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected in FB-041922 and TB-041922.

All samples were analyzed within the specified holding time criterion.

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on a sample within this SDG.

2.3 Data Validation Checklist

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X	X		
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Specified Holding Times

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 6. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample Locations	Compound	LCS Recovery	LCSD Recovery
PZ-2022-5 (72-76)	a,a-Dimethylphenethylamine	<10%	Not analyzed
	Famphur	<10%	Not analyzed
	Kepone	<10%	Not analyzed
	p-Phenylene diamine	<10%	Not analyzed
FB-041922	Benzidine	<10%	AC
	Kepone	<10%	<LL but >10%
	p-Phenylene diamine	<10%	<10%

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 7. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate analysis was not performed on a sample within this SDG.

3.4 System Performance and Overall Assessment

The laboratory case narrative states The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 480-623230 was outside criteria for the following analyte(s): 4-Nitroquinoline-1-oxide. The associated sample result for this compound in sample FB-041922 was qualified as rejected.

3.5 Data Validation Checklist

VOCs: SW-846 8270	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS)		X	X		
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate analysis was not performed on a sample within this SDG.

4.3 Data Validation Checklist

Table 9. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8141B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

5.3 Data Validation Checklist

Table 11. Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample Locations	Analytes	Sample Result	Qualification
PZ-2022-5 (72-76)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD	Detected sample results <RL and <BAL	““U” at the RL

Sample Locations	Analytes	Sample Result	Qualification
	1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF		

RL = reporting limit

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX (JNXB for field blank results that were qualified "B" due to method blank contamination).

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Field/Lab Duplicate (RPD)	X				X
Dilution Factor		X		X	
Moisture Content		X		X	
Ion abundance criteria for each instrument used		X	X		

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Need a Title

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7470	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
SW-846 7471	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Field duplicate analysis was not performed on a sample location within this SDG.

7.3 Data Validation Checklist

METALS; SW-846 6010/7470/7471	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)	X				X

Notes:
%R Percent recovery
RPD Relative percent difference

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 15. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Field/Lab Duplicate (RPD)	X				X
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 16. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	99.4%	1
SVOCs	97.8%	8
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample

analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: November 11, 2022

PEER REVIEW: Dennis Capria

DATE: November 15, 2022

Appendix A

Chain of Custody

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St. Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-5 (72-76)	4/18/22	1430	G	S			X	X	X	X	X									8	
FB-041922	4/19/22	1000	G	W								X	X	X	X	X	X	X	X	18	
TB-041922	3/17/22	NA	G	W								X								2	

480-196984 Chain of Custody

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/19/22 1700			4/20/22 1000	TAS
2						
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 3.7

Page 6281 of 6292

05/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

45AA

Chain of Custody Record



rofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	lo: 71456.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State: Massachusetts
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-196984-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/3/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Page 1 of 1

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-5 (72-76) (480-196984-1)	4/18/22	14:30 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification Unconfirmed	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/21/22 1800	Company TAB	Received by: DW	Date/Time: 4-22-22 945	Company ESAT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ins Buffalo
elwood Drive
st, NY 14228-2298
: 716-691-2600 Fax: 716-691-7991

8141

Chain of Custody Record



ns | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-196984-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/3/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FB-041922 (480-196984-2)	4/19/22	10:00 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/22/22 1800	Company: TAB	Received by: DW	Date/Time: 4-25-22 900	Company: EET MPH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

05/17/2022

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71452.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-196984-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/3/2022	Analysis Requested		Preservation Codes:
City: Lancaster	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			Other:
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-5 (72-76) (480-196984-1)	4/18/22	14:30 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	4/21/22 1800	TAT			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	4/22/22 10:55	EMS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.4

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71468.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-196984-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/3/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FB-041922 (480-196984-2)	4/19/22	10:00 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/22/22 1800	JAB			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/23/22 10:30	Company EAL

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.6

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: PZ-2022-5 (72-76)
Date Collected: 04/18/22 14:30
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-1
Matrix: Solid
Percent Solids: 83.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	0.57	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,1,1-Trichloroethane	ND		5.7	0.41	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,1,2,2-Tetrachloroethane	ND		5.7	0.92	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,1,2-Trichloroethane	ND		5.7	0.74	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,1-Dichloroethane	ND		5.7	0.70	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,1-Dichloroethene	ND		5.7	0.70	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,2,3-Trichloropropane	ND		5.7	0.58	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,2-Dibromo-3-Chloropropane	ND		5.7	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,2-Dichloroethane	ND		5.7	0.29	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
1,2-Dichloropropane	ND		5.7	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
2-Butanone (MEK)	ND		29	2.1	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
2-Chloro-1,3-butadiene	ND		5.7	3.5	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
2-Chloroethyl vinyl ether	ND		11	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
2-Hexanone	ND		29	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
3-Chloro-1-propene	ND		5.7	2.7	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
4-Methyl-2-pentanone (MIBK)	ND		29	1.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Acetone	ND		29	4.8	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Acetonitrile	ND		57	7.0	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Acrolein	ND		29	9.0	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Acrylonitrile	ND		29	5.1	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Benzene	ND		5.7	0.28	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Bromoform	ND		5.7	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Bromomethane	ND		5.7	0.51	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Carbon disulfide	ND		5.7	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Carbon tetrachloride	ND		5.7	0.55	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Chlorobenzene	ND		5.7	0.75	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Chlorodibromomethane	ND		5.7	0.73	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Chloroethane	ND		5.7	1.3	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Chloroform	**1.2**	**J**	5.7	0.35	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Chloromethane	ND		5.7	0.34	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
cis-1,3-Dichloropropene	ND		5.7	0.82	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Dibromomethane	ND		5.7	0.59	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Dichlorobromomethane	ND		5.7	0.76	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Dichlorodifluoromethane	ND		5.7	0.47	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Ethyl methacrylate	ND		5.7	1.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Ethylbenzene	ND		5.7	0.39	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Ethylene Dibromide	ND		5.7	0.73	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Iodomethane	ND		5.7	0.28	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Methacrylonitrile	ND		29	6.7	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Methyl methacrylate	ND		5.7	1.2	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Methylene Chloride	ND		5.7	2.6	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
m-Xylene & p-Xylene	ND		11	0.96	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
o-Xylene	ND		5.7	0.74	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Propionitrile	ND		57	32	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Styrene	ND		5.7	0.29	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Tetrachloroethene	ND		5.7	0.76	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Toluene	ND		5.7	0.43	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
trans-1,2-Dichloroethene	ND		5.7	0.59	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
trans-1,3-Dichloropropene	ND		5.7	2.5	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1

Client Sample ID: PZ-2022-5 (72-76)
Date Collected: 04/18/22 14:30
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-1
Matrix: Solid
Percent Solids: 83.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.7	1.3	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Trichloroethene	ND		5.7	1.3	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Trichlorofluoromethane	ND		5.7	0.54	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Vinyl acetate	ND		11	2.9	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1
Vinyl chloride	ND		5.7	0.70	ug/Kg	☼	04/20/22 14:00	04/20/22 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/20/22 14:00*	*04/20/22 22:56*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/20/22 14:00*	*04/20/22 22:56*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/20/22 14:00*	*04/20/22 22:56*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*04/20/22 14:00*	*04/20/22 22:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Acetylaminofluorene	ND	*	390	51	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Methylphenol	ND		200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Picoline	ND		390	45	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
2-Toluidine	ND		390	96	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
3-Methylphenol	ND		390	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1

Client Sample ID: PZ-2022-5 (72-76)
Date Collected: 04/18/22 14:30
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-1
Matrix: Solid
Percent Solids: 83.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Methylphenol	ND		390	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
a,a-Dimethylphenethylamine	R ND	*	390	390	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Acenaphthene	ND		200	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Acenaphthylene	ND		200	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Acetophenone	ND		200	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Aniline	ND		390	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Anthracene	ND		200	50	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Aramite, Total	ND		390	190	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzidine	ND		5900	2500	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Chrysene	ND		200	45	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Diallate	ND		390	50	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Dibenzofuran	ND		200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Dimethoate	ND		390	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Dinoseb	ND		390	70	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Diphenylamine	ND		390	51	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Disulfoton	ND		390	300	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Famphur	R ND	*	780	190	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Fluoranthene	ND		200	21	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Fluorene	ND		200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1

Client Sample ID: PZ-2022-5 (72-76)
Lab Sample ID: 480-196984-1
Date Collected: 04/18/22 14:30
Matrix: Solid
Date Received: 04/20/22 10:00
Percent Solids: 83.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Hexachloroethane	ND		200	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Hexachloropropene	ND		390	100	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Isodrin	ND		390	69	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Isophorone	ND		200	43	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Isosafrole	ND		390	52	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Kepone	R ND	*-	780	390	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Methapyrilene	ND		1800	390	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Methyl methanesulfonate	ND		390	90	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Naphthalene	ND		200	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Nitrobenzene	ND		200	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosodiethylamine	ND		390	91	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosomethylethylamine	ND		390	90	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Methyl parathion	ND		390	68	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Phenacetin	ND		390	53	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Phenanthrene	ND		200	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Phenol	ND		200	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Phorate	ND		390	110	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
p-Phenylene diamine	R ND	*-	950	390	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Pronamide	ND		390	77	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Pyrene	ND	*+	200	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Pyridine	ND		390	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Safrole	ND		390	53	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Sulfotepp	ND		390	63	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1
Thionazin	ND		390	69	ug/Kg	☼	04/25/22 15:36	04/26/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*04/25/22 15:36*	*04/26/22 19:57*	*1*
2-Fluorobiphenyl (Surr)	*87*		*60 - 120*	*04/25/22 15:36*	*04/26/22 19:57*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*04/25/22 15:36*	*04/26/22 19:57*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*04/25/22 15:36*	*04/26/22 19:57*	*1*
Phenol-d5 (Surr)	*75*		*54 - 120*	*04/25/22 15:36*	*04/26/22 19:57*	*1*
p-Terphenyl-d14 (Surr)	*112*		*79 - 130*	*04/25/22 15:36*	*04/26/22 19:57*	*1*

Client Sample ID: PZ-2022-5 (72-76)
Date Collected: 04/18/22 14:30
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-1
Matrix: Solid
Percent Solids: 83.5

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Aldrin	ND		2.0	0.48	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
alpha-BHC	ND		2.0	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
beta-BHC	ND		2.0	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
cis-Chlordane	ND		2.0	0.98	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Endosulfan II	ND		2.0	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Endrin aldehyde	ND		2.0	0.50	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Endrin ketone	ND		2.0	0.48	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
Toxaphene	ND		20	11	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/22/22 15:53	04/25/22 12:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*45 - 120*	*04/22/22 15:53*	*04/25/22 12:06*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*04/22/22 15:53*	*04/25/22 12:06*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/22/22 06:47	04/25/22 01:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*86*		*65 - 174*	*04/22/22 06:47*	*04/25/22 01:20*	*1*
Tetrachloro-m-xylene	*95*		*60 - 154*	*04/22/22 06:47*	*04/25/22 01:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.4	ug/Kg	☼	04/26/22 07:11	05/01/22 23:10	1
2,4-D	ND		20	13	ug/Kg	☼	04/26/22 07:11	05/01/22 23:10	1
Silvex (2,4,5-TP)	ND		20	7.2	ug/Kg	☼	04/26/22 07:11	05/01/22 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*77*		*28 - 129*	*04/26/22 07:11*	*05/01/22 23:10*	*1*

Client Sample ID: PZ-2022-5 (72-76)
Date Collected: 04/18/22 14:30
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-1
Matrix: Solid
Percent Solids: 83.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	22	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1
Disulfoton	ND		40	26	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1
Famphur	ND		40	21	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1
Methyl parathion	ND		40	23	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1
Phorate	ND		40	13	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1
Sulfotepp	ND		40	15	ug/Kg	☼	04/25/22 07:53	04/27/22 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*78*		*20 - 135*	*04/25/22 07:53*	*04/27/22 17:02*	*1*
Tributyl phosphate	*77*		*20 - 135*	*04/25/22 07:53*	*04/27/22 17:02*	*1*
Triphenylphosphate	*92*		*33 - 168*	*04/25/22 07:53*	*04/27/22 17:02*	*1*
Triphenylphosphate	*95*		*33 - 168*	*04/25/22 07:53*	*04/27/22 17:02*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.25~~ ~~J I B~~	5.9 U	5.9	0.021	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,4,6,7,8-HpCDF	~~0.10~~ ~~J I B~~	5.9 U	5.9	0.0095	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,4,7,8,9-HpCDF	ND		5.9	0.013	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,4,7,8-HxCDD	~~0.088~~ ~~J I B~~	5.9 U	5.9	0.0083	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,4,7,8-HxCDF	**0.060** ~~J N~~	JNX	5.9	0.0080	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,6,7,8-HxCDD	ND		5.9	0.0082	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,6,7,8-HxCDF	~~0.073~~ ~~J B~~	5.9 U	5.9	0.0074	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,7,8,9-HxCDD	~~0.049~~ ~~J B~~	5.9 U	5.9	0.0083	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,7,8,9-HxCDF	~~0.039~~ ~~J I B~~	5.9 U	5.9	0.0094	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,7,8-PeCDD	ND		5.9	0.0096	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
1,2,3,7,8-PeCDF	~~0.097~~ ~~J I B~~	5.9 U	5.9	0.011	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
2,3,4,6,7,8-HxCDF	~~0.057~~ ~~J B~~	5.9 U	5.9	0.0068	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
2,3,4,7,8-PeCDF	~~0.069~~ ~~J B~~	5.9 U	5.9	0.0080	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
2,3,7,8-TCDD	**0.012** ~~J I~~	JNX	1.2	0.0036	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
2,3,7,8-TCDF	ND		1.2	0.0073	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
OCDD	~~1.1~~ ~~J I B~~	5.9 U	12	0.023	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
OCDF	~~0.077~~ ~~J I B~~	5.9 U	12	0.0079	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total HpCDD	~~0.25~~ ~~J I B~~	5.9 U	5.9	0.021	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total HpCDF	~~0.10~~ ~~J I B~~	5.9 U	5.9	0.011	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total HxCDD	~~0.14~~ ~~J I B~~	5.9 U	5.9	0.0083	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total HxCDF	~~0.23~~ ~~J I B~~	5.9 U	5.9	0.0079	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total PeCDD	ND		5.9	0.0096	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total PeCDF	~~0.17~~ ~~J I B~~	5.9 U	5.9	0.0092	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total TCDD	**0.012** ~~J I~~	JNX	1.2	0.0036	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1
Total TCDF	ND		1.2	0.0073	ng/Kg	☼	04/26/22 15:00	04/28/22 20:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*61*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*61*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,6,7,8-HxCDD	*65*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,6,7,8-HxCDF	*65*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,7,8,9-HxCDD	*65*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*

Client Sample ID: PZ-2022-5 (72-76)
Date Collected: 04/18/22 14:30
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-1
Matrix: Solid
Percent Solids: 83.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*64*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-2,3,4,6,7,8-HxCDF	*66*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-2,3,4,7,8-PeCDF	*69*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-2,3,7,8-TCDD	*66*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-OCDD	*54*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*
13C-OCDF	*53*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:37*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.2	0.46	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Arsenic	**2.7**		2.3	0.46	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Barium	**16.1**		0.57	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Beryllium	**0.23**		0.23	0.032	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Cadmium	**0.081**	**J**	0.23	0.034	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Chromium	**4.4**		0.57	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Cobalt	**4.6**		0.57	0.057	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Copper	**5.5**		1.1	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Lead	**5.8**		1.1	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Nickel	**8.1**		5.7	0.26	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Selenium	ND		4.6	0.46	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Silver	ND		0.69	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Thallium	ND		6.9	0.34	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Tin	ND		2.3	0.49	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Vanadium	**5.7**		0.57	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 20:12	1
Zinc	**25.8**		2.3	0.73	mg/Kg	☼	04/22/22 16:08	04/28/22 14:50	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	04/22/22 09:35	04/22/22 13:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.56	mg/Kg	☼	04/21/22 14:35	04/21/22 14:51	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.6	12.9	mg/Kg	☼		04/29/22 16:35	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			04/21/22 19:08	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/21/22 19:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/21/22 19:08	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/21/22 19:08	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/21/22 19:08	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/21/22 19:08	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			04/21/22 19:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/21/22 19:08	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/21/22 19:08	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/21/22 19:08	1
2-Butanone (MEK)	ND	*+	10	1.3	ug/L			04/21/22 19:08	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			04/21/22 19:08	1
2-Chloroethyl vinyl ether	R ND	*+	5.0	0.96	ug/L			04/21/22 19:08	1
2-Hexanone	ND	*+	5.0	1.2	ug/L			04/21/22 19:08	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			04/21/22 19:08	1
4-Methyl-2-pentanone (MIBK)	ND	*+	5.0	2.1	ug/L			04/21/22 19:08	1
Acetone	**4.1**	**J**	10	3.0	ug/L			04/21/22 19:08	1
Acetonitrile	ND		15	4.9	ug/L			04/21/22 19:08	1
Acrolein	ND		20	0.91	ug/L			04/21/22 19:08	1
Acrylonitrile	ND		5.0	0.83	ug/L			04/21/22 19:08	1
Benzene	ND		1.0	0.41	ug/L			04/21/22 19:08	1
Bromoform	ND		1.0	0.26	ug/L			04/21/22 19:08	1
Bromomethane	ND		1.0	0.69	ug/L			04/21/22 19:08	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/21/22 19:08	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/21/22 19:08	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/21/22 19:08	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			04/21/22 19:08	1
Chloroethane	ND		1.0	0.32	ug/L			04/21/22 19:08	1
Chloroform	ND		1.0	0.34	ug/L			04/21/22 19:08	1
Chloromethane	ND		1.0	0.35	ug/L			04/21/22 19:08	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/21/22 19:08	1
Dibromomethane	ND		1.0	0.41	ug/L			04/21/22 19:08	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			04/21/22 19:08	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/21/22 19:08	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			04/21/22 19:08	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/21/22 19:08	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			04/21/22 19:08	1
Iodomethane	ND		1.0	0.30	ug/L			04/21/22 19:08	1
Methacrylonitrile	ND	*+	5.0	0.69	ug/L			04/21/22 19:08	1
Methyl methacrylate	ND		1.0	0.61	ug/L			04/21/22 19:08	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/21/22 19:08	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			04/21/22 19:08	1
o-Xylene	ND		1.0	0.76	ug/L			04/21/22 19:08	1
Propionitrile	ND		10	5.8	ug/L			04/21/22 19:08	1
Styrene	ND		1.0	0.73	ug/L			04/21/22 19:08	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/21/22 19:08	1
Toluene	ND		1.0	0.51	ug/L			04/21/22 19:08	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/21/22 19:08	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/21/22 19:08	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			04/21/22 19:08	1
Trichloroethene	ND		1.0	0.46	ug/L			04/21/22 19:08	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/21/22 19:08	1
Vinyl acetate	ND	*+	5.0	0.85	ug/L			04/21/22 19:08	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0	0.90	ug/L			04/21/22 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*04/21/22 19:08*	*1*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*04/21/22 19:08*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 123*		*04/21/22 19:08*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*04/21/22 19:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,4-Dioxane	ND		10	1.1	ug/L		04/25/22 15:19	04/26/22 17:10	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		04/25/22 15:19	04/26/22 17:10	1
1-Naphthylamine	ND		10	1.3	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		04/25/22 15:19	04/26/22 17:10	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Chlorophenol	ND		5.0	0.53	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Methylphenol	ND		5.0	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Naphthylamine	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Nitroaniline	ND		10	0.42	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Nitrophenol	ND		5.0	0.48	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Picoline	ND		80	1.4	ug/L		04/25/22 15:19	04/26/22 17:10	1
2-Toluidine	ND		10	1.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		04/25/22 15:19	04/26/22 17:10	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
3-Methylcholanthrene	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
3-Methylphenol	ND		10	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
3-Nitroaniline	ND		10	0.48	ug/L		04/25/22 15:19	04/26/22 17:10	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Aminobiphenyl	ND		10	0.81	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Chloro-3-methylphenol	**18**		5.0	0.45	ug/L		04/25/22 15:19	04/26/22 17:10	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		5.0	0.59	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Methylphenol	ND		10	0.36	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Nitroaniline	ND		10	0.25	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Nitrophenol	ND		10	1.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
4-Nitroquinoline-1-oxide	R ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		04/25/22 15:19	04/26/22 17:10	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		04/25/22 15:19	04/26/22 17:10	1
Acenaphthene	ND		5.0	0.41	ug/L		04/25/22 15:19	04/26/22 17:10	1
Acenaphthylene	ND		5.0	0.38	ug/L		04/25/22 15:19	04/26/22 17:10	1
Acetophenone	ND		5.0	0.54	ug/L		04/25/22 15:19	04/26/22 17:10	1
Aniline	ND		10	0.61	ug/L		04/25/22 15:19	04/26/22 17:10	1
Anthracene	ND		5.0	0.28	ug/L		04/25/22 15:19	04/26/22 17:10	1
Aramite, Total	ND		20	1.6	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzidine	R ND	*1	80	2.2	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		04/25/22 15:19	04/26/22 17:10	1
Benzyl alcohol	ND		20	2.0	ug/L		04/25/22 15:19	04/26/22 17:10	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		04/25/22 15:19	04/26/22 17:10	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		04/25/22 15:19	04/26/22 17:10	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		04/25/22 15:19	04/26/22 17:10	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		04/25/22 15:19	04/26/22 17:10	1
Chrysene	ND		5.0	0.33	ug/L		04/25/22 15:19	04/26/22 17:10	1
Diallate	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		04/25/22 15:19	04/26/22 17:10	1
Dibenzofuran	ND		10	0.51	ug/L		04/25/22 15:19	04/26/22 17:10	1
Diethyl phthalate	**0.37**	**J**	5.0	0.22	ug/L		04/25/22 15:19	04/26/22 17:10	1
Dimethoate	ND		10	0.54	ug/L		04/25/22 15:19	04/26/22 17:10	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		04/25/22 15:19	04/26/22 17:10	1
Di-n-butyl phthalate	**0.70**	**J B**	5.0	0.31	ug/L		04/25/22 15:19	04/26/22 17:10	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		04/25/22 15:19	04/26/22 17:10	1
Dinoseb	ND		10	2.9	ug/L		04/25/22 15:19	04/26/22 17:10	1
Diphenylamine	ND		10	0.82	ug/L		04/25/22 15:19	04/26/22 17:10	1
Disulfoton	ND		10	0.42	ug/L		04/25/22 15:19	04/26/22 17:10	1
Chlorobenzilate	ND		20	0.67	ug/L		04/25/22 15:19	04/26/22 17:10	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		04/25/22 15:19	04/26/22 17:10	1
Famphur	ND	*1	40	1.9	ug/L		04/25/22 15:19	04/26/22 17:10	1
Fluoranthene	ND		5.0	0.40	ug/L		04/25/22 15:19	04/26/22 17:10	1
Fluorene	ND		5.0	0.36	ug/L		04/25/22 15:19	04/26/22 17:10	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		04/25/22 15:19	04/26/22 17:10	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		04/25/22 15:19	04/26/22 17:10	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		04/25/22 15:19	04/26/22 17:10	1
Hexachloroethane	ND		5.0	0.59	ug/L		04/25/22 15:19	04/26/22 17:10	1
Hexachloropropene	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		04/25/22 15:19	04/26/22 17:10	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		10	0.18	ug/L		04/25/22 15:19	04/26/22 17:10	1
Isophorone	ND		5.0	0.43	ug/L		04/25/22 15:19	04/26/22 17:10	1
Isosafrole	ND		10	0.58	ug/L		04/25/22 15:19	04/26/22 17:10	1
Kepone	R ~~ND~~	~~*-~~	~~50~~	~~1.8~~	~~ug/L~~		~~04/25/22 15:19~~	~~04/26/22 17:10~~	1
Methapyrilene	ND	~~*1~~	50	1.8	ug/L		04/25/22 15:19	04/26/22 17:10	1
Methyl methanesulfonate	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
Naphthalene	ND		5.0	0.76	ug/L		04/25/22 15:19	04/26/22 17:10	1
Nitrobenzene	ND		5.0	0.29	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		04/25/22 15:19	04/26/22 17:10	1
Ethyl Parathion	ND		10	0.64	ug/L		04/25/22 15:19	04/26/22 17:10	1
Methyl parathion	ND		10	0.37	ug/L		04/25/22 15:19	04/26/22 17:10	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		04/25/22 15:19	04/26/22 17:10	1
Pentachlorobenzene	ND		10	0.53	ug/L		04/25/22 15:19	04/26/22 17:10	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
Pentachlorophenol	ND		10	2.2	ug/L		04/25/22 15:19	04/26/22 17:10	1
Phenacetin	ND		10	0.61	ug/L		04/25/22 15:19	04/26/22 17:10	1
Phenanthrene	ND		5.0	0.44	ug/L		04/25/22 15:19	04/26/22 17:10	1
Phenol	ND		5.0	0.39	ug/L		04/25/22 15:19	04/26/22 17:10	1
Phorate	ND		10	0.50	ug/L		04/25/22 15:19	04/26/22 17:10	1
p-Phenylene diamine	R ~~ND~~	~~*-~~	~~800~~	~~200~~	~~ug/L~~		~~04/25/22 15:19~~	~~04/26/22 17:10~~	1
Pronamide	ND		10	2.5	ug/L		04/25/22 15:19	04/26/22 17:10	1
Pyrene	ND		5.0	0.34	ug/L		04/25/22 15:19	04/26/22 17:10	1
Pyridine	ND		25	0.41	ug/L		04/25/22 15:19	04/26/22 17:10	1
Safrole	ND		10	0.46	ug/L		04/25/22 15:19	04/26/22 17:10	1
Sulfotepp	ND		10	0.64	ug/L		04/25/22 15:19	04/26/22 17:10	1
Thionazin	ND		10	0.38	ug/L		04/25/22 15:19	04/26/22 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*41 - 120*	*04/25/22 15:19*	*04/26/22 17:10*	*1*
2-Fluorobiphenyl (Surr)	*82*		*48 - 120*	*04/25/22 15:19*	*04/26/22 17:10*	*1*
2-Fluorophenol (Surr)	*57*		*35 - 120*	*04/25/22 15:19*	*04/26/22 17:10*	*1*
Nitrobenzene-d5 (Surr)	*80*		*46 - 120*	*04/25/22 15:19*	*04/26/22 17:10*	*1*
Phenol-d5 (Surr)	*41*		*22 - 120*	*04/25/22 15:19*	*04/26/22 17:10*	*1*
p-Terphenyl-d14 (Surr)	*106*		*60 - 148*	*04/25/22 15:19*	*04/26/22 17:10*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		04/24/22 08:58	04/25/22 15:39	1
4,4'-DDE	ND		0.050	0.012	ug/L		04/24/22 08:58	04/25/22 15:39	1
4,4'-DDT	**0.022**	**J B**	0.050	0.011	ug/L		04/24/22 08:58	04/25/22 15:39	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.050	0.0081	ug/L		04/24/22 08:58	04/25/22 15:39	1
alpha-BHC	ND		0.050	0.0077	ug/L		04/24/22 08:58	04/25/22 15:39	1
beta-BHC	ND		0.050	0.025	ug/L		04/24/22 08:58	04/25/22 15:39	1
Chlordane (technical)	ND		0.50	0.29	ug/L		04/24/22 08:58	04/25/22 15:39	1
Chlorobenzilate	ND		5.0	0.090	ug/L		04/24/22 08:58	04/25/22 15:39	1
cis-Chlordane	ND		0.050	0.015	ug/L		04/24/22 08:58	04/25/22 15:39	1
delta-BHC	ND		0.050	0.010	ug/L		04/24/22 08:58	04/25/22 15:39	1
Dieldrin	ND		0.050	0.0098	ug/L		04/24/22 08:58	04/25/22 15:39	1
Endosulfan I	ND		0.050	0.011	ug/L		04/24/22 08:58	04/25/22 15:39	1
Endosulfan II	ND		0.050	0.012	ug/L		04/24/22 08:58	04/25/22 15:39	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		04/24/22 08:58	04/25/22 15:39	1
Endrin	ND		0.050	0.014	ug/L		04/24/22 08:58	04/25/22 15:39	1
Endrin aldehyde	ND		0.050	0.016	ug/L		04/24/22 08:58	04/25/22 15:39	1
Endrin ketone	ND		0.050	0.012	ug/L		04/24/22 08:58	04/25/22 15:39	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		04/24/22 08:58	04/25/22 15:39	1
Heptachlor	ND		0.050	0.0085	ug/L		04/24/22 08:58	04/25/22 15:39	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		04/24/22 08:58	04/25/22 15:39	1
Methoxychlor	**0.027**	**J**	0.050	0.014	ug/L		04/24/22 08:58	04/25/22 15:39	1
Toxaphene	ND		0.50	0.12	ug/L		04/24/22 08:58	04/25/22 15:39	1
trans-Chlordane	ND		0.050	0.011	ug/L		04/24/22 08:58	04/25/22 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*61*		*20 - 120*	*04/24/22 08:58*	*04/25/22 15:39*	*1*
Tetrachloro-m-xylene	*91*		*44 - 120*	*04/24/22 08:58*	*04/25/22 15:39*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		04/20/22 14:56	04/21/22 17:51	1
PCB-1221	ND		0.50	0.18	ug/L		04/20/22 14:56	04/21/22 17:51	1
PCB-1232	ND		0.50	0.18	ug/L		04/20/22 14:56	04/21/22 17:51	1
PCB-1242	ND		0.50	0.18	ug/L		04/20/22 14:56	04/21/22 17:51	1
PCB-1248	ND		0.50	0.18	ug/L		04/20/22 14:56	04/21/22 17:51	1
PCB-1254	ND		0.50	0.25	ug/L		04/20/22 14:56	04/21/22 17:51	1
PCB-1260	ND		0.50	0.25	ug/L		04/20/22 14:56	04/21/22 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*98*		*39 - 121*	*04/20/22 14:56*	*04/21/22 17:51*	*1*
DCB Decachlorobiphenyl	*60*		*19 - 120*	*04/20/22 14:56*	*04/21/22 17:51*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		04/21/22 09:11	04/22/22 15:17	1
2,4-D	ND		0.48	0.16	ug/L		04/21/22 09:11	04/22/22 15:17	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		04/21/22 09:11	04/22/22 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*77*		*48 - 132*	*04/21/22 09:11*	*04/22/22 15:17*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.95	0.25	ug/L		04/25/22 07:30	04/27/22 12:19	1

Client Sample ID: FB-041922
Date Collected: 04/19/22 10:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-2
Matrix: Water

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		0.95	0.39	ug/L		04/25/22 07:30	04/27/22 12:19	1
Famphur	ND		0.95	0.31	ug/L		04/25/22 07:30	04/27/22 12:19	1
Methyl parathion	ND		0.95	0.33	ug/L		04/25/22 07:30	04/27/22 12:19	1
Ethyl Parathion	ND		0.95	0.35	ug/L		04/25/22 07:30	04/27/22 12:19	1
Phorate	ND		0.95	0.36	ug/L		04/25/22 07:30	04/27/22 12:19	1
Sulfotepp	ND		0.95	0.38	ug/L		04/25/22 07:30	04/27/22 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*82*		*25 - 127*	*04/25/22 07:30*	*04/27/22 12:19*	*1*
Tributyl phosphate	*81*		*25 - 127*	*04/25/22 07:30*	*04/27/22 12:19*	*1*
Triphenylphosphate	*95*		*70 - 155*	*04/25/22 07:30*	*04/27/22 12:19*	*1*
Triphenylphosphate	*100*		*70 - 155*	*04/25/22 07:30*	*04/27/22 12:19*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**1.1**	~~J~~ JNX	26	0.22	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,4,6,7,8-HpCDF	**0.23**	J B	26	0.040	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,4,7,8,9-HpCDF	**0.50**	~~J~~ JNX	26	0.054	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,4,7,8-HxCDD	ND		26	0.092	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,4,7,8-HxCDF	**0.43**	~~J B~~ JNXB	26	0.10	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,6,7,8-HxCDD	**0.30**	J B	26	0.090	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,6,7,8-HxCDF	**0.49**	~~J B~~ JNXB	26	0.10	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,7,8,9-HxCDD	ND		26	0.092	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,7,8,9-HxCDF	ND		26	0.10	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,7,8-PeCDD	ND		26	0.14	pg/L		04/28/22 12:41	04/30/22 12:44	1
1,2,3,7,8-PeCDF	ND		26	0.086	pg/L		04/28/22 12:41	04/30/22 12:44	1
2,3,4,6,7,8-HxCDF	ND		26	0.095	pg/L		04/28/22 12:41	04/30/22 12:44	1
2,3,4,7,8-PeCDF	**0.30**	~~J B~~ JNXB	26	0.069	pg/L		04/28/22 12:41	04/30/22 12:44	1
2,3,7,8-TCDD	ND		5.2	0.12	pg/L		04/28/22 12:41	04/30/22 12:44	1
2,3,7,8-TCDF	ND		5.2	0.090	pg/L		04/28/22 12:41	04/30/22 12:44	1
OCDD	**1.5**	~~J B~~ JNXB	110	0.11	pg/L		04/28/22 12:41	04/30/22 12:44	1
OCDF	ND		52	0.14	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total HpCDD	**1.1**	~~J~~ JNX	26	0.22	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total HpCDF	**0.73**	~~J B~~ JNXB	26	0.047	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total HxCDD	**0.30**	~~J B~~ JNXB	26	0.091	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total HxCDF	**0.92**	~~J B~~ JNXB	26	0.10	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total PeCDD	ND		26	0.14	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total PeCDF	**0.30**	~~J B~~ JNXB	26	0.077	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total TCDD	ND		5.2	0.12	pg/L		04/28/22 12:41	04/30/22 12:44	1
Total TCDF	ND		5.2	0.090	pg/L		04/28/22 12:41	04/30/22 12:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*81*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,4,7,8-HxCDD	*74*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,7,8,9-HxCDD	*77*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*

Client Sample ID: FB-041922
Lab Sample ID: 480-196984-2

Date Collected: 04/19/22 10:00
Matrix: Water
Date Received: 04/20/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*88*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-2,3,7,8-TCDD	*73*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-OCDD	*59*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*
13C-OCDF	*59*		*40 - 135*	*04/28/22 12:41*	*04/30/22 12:44*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		04/25/22 09:58	04/29/22 02:51	1
Arsenic	ND		0.015	0.0056	mg/L		04/25/22 09:58	04/29/22 02:51	1
Barium	ND		0.0020	0.00070	mg/L		04/25/22 09:58	04/29/22 02:51	1
Beryllium	ND		0.0020	0.00030	mg/L		04/25/22 09:58	04/29/22 02:51	1
Cadmium	ND		0.0020	0.00050	mg/L		04/25/22 09:58	04/29/22 02:51	1
Chromium	ND		0.0040	0.0010	mg/L		04/25/22 09:58	04/29/22 02:51	1
Cobalt	ND		0.0040	0.00063	mg/L		04/25/22 09:58	04/29/22 02:51	1
Copper	ND		0.010	0.0016	mg/L		04/25/22 09:58	04/29/22 02:51	1
Lead	ND		0.010	0.0030	mg/L		04/25/22 09:58	04/29/22 02:51	1
Nickel	ND		0.010	0.0013	mg/L		04/25/22 09:58	04/29/22 02:51	1
Selenium	ND		0.025	0.0087	mg/L		04/25/22 09:58	04/29/22 02:51	1
Silver	ND		0.0060	0.0017	mg/L		04/25/22 09:58	04/29/22 02:51	1
Thallium	ND		0.020	0.010	mg/L		04/25/22 09:58	04/29/22 02:51	1
Tin	ND		0.010	0.0051	mg/L		04/25/22 09:58	04/29/22 02:51	1
Vanadium	ND		0.0050	0.0015	mg/L		04/25/22 09:58	04/29/22 02:51	1
Zinc	ND		0.010	0.0015	mg/L		04/25/22 09:58	05/04/22 13:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		04/27/22 10:48	04/27/22 13:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		04/26/22 13:13	04/26/22 14:42	1
Sulfide	ND		1.0	0.67	mg/L			04/22/22 17:34	1

Client Sample ID: TB-041922
Lab Sample ID: 480-196984-3

Date Collected: 04/17/22 00:00
Matrix: Water
Date Received: 04/20/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			04/21/22 21:01	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/21/22 21:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/21/22 21:01	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/21/22 21:01	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/21/22 21:01	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/21/22 21:01	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			04/21/22 21:01	1

Client Sample ID: TB-041922
Date Collected: 04/17/22 00:00
Date Received: 04/20/22 10:00

Lab Sample ID: 480-196984-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/21/22 21:01	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/21/22 21:01	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/21/22 21:01	1
2-Butanone (MEK)	ND	*+	10	1.3	ug/L			04/21/22 21:01	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			04/21/22 21:01	1
2-Chloroethyl vinyl ether	ND	*+ R	5.0	0.96	ug/L			04/21/22 21:01	1
2-Hexanone	ND	*+	5.0	1.2	ug/L			04/21/22 21:01	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			04/21/22 21:01	1
4-Methyl-2-pentanone (MIBK)	ND	*+	5.0	2.1	ug/L			04/21/22 21:01	1
Acetone	ND		10	3.0	ug/L			04/21/22 21:01	1
Acetonitrile	ND		15	4.9	ug/L			04/21/22 21:01	1
Acrolein	ND		20	0.91	ug/L			04/21/22 21:01	1
Acrylonitrile	ND		5.0	0.83	ug/L			04/21/22 21:01	1
Benzene	ND		1.0	0.41	ug/L			04/21/22 21:01	1
Bromoform	ND		1.0	0.26	ug/L			04/21/22 21:01	1
Bromomethane	ND		1.0	0.69	ug/L			04/21/22 21:01	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/21/22 21:01	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/21/22 21:01	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/21/22 21:01	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			04/21/22 21:01	1
Chloroethane	ND		1.0	0.32	ug/L			04/21/22 21:01	1
Chloroform	ND		1.0	0.34	ug/L			04/21/22 21:01	1
Chloromethane	ND		1.0	0.35	ug/L			04/21/22 21:01	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/21/22 21:01	1
Dibromomethane	ND		1.0	0.41	ug/L			04/21/22 21:01	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			04/21/22 21:01	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/21/22 21:01	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			04/21/22 21:01	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/21/22 21:01	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			04/21/22 21:01	1
Iodomethane	ND		1.0	0.30	ug/L			04/21/22 21:01	1
Methacrylonitrile	ND	*+	5.0	0.69	ug/L			04/21/22 21:01	1
Methyl methacrylate	ND		1.0	0.61	ug/L			04/21/22 21:01	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/21/22 21:01	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			04/21/22 21:01	1
o-Xylene	ND		1.0	0.76	ug/L			04/21/22 21:01	1
Propionitrile	ND		10	5.8	ug/L			04/21/22 21:01	1
Styrene	ND		1.0	0.73	ug/L			04/21/22 21:01	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/21/22 21:01	1
Toluene	ND		1.0	0.51	ug/L			04/21/22 21:01	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/21/22 21:01	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/21/22 21:01	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			04/21/22 21:01	1
Trichloroethene	ND		1.0	0.46	ug/L			04/21/22 21:01	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/21/22 21:01	1
Vinyl acetate	ND	*+	5.0	0.85	ug/L			04/21/22 21:01	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/21/22 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*77 - 120*		*04/21/22 21:01*	*1*

Client: ARCADIS U.S. Inc
Job ID: 480-196984-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TB-041922
Lab Sample ID: 480-196984-3
Date Collected: 04/17/22 00:00
Matrix: Water
Date Received: 04/20/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		73 - 120		04/21/22 21:01	1
Dibromofluoromethane (Surr)	91		75 - 123		04/21/22 21:01	1
Toluene-d8 (Surr)	94		80 - 120		04/21/22 21:01	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-197008-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47564R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 Matrix Spike/Matrix Spike Duplicate Analysis 8
2.3 System Performance and Overall Assessment 8
2.4 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 9
3.3 Laboratory Control Sample Analysis 10
3.4 System Performance and Overall Assessment 11
3.5 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 System Performance and Overall Assessment 13
5.3 Data Validation Checklist 13
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 14
6.1 Holding Times 14
6.2 Blank Contamination 14
6.3 Compound Identification 15
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 16
7 Metals Analyses 16
7.1 Holding Times 16
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 17

8 General Chemistry Analyses 17
8.1 Holding Times 17
8.2 Matrix Spike/Matrix Spike Duplicate Analysis 17
8.3 System Performance and Overall Assessment 18
8.4 Data Validation Checklist for General Chemistry 18
9 Overall Data Usability 19

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 8
Table 6. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 8
Table 7. Holding Time for Method SW-846 8270D 9
Table 8. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 10
Table 9. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 10
Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 11. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 12. Holding Time for Method SW-846 8082A 12
Table 13. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 14. Holding Time for Method SW-846 8290A 14
Table 15. Summary of Blank Contamination Qualifications 14
Table 16. Holding Time for Method SW-846 6010C/7471B 16
Table 17. Specified Holding Times 17
Table 18. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 18
Table 19. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 18
Table 20. Overall Summary of Data Usability 19

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197008-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
PZ-2022-3 (0-1)	480-197008-1	Soil	04/20/22		X	X	X	X	X	X
PZ-2022-3 (13-16)	480-197008-2	Soil	04/20/22		X	X	X	X	X	X
PZ-2022-3 (26-30)	480-197008-3	Soil	04/20/22		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	3	0	0	0	0	0	3
SVOCs	3	0	0	0	0	0	3
PCBs	3	0	0	0	0	0	3
PEST	3	0	0	0	0	0	3
HERB	3	0	0	0	0	0	3
PCDD/PCDF	3	0	0	0	0	0	3
Metals	3	0	0	0	0	0	3
MISC	3	0	0	0	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample PZ-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 5. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
PZ-2022-3 (0-1)	Acrolein	< 10%	< 10%
	Vinyl acetate	< 10%	< 10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 6. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate (MSD)		X	X		
MS/MSD Precision (RPD)		X		X	
System performance and column resolution		X		X	

Notes:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 7. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample PZ-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 8. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
PZ-2022-3 (0-1)	a,a-Dimethylphenethylamine	< 10%	AC
	Benzidine	< 10%	< 10%
	Kepone	< 10%	< 10%
	p-Phenylene diamine	< 10%	< 10%

Note:
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 9. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compound	LCS Recovery
PZ-2022-3 (0-1) PZ-2022-3 (13-16) PZ-2022-3 (26-30)	a,a-Dimethylphenethylamine	< 10%
	Famphur	< 10%
	Kepone	< 10%

Sample ID	Compound	LCS Recovery
	p-Phenylene diamine	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 11. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate (LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
System performance and column resolution		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-3 (13-16)	1,2,3,4,6,7,8-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,6,7,8-HxCDD		

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
PZ-2022-3 (26-30)	1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	OCDF		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample PZ-2022-3 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 18. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
PZ-2022-3 (0-1)	Cyanide	< 30%	< 30%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 19. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 30%	Non-detect	R
	Detect	J

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

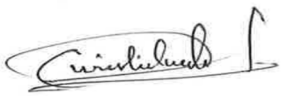
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 20. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.8%	2
SVOCs	96.5%	13
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	83.3%	1

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 14, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 16, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Evan Grey	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days):			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-3(0-1)	4/20/22	0830	G	S			X	X	X	X	X										
PZ-2022-3(0-1)MS	4/20/22	0830	G	S			X	X	X	X	X										
PZ-2022-3(0-1)MSD	4/20/22	0880	G	S			X	X	X	X	X										
PZ-2022-3(13-16)	4/20/22	1430	G	S			X	X	X	X	X										
PZ-2022-3(26-30)	4/20/22	1515	G	S			X	X	X	X	X										

480-197008 Chain of Custody

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, (IV), Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 4/20/22 1540	Company	Received by:	Date/Time: 4/21/22 1000	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.1/#1 ICE

05/12/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-197008 Chain of Custody

Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts		Job #: 480-197008-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/4/2022			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-3 (0-1) (480-197008-1)	4/20/22	08:30 Eastern		Solid			X	1	
PZ-2022-3 (0-1) (480-197008-1MS)	4/20/22	08:30 Eastern	MS	Solid			X	1	
PZ-2022-3 (0-1) (480-197008-1MSD)	4/20/22	08:30 Eastern	MSD	Solid			X	1	
PZ-2022-3 (13-16) (480-197008-2)	4/20/22	14:30 Eastern		Solid			X	1	
PZ-2022-3 (26-30) (480-197008-3)	4/20/22	15:15 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/21/22 1800	Company TAB	Received by: DW	Date/Time: 4-22-22 945	Company EBT APH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

05/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71453 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-197008-1
Address: 2425 New Holland Pike,	Due Date Requested: 5/4/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-3 (0-1) (480-197008-1)	4/20/22	08:30 Eastern		Solid			X	1	
PZ-2022-3 (0-1) (480-197008-1MS)	4/20/22	08:30 Eastern	MS	Solid			X	1	
PZ-2022-3 (0-1) (480-197008-1MSD)	4/20/22	08:30 Eastern	MSD	Solid			X	1	
PZ-2022-3 (13-16) (480-197008-2)	4/20/22	14:30 Eastern		Solid			X	1	
PZ-2022-3 (26-30) (480-197008-3)	4/20/22	15:15 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/21/22 1800	TAB			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/22/22 10:55	Company ECL

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.4

Client Sample ID: PZ-2022-3 (0-1)
Date Collected: 04/20/22 08:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-1
Matrix: Solid
Percent Solids: 88.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.48	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,1,1-Trichloroethane	ND		4.8	0.35	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,1,2,2-Tetrachloroethane	ND		4.8	0.78	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,1,2-Trichloroethane	ND		4.8	0.63	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,1-Dichloroethane	ND		4.8	0.59	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,1-Dichloroethene	ND		4.8	0.59	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,2,3-Trichloropropane	ND		4.8	0.49	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,2-Dibromo-3-Chloropropane	ND		4.8	2.4	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,2-Dichloroethane	ND		4.8	0.24	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
2-Butanone (MEK)	ND	F1	24	1.8	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
2-Chloro-1,3-butadiene	ND		4.8	3.0	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
2-Chloroethyl vinyl ether	ND		9.7	2.4	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
3-Chloro-1-propene	ND		4.8	2.3	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Acetone	ND		24	4.1	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Acetonitrile	ND		48	5.9	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Acrolein	ND	F1	24	7.6	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	R 1
Acrylonitrile	ND	F1	24	4.3	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Benzene	ND		4.8	0.24	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Bromomethane	ND		4.8	0.44	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Carbon tetrachloride	ND		4.8	0.47	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Chlorobenzene	ND		4.8	0.64	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Chlorodibromomethane	ND		4.8	0.62	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Chloroethane	ND		4.8	1.1	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Chloroform	ND		4.8	0.30	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Chloromethane	ND		4.8	0.29	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
cis-1,3-Dichloropropene	ND		4.8	0.70	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Dibromomethane	ND		4.8	0.50	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Dichlorobromomethane	ND		4.8	0.65	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Dichlorodifluoromethane	ND		4.8	0.40	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Ethyl methacrylate	ND	F1	4.8	1.7	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Ethylbenzene	ND		4.8	0.33	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Ethylene Dibromide	ND		4.8	0.62	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Iodomethane	ND		4.8	0.24	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Methacrylonitrile	ND		24	5.7	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Methyl methacrylate	ND		4.8	1.0	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Methylene Chloride	ND		4.8	2.2	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
m-Xylene & p-Xylene	ND		9.7	0.81	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
o-Xylene	ND		4.8	0.63	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Propionitrile	ND		48	27	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Styrene	ND		4.8	0.24	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Tetrachloroethene	ND		4.8	0.65	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Toluene	ND		4.8	0.37	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
trans-1,2-Dichloroethene	ND		4.8	0.50	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
trans-1,3-Dichloropropene	ND		4.8	2.1	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1

Client Sample ID: PZ-2022-3 (0-1)
Date Collected: 04/20/22 08:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-1
Matrix: Solid
Percent Solids: 88.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.8	1.1	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Trichloroethene	ND		4.8	1.1	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
Trichlorofluoromethane	ND		4.8	0.46	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1
~~Vinyl acetate~~	~~ND~~	~~F1~~	~~9.7~~	~~2.4~~	~~ug/Kg~~	☼	~~04/21/22 11:00~~	~~04/21/22 23:58~~	R 1
Vinyl chloride	ND		4.8	0.59	ug/Kg	☼	04/21/22 11:00	04/21/22 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*04/21/22 11:00*	*04/21/22 23:58*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*04/21/22 11:00*	*04/21/22 23:58*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*	*04/21/22 11:00*	*04/21/22 23:58*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*04/21/22 11:00*	*04/21/22 23:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	~~F2 F1~~	190	32	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,2-Dichlorobenzene	ND		370	25	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,3-Dinitrobenzene	ND		370	44	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,4,5-Trichlorophenol	ND	F2	190	51	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,4,6-Trichlorophenol	ND	F2	190	38	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,4-Dinitrophenol	ND		1800	870	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,6-Dichlorophenol	ND	F2	370	69	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Acetylaminofluorene	ND	*-	370	48	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Chloronaphthalene	ND	F2	190	31	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Chlorophenol	ND	F2	370	34	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Methylnaphthalene	ND	F2	190	38	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Nitroaniline	ND	F2	370	28	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Nitrophenol	ND	F2	190	53	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Picoline	ND		370	42	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
2-Toluidine	ND		370	90	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
3,3'-Dimethylbenzidine	ND		730	370	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
3-Methylphenol	ND		370	29	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1

Client Sample ID: PZ-2022-3 (0-1)
Lab Sample ID: 480-197008-1
Date Collected: 04/20/22 08:30
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 88.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND	F2	370	190	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Aminobiphenyl	ND		370	76	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Bromophenyl phenyl ether	ND	F2	190	27	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Chloroaniline	ND	F2	190	47	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Chlorophenyl phenyl ether	ND	F2	190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Methylphenol	ND		370	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
4-Nitroquinoline-1-oxide	ND		730	370	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
7,12-Dimethylbenz(a)anthracene	ND		370	54	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
a,a-Dimethylphenethylamine	ND	* F1	370	370	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	R 1
Acenaphthene	ND		190	28	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Acenaphthylene	ND	F2	190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Acetophenone	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Aniline	ND		370	45	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Anthracene	ND	F2	190	47	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Aramite, Total	ND	F1	370	180	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Benzidine	ND	F1	5500	2300	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	R 1
Benzo[a]anthracene	ND	F2	190	19	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Benzo[a]pyrene	ND	F2	190	28	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Benzo[g,h,i]perylene	ND	F2	190	20	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Benzyl alcohol	ND		370	25	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Bis(2-chloroethoxy)methane	ND	F2	190	40	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Bis(2-ethylhexyl) phthalate	ND		190	64	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Butyl benzyl phthalate	ND	F2	190	31	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Chrysene	ND	F2	190	42	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Diallate	ND		370	47	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Dibenz(a,h)anthracene	ND	F2	190	33	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Dibenzofuran	ND	F2	190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Diethyl phthalate	ND	F2	190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Dimethoate	ND		370	45	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Dimethyl phthalate	ND	F2	190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Di-n-octyl phthalate	ND	F2	190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Dinoseb	ND		370	65	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Diphenylamine	ND	F2 F1	370	48	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Disulfoton	ND	F2	370	280	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Ethyl methanesulfonate	ND		370	81	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Famphur	ND	* F2	730	180	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	R 1
Fluoranthene	ND		190	20	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Fluorene	ND		190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1

Client Sample ID: PZ-2022-3 (0-1)
Lab Sample ID: 480-197008-1
Date Collected: 04/20/22 08:30
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 88.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Hexachloroethane	ND		190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Hexachloropropene	ND	F2	370	93	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Indeno[1,2,3-cd]pyrene	ND	F2	190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Isodrin	ND		370	64	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Isophorone	ND	F2	190	40	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Isosafrole	ND		370	49	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Kepone	ND	*- F1	730	370	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	R 1
Methapyrilene	ND		1700	370	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Methyl methanesulfonate	ND		370	84	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Naphthalene	ND		190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Nitrobenzene	ND	F2	190	21	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosodiethylamine	ND		370	85	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosodimethylamine	ND		370	80	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosodiphenylamine	ND	F2	190	150	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosomethylethylamine	ND		370	84	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosomorpholine	ND		370	82	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosopiperidine	ND	F2	370	74	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
N-Nitrosopyrrolidine	ND		370	55	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Methyl parathion	ND		370	63	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
p-Dimethylamino azobenzene	ND		370	62	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Pentachlorobenzene	ND	F1 F2	370	76	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Pentachloronitrobenzene	ND		370	93	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Phenacetin	ND		370	50	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Phenanthrene	ND	F2	190	28	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Phenol	ND		190	29	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Phorate	ND		370	100	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
p-Phenylene diamine	ND	*- F1	890	370	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	R 1
Pronamide	ND		370	72	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Pyrene	ND	*+	190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Pyridine	ND		370	27	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Safrole	ND	F2	370	50	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Sulfotepp	ND		370	59	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1
Thionazin	ND		370	64	ug/Kg	☼	04/25/22 15:36	04/26/22 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*94*		*54 - 120*	*04/25/22 15:36*	*04/26/22 18:45*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*04/25/22 15:36*	*04/26/22 18:45*	*1*
2-Fluorophenol (Surr)	*66*		*52 - 120*	*04/25/22 15:36*	*04/26/22 18:45*	*1*
Nitrobenzene-d5 (Surr)	*71*		*53 - 120*	*04/25/22 15:36*	*04/26/22 18:45*	*1*
Phenol-d5 (Surr)	*68*		*54 - 120*	*04/25/22 15:36*	*04/26/22 18:45*	*1*
p-Terphenyl-d14 (Surr)	*107*		*79 - 130*	*04/25/22 15:36*	*04/26/22 18:45*	*1*

Client Sample ID: PZ-2022-3 (0-1)
Date Collected: 04/20/22 08:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-1
Matrix: Solid
Percent Solids: 88.6

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
4,4'-DDT	ND		1.9	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Aldrin	ND		1.9	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
alpha-BHC	ND		1.9	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
beta-BHC	ND		1.9	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Chlorobenzilate	ND		19	6.2	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
cis-Chlordane	ND		1.9	0.92	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
delta-BHC	ND		1.9	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Dieldrin	ND		1.9	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Endosulfan I	ND		1.9	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Endosulfan II	ND		1.9	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Endosulfan sulfate	ND		1.9	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Endrin	ND		1.9	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Endrin aldehyde	ND		1.9	0.47	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Endrin ketone	ND		1.9	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
Toxaphene	ND		19	11	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	04/22/22 15:53	04/25/22 11:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*45 - 120*	*04/22/22 15:53*	*04/25/22 11:07*	*1*
Tetrachloro-m-xylene	*66*		*30 - 124*	*04/22/22 15:53*	*04/25/22 11:07*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1
PCB-1254	ND		0.21	0.098	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1
PCB-1260	ND		0.21	0.098	mg/Kg	☼	04/22/22 06:47	04/25/22 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*85*		*65 - 174*	*04/22/22 06:47*	*04/25/22 00:41*	*1*
Tetrachloro-m-xylene	*108*		*60 - 154*	*04/22/22 06:47*	*04/25/22 00:41*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.0	ug/Kg	☼	04/26/22 07:11	05/01/22 19:13	1
2,4-D	ND		19	12	ug/Kg	☼	04/26/22 07:11	05/01/22 19:13	1
Silvex (2,4,5-TP)	ND		19	6.7	ug/Kg	☼	04/26/22 07:11	05/01/22 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*04/26/22 07:11*	*05/01/22 19:13*	*1*

Client Sample ID: PZ-2022-3 (0-1)
Date Collected: 04/20/22 08:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-1
Matrix: Solid
Percent Solids: 88.6

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1
Disulfoton	ND	~~F1 F2~~	37	25	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1
Famphur	ND		37	20	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1
Methyl parathion	ND		37	21	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1
Ethyl Parathion	ND		37	21	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1
Phorate	ND		37	13	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1
Sulfotepp	ND		37	14	ug/Kg	☼	04/25/22 07:53	04/27/22 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*82*		*20 - 135*	*04/25/22 07:53*	*04/27/22 13:22*	*1*
Tributyl phosphate	*81*		*20 - 135*	*04/25/22 07:53*	*04/27/22 13:22*	*1*
Triphenylphosphate	*89*		*33 - 168*	*04/25/22 07:53*	*04/27/22 13:22*	*1*
Triphenylphosphate	*93*		*33 - 168*	*04/25/22 07:53*	*04/27/22 13:22*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**180**	B	5.6	0.10	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,4,6,7,8-HpCDF	**40**	B	5.6	0.13	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,4,7,8,9-HpCDF	**3.3**	J B	5.6	0.17	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,4,7,8-HxCDD	**1.1**	J B	5.6	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,4,7,8-HxCDF	**5.2**	J	5.6	0.077	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,6,7,8-HxCDD	**3.4**	J B	5.6	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,6,7,8-HxCDF	**1.3**	J B	5.6	0.069	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,7,8,9-HxCDD	**3.0**	J B	5.6	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,7,8,9-HxCDF	**0.91**	J I B JNX	5.6	0.084	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,7,8-PeCDD	**0.62**	J I JNX	5.6	0.014	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
1,2,3,7,8-PeCDF	**0.36**	J I B JNX	5.6	0.025	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
2,3,4,6,7,8-HxCDF	**1.7**	J ~~B~~	5.6	0.063	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
2,3,4,7,8-PeCDF	**0.96**	J I B JNX	5.6	0.020	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
2,3,7,8-TCDD	**0.16**	J I JNX	1.1	0.0051	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
2,3,7,8-TCDF	**0.078**	J I JNX	1.1	0.013	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
OCDD	**2300**	B	11	0.16	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
OCDF	**180**	B	11	0.11	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total HpCDD	**180**	B	5.6	0.10	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total HpCDF	**43**	B	5.6	0.15	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total HxCDD	**7.5**	I B JNX	5.6	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total HxCDF	**9.1**	I B JNX	5.6	0.073	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total PeCDD	**0.62**	J I JNX	5.6	0.014	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total PeCDF	**1.3**	J I B JNX	5.6	0.023	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total TCDD	**0.16**	J I JNX	1.1	0.0051	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1
Total TCDF	**0.078**	J I JNX	1.1	0.013	ng/Kg	☼	04/26/22 15:00	04/28/22 21:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*73*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,4,7,8-HxCDD	*73*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,4,7,8-HxCDF	*73*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,7,8,9-HxCDD	*76*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*

Client Sample ID: PZ-2022-3 (0-1)
Lab Sample ID: 480-197008-1

Date Collected: 04/20/22 08:30
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 88.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*74*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-2,3,7,8-TCDD	*70*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-2,3,7,8-TCDF	*69*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-OCDD	*71*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*
13C-OCDF	*68*		*40 - 135*	*04/26/22 15:00*	*04/28/22 21:27*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.83**	**J**	17.5	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Arsenic	**5.3**		2.3	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Barium	**35.0**		0.58	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Beryllium	**0.38**		0.23	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Cadmium	**0.10**	**J**	0.23	0.035	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Chromium	**6.8**		0.58	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Cobalt	**10.0**		0.58	0.058	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Copper	**8.1**		1.2	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Lead	**11.2**		1.2	0.28	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Nickel	**14.4**		5.8	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Selenium	ND		4.7	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Silver	ND		0.70	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Thallium	ND		7.0	0.35	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Tin	ND		2.3	0.50	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Vanadium	**11.0**		0.58	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 18:57	1
Zinc	**43.9**	~~F2 F1~~	2.3	0.75	mg/Kg	☼	04/22/22 16:08	04/28/22 14:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.021**	**J**	0.023	0.0053	mg/Kg	☼	04/22/22 09:35	04/22/22 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~F1~~	~~1.0~~	~~0.51~~	~~mg/Kg~~	☼	~~04/29/22 11:43~~	~~04/29/22 13:22~~	R 1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.6	11.2	mg/Kg	☼		04/29/22 16:35	1

Client Sample ID: PZ-2022-3 (13-16)
Lab Sample ID: 480-197008-2

Date Collected: 04/20/22 14:30
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		55	5.5	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,1,1-Trichloroethane	ND		55	4.0	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,1,2,2-Tetrachloroethane	ND		55	8.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,1,2-Trichloroethane	ND		55	7.1	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1

Client Sample ID: PZ-2022-3 (13-16)
Date Collected: 04/20/22 14:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-2
Matrix: Solid
Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		55	6.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,1-Dichloroethene	ND		55	6.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,2,3-Trichloropropane	ND		55	5.6	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,2-Dibromo-3-Chloropropane	ND		55	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,2-Dichloroethane	ND		55	2.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
1,2-Dichloropropane	ND		55	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
2-Butanone (MEK)	ND		270	20	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
2-Chloro-1,3-butadiene	ND		55	34	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
2-Chloroethyl vinyl ether	ND		110	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
2-Hexanone	ND		270	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
3-Chloro-1-propene	ND		55	26	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
4-Methyl-2-pentanone (MIBK)	ND		270	18	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Acetone	ND		270	46	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Acetonitrile	ND		550	67	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Acrolein	ND		270	86	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Acrylonitrile	ND		270	49	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Benzene	ND		55	2.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Bromoform	ND		55	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Bromomethane	ND		55	4.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Carbon disulfide	ND		55	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Carbon tetrachloride	ND		55	5.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Chlorobenzene	ND		55	7.2	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Chlorodibromomethane	ND		55	7.0	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Chloroethane	ND		55	12	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Chloroform	ND		55	3.4	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Chloromethane	ND		55	3.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
cis-1,3-Dichloropropene	ND		55	7.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Dibromomethane	ND		55	5.6	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Dichlorobromomethane	ND		55	7.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Dichlorodifluoromethane	ND		55	4.5	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Ethyl methacrylate	ND		55	19	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Ethylbenzene	ND		55	3.8	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Ethylene Dibromide	ND		55	7.0	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Iodomethane	ND		55	2.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Methacrylonitrile	ND		270	65	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Methyl methacrylate	ND		55	11	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Methylene Chloride	ND		55	25	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
m-Xylene & p-Xylene	ND		110	9.2	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
o-Xylene	ND		55	7.1	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Propionitrile	ND		550	310	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Styrene	ND		55	2.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Tetrachloroethene	ND		55	7.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Toluene	ND		55	4.1	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
trans-1,2-Dichloroethene	ND		55	5.6	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
trans-1,3-Dichloropropene	ND		55	24	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
trans-1,4-Dichloro-2-butene	ND		55	12	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Trichloroethene	ND		55	12	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Trichlorofluoromethane	ND		55	5.2	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1
Vinyl acetate	ND		110	27	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1

Client Sample ID: PZ-2022-3 (13-16)
Date Collected: 04/20/22 14:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-2
Matrix: Solid
Percent Solids: 86.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		55	6.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*64 - 126*	*04/21/22 11:00*	*04/22/22 00:22*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/21/22 11:00*	*04/22/22 00:22*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*	*04/21/22 11:00*	*04/22/22 00:22*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*04/21/22 11:00*	*04/22/22 00:22*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	33	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,2,4-Trichlorobenzene	ND		380	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,2-Dichlorobenzene	ND		380	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,4-Dioxane	ND		110	63	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1,4-Naphthoquinone	ND		380	71	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,3,4,6-Tetrachlorophenol	ND		190	40	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,4,5-Trichlorophenol	ND		190	53	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,4,6-Trichlorophenol	ND		190	39	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,4-Dichlorophenol	ND		190	21	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,4-Dinitrophenol	ND		1900	900	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,4-Dinitrotoluene	ND		190	40	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,6-Dichlorophenol	ND		380	71	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2,6-Dinitrotoluene	ND		190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Acetylaminofluorene	ND		380	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Chloronaphthalene	ND		190	32	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Methylnaphthalene	ND		190	39	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Methylphenol	ND		190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Nitrophenol	ND		190	55	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Picoline	ND		380	44	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
2-Toluidine	ND		380	93	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
3,3'-Dimethylbenzidine	ND		760	380	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
3-Methylphenol	ND		380	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4,6-Dinitro-2-methylphenol	ND		380	190	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Aminobiphenyl	ND		380	79	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Chloro-3-methylphenol	ND		190	48	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1

Client Sample ID: PZ-2022-3 (13-16)
Date Collected: 04/20/22 14:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-2
Matrix: Solid
Percent Solids: 86.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		190	48	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Chlorophenyl phenyl ether	ND		190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Methylphenol	ND		380	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
4-Nitroquinoline-1-oxide	ND		760	380	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
a,a-Dimethylphenethylamine	ND	*	380	380	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	R 1
Acenaphthene	ND		190	29	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Acenaphthylene	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Acetophenone	ND		190	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Aniline	ND		380	47	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Anthracene	ND		190	48	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Aramite, Total	ND		380	180	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzidine	ND		5700	2400	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzo[a]pyrene	ND		190	29	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzo[g,h,i]perylene	ND		190	21	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Benzyl alcohol	ND		380	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
bis (2-chloroisopropyl) ether	ND		190	39	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Bis(2-chloroethoxy)methane	ND		190	41	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Butyl benzyl phthalate	ND		190	32	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Chrysene	ND		190	44	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Diallate	ND		380	48	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Dibenzofuran	ND		190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Dimethoate	ND		380	47	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Dimethyl phthalate	ND		190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Di-n-octyl phthalate	ND		190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Dinoseb	ND		380	68	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Diphenylamine	ND		380	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Disulfoton	ND		380	290	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Chlorobenzilate	ND		380	61	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Ethyl methanesulfonate	ND		380	84	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Famphur	ND	*	760	180	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	R 1
Fluoranthene	ND		190	21	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Fluorene	ND		190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Hexachlorobutadiene	ND		190	29	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Hexachloroethane	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Hexachloropropene	ND		380	96	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1

Client Sample ID: PZ-2022-3 (13-16)
Lab Sample ID: 480-197008-2
Date Collected: 04/20/22 14:30
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 86.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		380	66	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Isophorone	ND		190	41	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Isosafrole	ND		380	50	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Kepone	ND	*-	760	380	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	R 1
Methapyrilene	ND		1700	380	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Methyl methanesulfonate	ND		380	87	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Naphthalene	ND		190	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Nitrobenzene	ND		190	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitro-o-toluidine	ND		380	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosodiethylamine	ND		380	88	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosodimethylamine	ND		380	82	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosodi-n-propylamine	ND		190	33	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosodiphenylamine	ND		190	160	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosomethylethylamine	ND		380	87	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosomorpholine	ND		380	85	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosopiperidine	ND		380	77	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
N-Nitrosopyrrolidine	ND		380	57	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
o,o',o''-Triethylphosphorothioate	ND		380	49	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Ethyl Parathion	ND		380	42	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Methyl parathion	ND		380	65	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
p-Dimethylamino azobenzene	ND		380	64	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Pentachlorobenzene	ND		380	79	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Pentachloronitrobenzene	ND		380	96	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Pentachlorophenol	ND		380	190	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Phenacetin	ND		380	52	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Phenanthrene	ND		190	29	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Phenol	ND		190	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Phorate	ND		380	100	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
p-Phenylene diamine	ND	*-	920	380	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	R 1
Pronamide	ND		380	74	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Pyrene	ND	*+	190	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Pyridine	ND		380	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Safrole	ND		380	52	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Sulfotepp	ND		380	61	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1
Thionazin	ND		380	66	ug/Kg	☼	04/25/22 15:36	04/26/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*	*04/25/22 15:36*	*04/26/22 19:09*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*04/25/22 15:36*	*04/26/22 19:09*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*04/25/22 15:36*	*04/26/22 19:09*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*	*04/25/22 15:36*	*04/26/22 19:09*	*1*
Phenol-d5 (Surr)	*74*		*54 - 120*	*04/25/22 15:36*	*04/26/22 19:09*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*04/25/22 15:36*	*04/26/22 19:09*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
4,4'-DDE	ND		1.9	0.40	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1

Client Sample ID: PZ-2022-3 (13-16)
Date Collected: 04/20/22 14:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-2
Matrix: Solid
Percent Solids: 86.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Chlordane (technical)	ND		19	4.2	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
cis-Chlordane	ND		1.9	0.94	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Endrin	ND		1.9	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Heptachlor epoxide	ND		1.9	0.49	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
Toxaphene	ND		19	11	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1
trans-Chlordane	ND		1.9	0.60	ug/Kg	☼	04/22/22 15:53	04/25/22 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*45 - 120*	*04/22/22 15:53*	*04/25/22 11:26*	*1*
Tetrachloro-m-xylene	*66*		*30 - 124*	*04/22/22 15:53*	*04/25/22 11:26*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.044	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1
PCB-1221	ND		0.23	0.044	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1
PCB-1232	ND		0.23	0.044	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1
PCB-1242	ND		0.23	0.044	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1
PCB-1248	ND		0.23	0.044	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	04/22/22 06:47	04/25/22 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*		*65 - 174*	*04/22/22 06:47*	*04/25/22 01:47*	*1*
Tetrachloro-m-xylene	*113*		*60 - 154*	*04/22/22 06:47*	*04/25/22 01:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	04/26/22 07:11	05/01/22 19:43	1
2,4-D	ND		19	12	ug/Kg	☼	04/26/22 07:11	05/01/22 19:43	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	04/26/22 07:11	05/01/22 19:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*04/26/22 07:11*	*05/01/22 19:43*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	21	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1

Client Sample ID: PZ-2022-3 (13-16)
Date Collected: 04/20/22 14:30
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-2
Matrix: Solid
Percent Solids: 86.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		38	25	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1
Famphur	ND		38	20	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1
Methyl parathion	ND		38	22	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1
Phorate	ND		38	13	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1
Sulfotepp	ND		38	15	ug/Kg	☼	04/25/22 07:53	04/27/22 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*20 - 135*	*04/25/22 07:53*	*04/27/22 15:59*	*1*
Tributyl phosphate	*83*		*20 - 135*	*04/25/22 07:53*	*04/27/22 15:59*	*1*
Triphenylphosphate	*89*		*33 - 168*	*04/25/22 07:53*	*04/27/22 15:59*	*1*
Triphenylphosphate	*95*		*33 - 168*	*04/25/22 07:53*	*04/27/22 15:59*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD		**1.2**	~~J I B~~	JNX	5.8	0.055	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,4,6,7,8-HpCDF	5.8 U	~~0.21~~	~~J I B~~		5.8	0.0048	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,4,7,8,9-HpCDF	5.8 U	~~0.059~~	~~J I B~~		5.8	0.0065	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,4,7,8-HxCDD	5.8 U	~~0.054~~	~~J B~~		5.8	0.0074	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,4,7,8-HxCDF		**0.045**	~~J I~~	JNX	5.8	0.031	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,6,7,8-HxCDD	5.8 U	~~0.097~~	~~J I B~~		5.8	0.0075	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,6,7,8-HxCDF	5.8 U	~~0.059~~	~~J I B~~		5.8	0.029	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,7,8,9-HxCDD	5.8 U	~~0.040~~	~~J I B~~		5.8	0.0078	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,7,8,9-HxCDF		ND			5.8	0.033	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,7,8-PeCDD		ND			5.8	0.016	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
1,2,3,7,8-PeCDF	5.8 U	~~0.060~~	~~J I B~~		5.8	0.014	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
2,3,4,6,7,8-HxCDF	5.8 U	~~0.051~~	~~J I B~~		5.8	0.028	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
2,3,4,7,8-PeCDF	5.8 U	~~0.046~~	~~J I B~~		5.8	0.011	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
2,3,7,8-TCDD		ND			1.2	0.013	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
2,3,7,8-TCDF		**0.023**	~~J I~~	JNX	1.2	0.0095	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
OCDD		**11**	J B		12	0.037	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
OCDF		**0.34**	~~J I B~~	JNX	12	0.010	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total HpCDD		**1.2**	~~J I B~~	JNX	5.8	0.055	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total HpCDF	5.8 U	~~0.27~~	~~J I B~~		5.8	0.0057	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total HxCDD	5.8 U	~~0.19~~	~~J I B~~		5.8	0.0075	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total HxCDF	5.8 U	~~0.16~~	~~J I B~~		5.8	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total PeCDD		ND			5.8	0.016	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total PeCDF	5.8 U	~~0.11~~	~~J I B~~		5.8	0.013	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total TCDD		ND			1.2	0.013	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1
Total TCDF		**0.023**	~~J I~~	JNX	1.2	0.0095	ng/Kg	☼	04/26/22 15:00	04/28/22 20:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*60*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,4,7,8-HxCDD	*55*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*58*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,6,7,8-HxCDF	*61*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,7,8,9-HxCDD	*56*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*

Client Sample ID: PZ-2022-3 (13-16)
Lab Sample ID: 480-197008-2

Date Collected: 04/20/22 14:30
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 86.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*62*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,7,8-PeCDD	*54*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-2,3,4,6,7,8-HxCDF	*60*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-2,3,4,7,8-PeCDF	*56*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-2,3,7,8-TCDD	*54*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-2,3,7,8-TCDF	*55*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-OCDD	*46*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*
13C-OCDF	*49*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:09*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.9	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Arsenic	**2.4**		2.4	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Barium	**12.3**		0.60	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Beryllium	**0.19**	**J**	0.24	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Cadmium	**0.082**	**J**	0.24	0.036	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Chromium	**3.9**		0.60	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Cobalt	**4.6**		0.60	0.060	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Copper	**5.5**		1.2	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Lead	**5.2**		1.2	0.29	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Nickel	**8.7**		6.0	0.27	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Selenium	ND		4.8	0.48	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Silver	ND		0.72	0.24	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Thallium	ND		7.2	0.36	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Tin	ND		2.4	0.51	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Vanadium	**5.0**		0.60	0.13	mg/Kg	☼	04/22/22 16:08	04/27/22 19:17	1
Zinc	**22.5**		2.4	0.76	mg/Kg	☼	04/22/22 16:08	04/28/22 15:29	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0054	mg/Kg	☼	04/22/22 09:35	04/22/22 13:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.54	mg/Kg	☼	04/29/22 11:43	04/29/22 13:26	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.4	11.6	mg/Kg	☼		04/29/22 16:35	1

Client Sample ID: PZ-2022-3 (26-30)
Lab Sample ID: 480-197008-3

Date Collected: 04/20/22 15:15
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 92.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.9	0.59	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,1,1-Trichloroethane	ND		5.9	0.43	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,1,2,2-Tetrachloroethane	ND		5.9	0.95	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,1,2-Trichloroethane	ND		5.9	0.76	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1

Client Sample ID: PZ-2022-3 (26-30)
Date Collected: 04/20/22 15:15
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-3
Matrix: Solid
Percent Solids: 92.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.9	0.72	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,1-Dichloroethene	ND		5.9	0.72	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,2,3-Trichloropropane	ND		5.9	0.60	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,2-Dibromo-3-Chloropropane	ND		5.9	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,2-Dichloroethane	ND		5.9	0.29	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
1,2-Dichloropropane	ND		5.9	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
2-Butanone (MEK)	ND		29	2.1	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
2-Chloro-1,3-butadiene	ND		5.9	3.6	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
2-Chloroethyl vinyl ether	ND		12	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
2-Hexanone	ND		29	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
3-Chloro-1-propene	ND		5.9	2.8	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
4-Methyl-2-pentanone (MIBK)	ND		29	1.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Acetone	ND		29	4.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Acetonitrile	ND		59	7.2	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Acrolein	ND		29	9.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Acrylonitrile	ND		29	5.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Benzene	ND		5.9	0.29	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Bromoform	ND		5.9	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Bromomethane	ND		5.9	0.53	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Carbon disulfide	ND		5.9	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Carbon tetrachloride	ND		5.9	0.57	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Chlorobenzene	ND		5.9	0.78	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Chlorodibromomethane	ND		5.9	0.75	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Chloroethane	ND		5.9	1.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Chloroform	ND		5.9	0.36	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Chloromethane	ND		5.9	0.35	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
cis-1,3-Dichloropropene	ND		5.9	0.85	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Dibromomethane	ND		5.9	0.60	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Dichlorobromomethane	ND		5.9	0.79	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Dichlorodifluoromethane	ND		5.9	0.49	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Ethyl methacrylate	ND		5.9	2.0	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Ethylbenzene	ND		5.9	0.41	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Ethylene Dibromide	ND		5.9	0.75	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Iodomethane	ND		5.9	0.29	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Methacrylonitrile	ND		29	6.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Methyl methacrylate	ND		5.9	1.2	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Methylene Chloride	ND		5.9	2.7	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
m-Xylene & p-Xylene	ND		12	0.99	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
o-Xylene	ND		5.9	0.77	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Propionitrile	ND		59	33	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Styrene	ND		5.9	0.29	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Tetrachloroethene	ND		5.9	0.79	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Toluene	ND		5.9	0.44	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
trans-1,2-Dichloroethene	ND		5.9	0.61	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
trans-1,3-Dichloropropene	ND		5.9	2.6	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
trans-1,4-Dichloro-2-butene	ND		5.9	1.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Trichloroethene	ND		5.9	1.3	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Trichlorofluoromethane	ND		5.9	0.56	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1
Vinyl acetate	ND		12	2.9	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1

Client Sample ID: PZ-2022-3 (26-30)
Date Collected: 04/20/22 15:15
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-3
Matrix: Solid
Percent Solids: 92.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.9	0.72	ug/Kg	☼	04/21/22 11:00	04/22/22 00:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*04/21/22 11:00*	*04/22/22 00:46*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/21/22 11:00*	*04/22/22 00:46*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*04/21/22 11:00*	*04/22/22 00:46*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*04/21/22 11:00*	*04/22/22 00:46*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,2-Diphenylhydrazine	ND		360	20	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,3-Dinitrobenzene	ND		360	43	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
1-Naphthylamine	ND		360	120	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,4,5-Trichlorophenol	ND		180	50	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,4-Dinitrophenol	ND		1800	840	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Acetylaminofluorene	ND		360	46	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Chlorophenol	ND		360	33	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Methylphenol	ND		180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Picoline	ND		360	41	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
2-Toluidine	ND		360	87	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
3,3'-Dimethylbenzidine	ND		710	360	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
3-Methylcholanthrene	ND		360	59	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Aminobiphenyl	ND		360	74	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1

Client Sample ID: PZ-2022-3 (26-30)
Date Collected: 04/20/22 15:15
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-3
Matrix: Solid
Percent Solids: 92.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		180	45	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Nitroaniline	ND		360	96	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
4-Nitroquinoline-1-oxide	ND		710	360	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~360~~	~~360~~	~~ug/Kg~~	~~☼~~	~~04/25/22 15:36~~	~~04/26/22 19:33~~	R 1
Acenaphthene	ND		180	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Acenaphthylene	ND		180	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Acetophenone	ND		180	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Aniline	ND		360	44	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Anthracene	ND		180	45	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzidine	ND		5400	2300	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Bis(2-ethylhexyl) phthalate	ND		180	62	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Chrysene	ND		180	41	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Diallate	ND		360	45	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Dibenzofuran	ND		180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Dimethoate	ND		360	44	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Dimethyl phthalate	ND		180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Dinoseb	ND		360	64	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Diphenylamine	ND		360	46	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Disulfoton	ND		360	270	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Chlorobenzilate	ND		360	57	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
~~Famphur~~	~~ND~~	~~*-~~	~~710~~	~~170~~	~~ug/Kg~~	~~☼~~	~~04/25/22 15:36~~	~~04/26/22 19:33~~	R 1
Fluoranthene	ND		180	19	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Fluorene	ND		180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Hexachloroethane	ND		180	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Hexachloropropene	ND		360	91	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1
Indeno[1,2,3-cd]pyrene	ND		180	23	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1

Client Sample ID: PZ-2022-3 (26-30)
Lab Sample ID: 480-197008-3
Date Collected: 04/20/22 15:15
Matrix: Solid
Date Received: 04/21/22 10:00
Percent Solids: 92.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Isodrin	ND		360	62	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Isophorone	ND		180	39	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Isosafrole	ND		360	47	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
~~Kepone~~	~~ND~~	~~*-~~	~~710~~	~~360~~	~~ug/Kg~~	☼	~~04/25/22 15:36~~	~~04/26/22 19:33~~	1	R
Methapyrilene	ND		1600	360	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Methyl methanesulfonate	ND		360	82	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Naphthalene	ND		180	24	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Nitrobenzene	ND		180	20	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitro-o-toluidine	ND		360	46	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosodiethylamine	ND		360	83	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosodi-n-butylamine	ND		360	97	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosomethylethylamine	ND		360	82	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosomorpholine	ND		360	80	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosopiperidine	ND		360	72	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
o,o',o''-Triethylphosphorothioate	ND		360	46	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Methyl parathion	ND		360	61	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
p-Dimethylamino azobenzene	ND		360	60	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Pentachlorobenzene	ND		360	74	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Pentachlorophenol	ND		360	180	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Phenacetin	ND		360	48	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Phenanthrene	ND		180	27	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Phenol	ND		180	28	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Phorate	ND		360	98	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~860~~	~~360~~	~~ug/Kg~~	☼	~~04/25/22 15:36~~	~~04/26/22 19:33~~	1	R
Pronamide	ND		360	70	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Pyrene	ND	~~*+~~	180	22	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Pyridine	ND		360	26	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Safrole	ND		360	48	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Sulfotepp	ND		360	57	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	
Thionazin	ND		360	62	ug/Kg	☼	04/25/22 15:36	04/26/22 19:33	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*04/25/22 15:36*	*04/26/22 19:33*	*1*
2-Fluorobiphenyl (Surr)	*87*		*60 - 120*	*04/25/22 15:36*	*04/26/22 19:33*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*04/25/22 15:36*	*04/26/22 19:33*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*04/25/22 15:36*	*04/26/22 19:33*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*04/25/22 15:36*	*04/26/22 19:33*	*1*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*04/25/22 15:36*	*04/26/22 19:33*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
4,4'-DDT	ND		1.8	0.42	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1

Client Sample ID: PZ-2022-3 (26-30)
Date Collected: 04/20/22 15:15
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-3
Matrix: Solid
Percent Solids: 92.0

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
cis-Chlordane	ND		1.8	0.89	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
Toxaphene	ND		18	10	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	04/22/22 15:53	04/25/22 11:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*04/22/22 15:53*	*04/25/22 11:46*	*1*
Tetrachloro-m-xylene	*64*		*30 - 124*	*04/22/22 15:53*	*04/25/22 11:46*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.052	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1
PCB-1221	ND		0.27	0.052	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1
PCB-1232	ND		0.27	0.052	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1
PCB-1242	ND		0.27	0.052	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1
PCB-1248	ND		0.27	0.052	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1
PCB-1254	ND		0.27	0.12	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1
PCB-1260	ND		0.27	0.12	mg/Kg	☼	04/22/22 06:47	04/25/22 02:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*65 - 174*	*04/22/22 06:47*	*04/25/22 02:00*	*1*
Tetrachloro-m-xylene	*109*		*60 - 154*	*04/22/22 06:47*	*04/25/22 02:00*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	04/26/22 07:11	05/01/22 20:12	1
2,4-D	ND		18	11	ug/Kg	☼	04/26/22 07:11	05/01/22 20:12	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	04/26/22 07:11	05/01/22 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*04/26/22 07:11*	*05/01/22 20:12*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		35	20	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1

Client Sample ID: PZ-2022-3 (26-30)
Date Collected: 04/20/22 15:15
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-3
Matrix: Solid
Percent Solids: 92.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		35	23	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1
Famphur	ND		35	19	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1
Methyl parathion	ND		35	20	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1
Ethyl Parathion	ND		35	19	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1
Phorate	ND		35	12	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1
Sulfotepp	ND		35	14	ug/Kg	☼	04/25/22 07:53	04/27/22 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*20 - 135*	*04/25/22 07:53*	*04/27/22 16:30*	*1*
Tributyl phosphate	*82*		*20 - 135*	*04/25/22 07:53*	*04/27/22 16:30*	*1*
Triphenylphosphate	*106*		*33 - 168*	*04/25/22 07:53*	*04/27/22 16:30*	*1*
Triphenylphosphate	*109*		*33 - 168*	*04/25/22 07:53*	*04/27/22 16:30*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**1.3**	**J B**	5.4	0.12	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,4,6,7,8-HpCDF	**0.36**	**J I B** JNX	5.4	0.014	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,4,7,8,9-HpCDF	ND		5.4	0.017	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,4,7,8-HxCDD	ND		5.4	0.023	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,4,7,8-HxCDF	ND		5.4	0.059	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,6,7,8-HxCDD	**0.20**	**J I B** JNX	5.4	0.020	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,6,7,8-HxCDF	5.4 U	**0.18 J I B**	5.4	0.055	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,7,8,9-HxCDD	ND		5.4	0.021	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,7,8,9-HxCDF	**0.28**	**J I B** JNX	5.4	0.069	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,7,8-PeCDD	ND		5.4	0.055	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
1,2,3,7,8-PeCDF	**0.30**	**J I B** JNX	5.4	0.066	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
2,3,4,6,7,8-HxCDF	ND		5.4	0.051	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
2,3,4,7,8-PeCDF	ND		5.4	0.050	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
2,3,7,8-TCDD	ND		1.1	0.054	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
2,3,7,8-TCDF	**0.082**	**J I** JNX	1.1	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
OCDD	**7.5**	**J I B** JNX	11	0.047	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
OCDF	11 U	**0.31 J I B**	11	0.039	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total HpCDD	**1.3**	**J B**	5.4	0.12	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total HpCDF	5.4 U	**0.36 J I B**	5.4	0.016	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total HxCDD	5.4 U	**0.20 J I B**	5.4	0.021	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total HxCDF	5.4 U	**0.46 J I B**	5.4	0.059	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total PeCDD	ND		5.4	0.055	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total PeCDF	5.4 U	**0.30 J I B**	5.4	0.058	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total TCDD	ND		1.1	0.054	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1
Total TCDF	**0.082**	**J I** JNX	1.1	0.030	ng/Kg	☼	04/26/22 15:00	04/28/22 20:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,6,7,8-HxCDF	*88*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,7,8,9-HxCDD	*80*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*

Client Sample ID: PZ-2022-3 (26-30)
Date Collected: 04/20/22 15:15
Date Received: 04/21/22 10:00

Lab Sample ID: 480-197008-3
Matrix: Solid
Percent Solids: 92.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-2,3,4,7,8-PeCDF	*68*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-2,3,7,8-TCDF	*69*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-OCDD	*67*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*
13C-OCDF	*71*		*40 - 135*	*04/26/22 15:00*	*04/28/22 20:57*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.5	0.44	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Arsenic	**3.2**		2.2	0.44	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Barium	**23.9**		0.55	0.12	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Beryllium	**0.20**	**J**	0.22	0.031	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Cadmium	**0.11**	**J**	0.22	0.033	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Chromium	**3.9**		0.55	0.22	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Cobalt	**6.6**		0.55	0.055	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Copper	**5.2**		1.1	0.23	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Lead	**5.2**		1.1	0.26	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Nickel	**8.6**		5.5	0.25	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Selenium	ND		4.4	0.44	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Silver	ND		0.66	0.22	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Thallium	ND		6.6	0.33	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Tin	ND		2.2	0.47	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Vanadium	**4.6**		0.55	0.12	mg/Kg	☼	04/22/22 16:08	04/27/22 19:21	1
Zinc	**23.6**		2.2	0.71	mg/Kg	☼	04/22/22 16:08	04/28/22 15:33	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0047	mg/Kg	☼	04/22/22 09:35	04/22/22 13:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**22.0**		5.2	2.5	mg/Kg	☼	04/29/22 11:43	04/29/22 13:50	5

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.1	10.9	mg/Kg	☼		04/29/22 16:35	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-197073-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47565R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 8
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 9
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 11
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 System Performance and Overall Assessment 12
5.3 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 12
6.1 Holding Times 12
6.2 Blank Contamination 13
6.3 Compound Identification 14
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Metals Analyses 15
7.1 Holding Times 15
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 16
8 General Chemistry Analyses 16
8.1 Holding Times 16

8.2 System Performance and Overall Assessment 17
8.3 Data Validation Checklist for General Chemistry 17
9 Overall Data Usability 17

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 9
Table 7. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 9
Table 8. Holding Time for Method SW-846 8082A 10
Table 9. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 10. Summary of Holding Time Exceedances 11
Table 11. Summary of Holding Time Qualifications 12
Table 12. Holding Time for Method SW-846 8290A 13
Table 13. Summary of Blank Contamination Qualifications 13
Table 14. Holding Time for Method SW-846 6010C/7471B 16
Table 15. Specified Holding Times 16
Table 16. Overall Summary of Data Usability 17

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197073-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
PZ-2022-3 (45-47)	480-197073-1	Soil	04/21/22		X	X	X	X	X	X
PZ-2022-3 (60-64)	480-197073-2	Soil	04/21/22		X	X	X	X	X	X
PZ-2022-1 (0-1)	480-197073-3	Soil	04/21/22		X	X	X	X	X	X
PZ-2022-3 (82-86)	480-197073-4	Soil	04/21/22		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	4	0	0	0	0	0	4
SVOCs	4	0	0	0	0	0	4
PCBs	4	0	0	0	0	0	4
PEST	4	0	0	0	0	0	4
HERB	4	0	0	0	0	0	4
PCDD/PCDF	4	0	0	0	0	0	4
Metals	4	0	0	0	0	0	4
MISC	4	0	0	0	0	0	4

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample PZ-2022-1 (0-1). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 6. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
PZ-2022-1 (0-1)	a,a-Dimethylphenethylamine	< 10%	AC
	Benzidine	< 10%	< 10%
	p-Phenylene diamine	< 10%	< 10%

Note:
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 7. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Reporting limits (units)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
System performance and column resolution		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria with the exceptions noted in the table below.

Table 10. Summary of Holding Time Exceedances

Sample ID	Analytical method	Holding Time	Criteria
PZ-2022-3 (45-47) PZ-2022-3 (60-64) PZ-2022-1 (0-1) PZ-2022-3 (82-86)	SW-846 8141B	14 Days	7 Days

Sample results associated with samples analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 11. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-3 (45-47)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,7,8-PeCDF		
	Total HpCDD		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
PZ-2022-3 (60-64)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF		
	1,2,3,7,8-PeCDF		

Sample ID	Compounds	Sample Result	Qualification
	2,3,4,7,8-PeCDF		
	OCDF		
	Total HpCDD		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
PZ-2022-1 (0-1)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	OCDF		
	Total HpCDD		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
PZ-2022-3 (82-86)	1,2,3,4,7,8-HxCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8-PeCDF		
	OCDD		
	OCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection

limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 15. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

9 Overall Data Usability

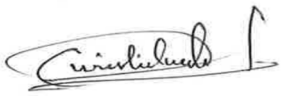
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 16. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	99.4%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 14, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 16, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-3(45-47)	4/21/22	0930	G	S			X	X	X	X	X										
PZ-2022-3(60-64)	4/21/22	1040	G	S			X	X	X	X	X										
PZ-2022-1(0-1)	4/21/22	1330	G	S			X	X	X	X	X										
PZ-2022-3(82-86)	4/21/22	1455	G	S			X	X	X	X	X										

480-197073 Chain of Custody

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/21/22 1600			4/22/22 1030	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.1 + 1.0

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

480-197073 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 30-71809.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eu	Page: age 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Rec State - Massac	Job #: 480-197073-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/5/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-3 (45-47) (480-197073-1)	4/21/22	09:30 Eastern		Solid			X	1	
PZ-2022-3 (60-64) (480-197073-2)	4/21/22	10:40 Eastern		Solid			X	1	
PZ-2022-1 (0-1) (480-197073-3)	4/21/22	13:30 Eastern		Solid			X	1	
PZ-2022-3 (82-86) (480-197073-4)	4/21/22	14:55 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 5/3/22 1700	Company TA	Received by: DW	Date/Time: 5-4-22	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 930	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71471.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-197073-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/5/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-3 45-47 (480-197073-1)	4/21/22	09:30 Eastern		Solid			X	1	
PZ-2022-3 60-64 (480-197073-2)	4/21/22	10:40 Eastern		Solid			X	1	
PZ-2022-1 0-1 (480-197073-3)	4/21/22	13:30 Eastern		Solid			X	1	
PZ-2022-3 82-86 (480-197073-4)	4/21/22	14:55 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time: 4/22/22 1800	Company TAB	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/23/22 10:30	Company ECE

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.6

Ver: 06/08/2021

05/17/2022

Client Sample ID: PZ-2022-3 (45-47)
Date Collected: 04/21/22 09:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-1
Matrix: Solid
Percent Solids: 75.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.1	0.31	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,1,1-Trichloroethane	ND		3.1	0.22	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,1,2,2-Tetrachloroethane	ND		3.1	0.50	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,1,2-Trichloroethane	ND		3.1	0.40	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,1-Dichloroethane	ND		3.1	0.38	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,1-Dichloroethene	ND		3.1	0.38	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,2,3-Trichloropropane	ND		3.1	0.31	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,2-Dibromo-3-Chloropropane	ND		3.1	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,2-Dichloroethane	ND		3.1	0.15	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
1,2-Dichloropropane	ND		3.1	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
2-Butanone (MEK)	ND		15	1.1	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
2-Chloro-1,3-butadiene	ND		3.1	1.9	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
2-Chloroethyl vinyl ether	ND		6.2	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
2-Hexanone	ND		15	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
3-Chloro-1-propene	ND		3.1	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
4-Methyl-2-pentanone (MIBK)	ND		15	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Acetone	**10**	**J**	15	2.6	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Acetonitrile	ND		31	3.8	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Acrolein	ND		15	4.9	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Acrylonitrile	ND		15	2.8	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Benzene	ND		3.1	0.15	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Bromoform	ND		3.1	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Bromomethane	ND		3.1	0.28	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Carbon disulfide	ND		3.1	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Carbon tetrachloride	ND		3.1	0.30	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Chlorobenzene	ND		3.1	0.41	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Chlorodibromomethane	ND		3.1	0.39	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Chloroethane	ND		3.1	0.70	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Chloroform	ND		3.1	0.19	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Chloromethane	ND		3.1	0.19	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
cis-1,3-Dichloropropene	ND		3.1	0.44	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Dibromomethane	ND		3.1	0.32	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Dichlorobromomethane	ND		3.1	0.41	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Dichlorodifluoromethane	ND		3.1	0.25	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Ethyl methacrylate	ND		3.1	1.1	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Ethylbenzene	ND		3.1	0.21	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Ethylene Dibromide	ND		3.1	0.40	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Iodomethane	ND		3.1	0.15	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Methacrylonitrile	ND		15	3.6	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Methyl methacrylate	ND		3.1	0.65	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Methylene Chloride	ND		3.1	1.4	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
m-Xylene & p-Xylene	ND		6.2	0.52	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
o-Xylene	ND		3.1	0.40	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Propionitrile	ND		31	17	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Styrene	ND		3.1	0.15	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Tetrachloroethene	ND		3.1	0.41	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Toluene	ND		3.1	0.23	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
trans-1,2-Dichloroethene	ND		3.1	0.32	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
trans-1,3-Dichloropropene	ND		3.1	1.4	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1

Client Sample ID: PZ-2022-3 (45-47)
Lab Sample ID: 480-197073-1
Date Collected: 04/21/22 09:30
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 75.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		3.1	0.70	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Trichloroethene	ND		3.1	0.68	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Trichlorofluoromethane	ND		3.1	0.29	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Vinyl acetate	ND		6.2	1.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1
Vinyl chloride	ND		3.1	0.38	ug/Kg	☼	04/22/22 16:00	04/24/22 23:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*64 - 126*	*04/22/22 16:00*	*04/24/22 23:09*	*1*
4-Bromofluorobenzene (Surr)	*100*		*72 - 126*	*04/22/22 16:00*	*04/24/22 23:09*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*	*04/22/22 16:00*	*04/24/22 23:09*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*04/22/22 16:00*	*04/24/22 23:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		220	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,2,4-Trichlorobenzene	ND		420	31	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,2-Dichlorobenzene	ND		420	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,2-Diphenylhydrazine	ND		420	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,3,5-Trinitrobenzene	ND		420	18	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,3-Dichlorobenzene	ND		420	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,3-Dinitrobenzene	ND		420	51	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,4-Dichlorobenzene	ND		420	33	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,4-Dioxane	ND		130	71	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1,4-Naphthoquinone	ND		420	80	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
1-Naphthylamine	ND		420	150	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,3,4,6-Tetrachlorophenol	ND		220	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,4,5-Trichlorophenol	ND		220	59	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,4,6-Trichlorophenol	ND		220	44	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,4-Dichlorophenol	ND		220	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,4-Dimethylphenol	ND		220	53	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,4-Dinitrophenol	ND		2100	1000	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,4-Dinitrotoluene	ND		220	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,6-Dichlorophenol	ND		420	80	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2,6-Dinitrotoluene	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Acetylaminofluorene	ND		420	55	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Chloronaphthalene	ND		220	36	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Chlorophenol	ND		420	40	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Methylnaphthalene	ND		220	44	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Methylphenol	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Naphthylamine	ND		420	150	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Nitroaniline	ND		420	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Nitrophenol	ND		220	62	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Picoline	ND		420	49	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
2-Toluidine	ND		420	100	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
3 & 4 Methylphenol	ND		420	33	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
3,3'-Dichlorobenzidine	ND		420	260	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
3,3'-Dimethylbenzidine	ND		850	420	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
3-Methylcholanthrene	ND		420	71	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
3-Methylphenol	ND		420	33	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
3-Nitroaniline	ND		420	60	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1

Client Sample ID: PZ-2022-3 (45-47)
Date Collected: 04/21/22 09:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-1
Matrix: Solid
Percent Solids: 75.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		420	220	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Aminobiphenyl	ND		420	89	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Bromophenyl phenyl ether	ND		220	31	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Chloro-3-methylphenol	ND		220	54	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Chloroaniline	ND		220	54	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Chlorophenyl phenyl ether	ND		220	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Methylphenol	ND		420	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Nitroaniline	ND		420	110	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Nitrophenol	ND		420	150	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
4-Nitroquinoline-1-oxide	ND		850	420	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
7,12-Dimethylbenz(a)anthracene	ND		420	63	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
a,a-Dimethylphenethylamine	ND		420	420	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Acenaphthene	ND		220	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Acenaphthylene	ND		220	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Acetophenone	ND		220	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Aniline	ND		420	53	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Anthracene	ND		220	54	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Aramite, Total	ND		420	210	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzidine	ND		6400	2700	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzo[a]anthracene	ND		220	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzo[a]pyrene	ND		220	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzo[b]fluoranthene	ND		220	35	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzo[g,h,i]perylene	ND		220	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzo[k]fluoranthene	ND		220	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Benzyl alcohol	ND		420	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
bis (2-chloroisopropyl) ether	ND		220	44	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Bis(2-chloroethoxy)methane	ND		220	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Bis(2-chloroethyl)ether	ND		220	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Bis(2-ethylhexyl) phthalate	ND		220	75	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Butyl benzyl phthalate	ND		220	36	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Chrysene	ND		220	49	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Diallate	ND		420	54	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Dibenz(a,h)anthracene	ND		220	39	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Dibenzofuran	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Diethyl phthalate	ND		220	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Dimethoate	ND		420	53	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Dimethyl phthalate	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Di-n-butyl phthalate	ND		220	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Di-n-octyl phthalate	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Dinoseb	ND		420	76	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Diphenylamine	ND		420	55	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Disulfoton	ND		420	320	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Chlorobenzilate	ND		420	68	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Ethyl methanesulfonate	ND		420	94	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Famphur	ND		850	210	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Fluoranthene	ND		220	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Fluorene	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Hexachlorobenzene	ND		220	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Hexachlorobutadiene	ND		220	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1

Client Sample ID: PZ-2022-3 (45-47)
Date Collected: 04/21/22 09:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-1
Matrix: Solid
Percent Solids: 75.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		220	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Hexachloroethane	ND		220	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Hexachloropropene	ND		420	110	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Indeno[1,2,3-cd]pyrene	ND		220	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Isodrin	ND		420	75	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Isophorone	ND		220	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Isosafrole	ND		420	57	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Kepone	ND		850	420	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Methapyrilene	ND		1900	420	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Methyl methanesulfonate	ND		420	98	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Naphthalene	ND		220	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Nitrobenzene	ND		220	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitro-o-toluidine	ND		420	55	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosodiethylamine	ND		420	99	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosodimethylamine	ND		420	93	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosodi-n-butylamine	ND		420	120	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosodi-n-propylamine	ND		220	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosodiphenylamine	ND		220	180	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosomethylethylamine	ND		420	98	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosomorpholine	ND		420	95	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosopiperidine	ND		420	86	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
N-Nitrosopyrrolidine	ND		420	64	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
o,o',o''-Triethylphosphorothioate	ND		420	55	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Ethyl Parathion	ND		420	48	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Methyl parathion	ND		420	73	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
p-Dimethylamino azobenzene	ND		420	72	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Pentachlorobenzene	ND		420	89	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Pentachloronitrobenzene	ND		420	110	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Pentachlorophenol	ND		420	220	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Phenacetin	ND		420	58	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Phenanthrene	ND		220	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Phenol	ND		220	33	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Phorate	ND		420	120	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
p-Phenylene diamine	ND		1000	420	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Pronamide	ND		420	84	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Pyrene	ND		220	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Pyridine	ND		420	31	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Safrole	ND		420	58	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Sulfotepp	ND		420	68	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1
Thionazin	ND		420	75	ug/Kg	☼	04/26/22 16:02	04/27/22 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*04/26/22 16:02*	*04/27/22 20:24*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*04/26/22 16:02*	*04/27/22 20:24*	*1*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*04/26/22 16:02*	*04/27/22 20:24*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 120*	*04/26/22 16:02*	*04/27/22 20:24*	*1*
Phenol-d5 (Surr)	*82*		*54 - 120*	*04/26/22 16:02*	*04/27/22 20:24*	*1*
p-Terphenyl-d14 (Surr)	*111*		*79 - 130*	*04/26/22 16:02*	*04/27/22 20:24*	*1*

Client Sample ID: PZ-2022-3 (45-47)
Date Collected: 04/21/22 09:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-1
Matrix: Solid
Percent Solids: 75.6

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
4,4'-DDE	ND		2.2	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
4,4'-DDT	ND		2.2	0.51	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Aldrin	ND		2.2	0.54	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
alpha-BHC	ND		2.2	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
beta-BHC	ND		2.2	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Chlordane (technical)	ND		22	4.9	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Chlorobenzilate	ND		22	7.4	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
cis-Chlordane	ND		2.2	1.1	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
delta-BHC	ND		2.2	0.41	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Dieldrin	ND		2.2	0.53	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Endosulfan I	ND		2.2	0.42	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Endosulfan II	ND		2.2	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Endosulfan sulfate	ND		2.2	0.41	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Endrin	ND		2.2	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Endrin aldehyde	ND		2.2	0.56	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Endrin ketone	ND		2.2	0.54	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
gamma-BHC (Lindane)	ND		2.2	0.40	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Heptachlor	ND		2.2	0.47	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Heptachlor epoxide	ND		2.2	0.56	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Methoxychlor	ND		2.2	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
Toxaphene	ND		22	13	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1
trans-Chlordane	ND		2.2	0.70	ug/Kg	☼	04/22/22 15:53	04/25/22 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*04/22/22 15:53*	*04/25/22 13:05*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*04/22/22 15:53*	*04/25/22 13:05*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1
PCB-1221	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1
PCB-1232	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1
PCB-1242	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1
PCB-1248	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/27/22 08:16	04/28/22 10:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*110*		*65 - 174*	*04/27/22 08:16*	*04/28/22 10:01*	*1*
Tetrachloro-m-xylene	*122*		*60 - 154*	*04/27/22 08:16*	*04/28/22 10:01*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		22	7.0	ug/Kg	☼	04/26/22 07:11	05/01/22 20:42	1
2,4-D	ND		22	14	ug/Kg	☼	04/26/22 07:11	05/01/22 20:42	1
Silvex (2,4,5-TP)	ND		22	7.9	ug/Kg	☼	04/26/22 07:11	05/01/22 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*80*		*28 - 129*	*04/26/22 07:11*	*05/01/22 20:42*	*1*

Client Sample ID: PZ-2022-3 (45-47)
Date Collected: 04/21/22 09:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-1
Matrix: Solid
Percent Solids: 75.6

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	43	25	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1
Disulfoton	ND	H UJ	43	29	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1
Famphur	ND	H UJ	43	23	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1
Methyl parathion	ND	H UJ	43	25	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1
Ethyl Parathion	ND	H UJ	43	24	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1
Phorate	ND	H UJ	43	15	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1
Sulfotepp	ND	H UJ	43	17	ug/Kg	☼	05/05/22 13:08	05/06/22 13:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*20 - 135*	*05/05/22 13:08*	*05/06/22 13:37*	*1*
Tributyl phosphate	*92*		*20 - 135*	*05/05/22 13:08*	*05/06/22 13:37*	*1*
Triphenylphosphate	*98*		*33 - 168*	*05/05/22 13:08*	*05/06/22 13:37*	*1*
Triphenylphosphate	*104*		*33 - 168*	*05/05/22 13:08*	*05/06/22 13:37*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	6.6 U	~~0.51 J B~~	6.6	0.12	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,4,6,7,8-HpCDF	**0.29**	~~J I~~ JNX	6.6	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,4,7,8,9-HpCDF	ND		6.6	0.020	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,4,7,8-HxCDD	ND		6.6	0.021	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,4,7,8-HxCDF	6.6 U	~~0.14 J I B~~	6.6	0.042	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,6,7,8-HxCDD	**0.090**	J I JNX	6.6	0.020	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,6,7,8-HxCDF	**0.14**	J I JNX	6.6	0.042	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,7,8,9-HxCDD	ND		6.6	0.022	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,7,8,9-HxCDF	ND		6.6	0.047	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,7,8-PeCDD	ND		6.6	0.040	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
1,2,3,7,8-PeCDF	6.6 U	~~0.17 J I B~~	6.6	0.029	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
2,3,4,6,7,8-HxCDF	ND		6.6	0.042	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
2,3,4,7,8-PeCDF	6.6 U	~~0.13 J I B~~	6.6	0.020	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
2,3,7,8-TCDD	ND		1.3	0.039	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
2,3,7,8-TCDF	ND		1.3	0.028	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
OCDD	**4.6**	~~J I B~~ JNX	13	0.040	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
OCDF	ND		13	0.036	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total HpCDD	6.6 U	~~0.51 J B~~	6.6	0.12	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total HpCDF	**0.29**	~~J I~~ JNX	6.6	0.017	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total HxCDD	6.6 U	~~0.090 J I B~~	6.6	0.021	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total HxCDF	6.6 U	~~0.28 J I B~~	6.6	0.043	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total PeCDD	ND		6.6	0.040	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total PeCDF	6.6 U	~~0.30 J I B~~	6.6	0.025	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total TCDD	ND		1.3	0.039	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1
Total TCDF	ND		1.3	0.028	ng/Kg	☼	05/03/22 15:00	05/04/22 17:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*31*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*30*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*31*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*32*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*33*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*34*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*34*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,7,8,9-HxCDD	*34*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*

Client Sample ID: PZ-2022-3 (45-47)
Lab Sample ID: 480-197073-1

Date Collected: 04/21/22 09:30
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 75.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*35*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,7,8-PeCDD	*34*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-1,2,3,7,8-PeCDF	*32*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*33*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-2,3,4,7,8-PeCDF	*35*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-2,3,7,8-TCDD	*29*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-2,3,7,8-TCDF	*28*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-OCDD	*23*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*
13C-OCDF	*23*	**5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 17:56*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.1**	**J**	20.3	0.54	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Arsenic	**5.3**		2.7	0.54	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Barium	**40.6**		0.68	0.15	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Beryllium	**0.44**		0.27	0.038	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Cadmium	**0.056**	**J**	0.27	0.041	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Chromium	**11.0**		0.68	0.27	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Cobalt	**10.4**		0.68	0.068	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Copper	**12.8**	**B**	1.4	0.28	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Lead	**10.6**		1.4	0.33	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Nickel	**18.5**		6.8	0.31	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Selenium	ND		5.4	0.54	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Silver	ND		0.81	0.27	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Thallium	ND		8.1	0.41	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Tin	ND		2.7	0.58	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Vanadium	**12.8**		0.68	0.15	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1
Zinc	**55.6**		2.7	0.87	mg/Kg	☼	04/29/22 14:43	05/03/22 12:56	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.011**	**J**	0.027	0.0063	mg/Kg	☼	04/30/22 08:26	04/30/22 09:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.56	mg/Kg	☼	04/29/22 11:43	04/29/22 13:29	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.2	12.7	mg/Kg	☼		04/29/22 16:35	1

Client Sample ID: PZ-2022-3 (60-64)
Lab Sample ID: 480-197073-2

Date Collected: 04/21/22 10:40
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 92.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.1	0.21	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,1,1-Trichloroethane	ND		2.1	0.15	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,1,2,2-Tetrachloroethane	ND		2.1	0.34	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,1,2-Trichloroethane	ND		2.1	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1

Client Sample ID: PZ-2022-3 (60-64)
Date Collected: 04/21/22 10:40
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-2
Matrix: Solid
Percent Solids: 92.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		2.1	0.26	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,1-Dichloroethene	ND		2.1	0.26	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,2,3-Trichloropropane	ND		2.1	0.21	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,2-Dibromo-3-Chloropropane	ND		2.1	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,2-Dichloroethane	ND		2.1	0.11	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
1,2-Dichloropropane	ND		2.1	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
2-Butanone (MEK)	**2.4**	**J**	10	0.77	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
2-Chloro-1,3-butadiene	ND		2.1	1.3	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
2-Chloroethyl vinyl ether	ND		4.2	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
2-Hexanone	ND		10	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
3-Chloro-1-propene	ND		2.1	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.69	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Acetone	**14**		10	1.8	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Acetonitrile	ND		21	2.6	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Acrolein	ND		10	3.3	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Acrylonitrile	ND		10	1.9	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Benzene	ND		2.1	0.10	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Bromoform	ND		2.1	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Bromomethane	ND		2.1	0.19	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Carbon disulfide	ND		2.1	1.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Carbon tetrachloride	ND		2.1	0.20	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Chlorobenzene	ND		2.1	0.28	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Chlorodibromomethane	ND		2.1	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Chloroethane	ND		2.1	0.47	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Chloroform	ND		2.1	0.13	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Chloromethane	ND		2.1	0.13	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
cis-1,3-Dichloropropene	ND		2.1	0.30	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Dibromomethane	ND		2.1	0.22	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Dichlorobromomethane	ND		2.1	0.28	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Dichlorodifluoromethane	ND		2.1	0.17	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Ethyl methacrylate	ND		2.1	0.72	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Ethylbenzene	ND		2.1	0.14	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Ethylene Dibromide	ND		2.1	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Iodomethane	ND		2.1	0.10	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Methacrylonitrile	ND		10	2.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Methyl methacrylate	ND		2.1	0.44	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Methylene Chloride	ND		2.1	0.97	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
m-Xylene & p-Xylene	ND		4.2	0.35	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
o-Xylene	ND		2.1	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Propionitrile	ND		21	12	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Styrene	ND		2.1	0.10	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Tetrachloroethene	ND		2.1	0.28	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Toluene	ND		2.1	0.16	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
trans-1,2-Dichloroethene	ND		2.1	0.22	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
trans-1,3-Dichloropropene	ND		2.1	0.92	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
trans-1,4-Dichloro-2-butene	ND		2.1	0.47	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Trichloroethene	ND		2.1	0.46	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Trichlorofluoromethane	ND		2.1	0.20	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1
Vinyl acetate	ND		4.2	1.1	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1

Client Sample ID: PZ-2022-3 (60-64)
Date Collected: 04/21/22 10:40
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-2
Matrix: Solid
Percent Solids: 92.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		2.1	0.26	ug/Kg	☼	04/22/22 16:00	04/24/22 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*64 - 126*	*04/22/22 16:00*	*04/24/22 23:33*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/22/22 16:00*	*04/24/22 23:33*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*04/22/22 16:00*	*04/24/22 23:33*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*04/22/22 16:00*	*04/24/22 23:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,2,4-Trichlorobenzene	ND		350	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,2-Dichlorobenzene	ND		350	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,3,5-Trinitrobenzene	ND		350	15	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,3-Dinitrobenzene	ND		350	43	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,4-Dichlorobenzene	ND		350	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1,4-Naphthoquinone	ND		350	66	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,4-Dinitrophenol	ND		1800	840	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,6-Dichlorophenol	ND		350	66	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Acetylaminofluorene	ND		350	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Methylphenol	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Nitroaniline	ND		350	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Picoline	ND		350	41	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
2-Toluidine	ND		350	86	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
3 & 4 Methylphenol	ND		350	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
3-Methylcholanthrene	ND		350	59	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
3-Methylphenol	ND		350	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Aminobiphenyl	ND		350	74	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1

Client Sample ID: PZ-2022-3 (60-64)
Date Collected: 04/21/22 10:40
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-2
Matrix: Solid
Percent Solids: 92.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		180	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Methylphenol	ND		350	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Nitroaniline	ND		350	95	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
4-Nitroquinoline-1-oxide	ND		700	350	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Acenaphthene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Acenaphthylene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Acetophenone	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Aniline	ND		350	44	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Anthracene	ND		180	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Aramite, Total	ND		350	170	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzidine	ND		5300	2300	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Benzyl alcohol	ND		350	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Bis(2-ethylhexyl) phthalate	ND		180	62	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Chrysene	ND		180	41	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Diallate	ND		350	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Dibenzofuran	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Dimethoate	ND		350	44	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Dinoseb	ND		350	63	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Diphenylamine	ND		350	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Disulfoton	ND		350	270	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Chlorobenzilate	ND		350	57	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Ethyl methanesulfonate	ND		350	78	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Famphur	ND		700	170	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Fluoranthene	ND		180	19	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Fluorene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Hexachloroethane	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Hexachloropropene	ND		350	90	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1

Client Sample ID: PZ-2022-3 (60-64)
Lab Sample ID: 480-197073-2
Date Collected: 04/21/22 10:40
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 92.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		350	62	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Isophorone	ND		180	38	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Isosafrole	ND		350	47	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Kepone	ND		700	350	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Methyl methanesulfonate	ND		350	81	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Naphthalene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitro-o-toluidine	ND		350	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosodiethylamine	ND		350	82	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosodimethylamine	ND		350	77	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosodi-n-butylamine	ND		350	96	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosomethylethylamine	ND		350	81	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosomorpholine	ND		350	79	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosopiperidine	ND		350	71	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
o,o',o''-Triethylphosphorothioate	ND		350	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Methyl parathion	ND		350	61	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
p-Dimethylamino azobenzene	ND		350	60	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Pentachlorobenzene	ND		350	74	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Pentachloronitrobenzene	ND		350	90	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Phenacetin	ND		350	48	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Phenanthrene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Phenol	ND		180	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Phorate	ND		350	97	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
p-Phenylene diamine	ND		850	350	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Pronamide	ND		350	69	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Pyrene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Pyridine	ND		350	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Safrole	ND		350	48	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Sulfotepp	ND		350	57	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1
Thionazin	ND		350	62	ug/Kg	☼	04/26/22 16:02	04/27/22 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*04/26/22 16:02*	*04/27/22 20:48*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*04/26/22 16:02*	*04/27/22 20:48*	*1*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*04/26/22 16:02*	*04/27/22 20:48*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*04/26/22 16:02*	*04/27/22 20:48*	*1*
Phenol-d5 (Surr)	*76*		*54 - 120*	*04/26/22 16:02*	*04/27/22 20:48*	*1*
p-Terphenyl-d14 (Surr)	*109*		*79 - 130*	*04/26/22 16:02*	*04/27/22 20:48*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
4,4'-DDE	ND		1.8	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
4,4'-DDT	ND		1.8	0.41	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1

Client Sample ID: PZ-2022-3 (60-64)
Date Collected: 04/21/22 10:40
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-2
Matrix: Solid
Percent Solids: 92.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Chlordane (technical)	ND		18	3.9	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Chlorobenzilate	ND		18	5.9	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
cis-Chlordane	ND		1.8	0.88	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Dieldrin	ND		1.8	0.42	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Endrin aldehyde	ND		1.8	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Endrin ketone	ND		1.8	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
gamma-BHC (Lindane)	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Heptachlor	ND		1.8	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Heptachlor epoxide	ND		1.8	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Methoxychlor	ND		1.8	0.36	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
Toxaphene	ND		18	10	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1
trans-Chlordane	ND		1.8	0.56	ug/Kg	☼	04/22/22 15:53	04/25/22 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*04/22/22 15:53*	*04/25/22 13:24*	*1*
Tetrachloro-m-xylene	*79*		*30 - 124*	*04/22/22 15:53*	*04/25/22 13:24*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1
PCB-1221	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1
PCB-1232	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1
PCB-1242	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1
PCB-1248	ND		0.24	0.048	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/27/22 08:16	04/28/22 10:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*112*		*65 - 174*	*04/27/22 08:16*	*04/28/22 10:14*	*1*
Tetrachloro-m-xylene	*124*		*60 - 154*	*04/27/22 08:16*	*04/28/22 10:14*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	04/26/22 07:11	05/01/22 21:12	1
2,4-D	ND		18	11	ug/Kg	☼	04/26/22 07:11	05/01/22 21:12	1
Silvex (2,4,5-TP)	ND		18	6.5	ug/Kg	☼	04/26/22 07:11	05/01/22 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*04/26/22 07:11*	*05/01/22 21:12*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	~~H~~ UJ	35	20	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1

Client Sample ID: PZ-2022-3 (60-64)
Date Collected: 04/21/22 10:40
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-2
Matrix: Solid
Percent Solids: 92.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND	H UJ	35	23	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1
Famphur	ND	H UJ	35	19	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1
Methyl parathion	ND	H UJ	35	20	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1
Ethyl Parathion	ND	H UJ	35	19	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1
Phorate	ND	H UJ	35	12	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1
Sulfotepp	ND	H UJ	35	14	ug/Kg	☼	05/05/22 13:08	05/06/22 14:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*20 - 135*	*05/05/22 13:08*	*05/06/22 14:09*	*1*
Tributyl phosphate	*91*		*20 - 135*	*05/05/22 13:08*	*05/06/22 14:09*	*1*
Triphenylphosphate	*97*		*33 - 168*	*05/05/22 13:08*	*05/06/22 14:09*	*1*
Triphenylphosphate	*103*		*33 - 168*	*05/05/22 13:08*	*05/06/22 14:09*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.4 U	**0.55**	J I B	5.4	0.037	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,4,6,7,8-HpCDF		**0.034**	J I JNX	5.4	0.0049	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,4,7,8,9-HpCDF		ND		5.4	0.0063	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,4,7,8-HxCDD		ND		5.4	0.0065	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,4,7,8-HxCDF	5.4 U	**0.043**	J I B	5.4	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,6,7,8-HxCDD		ND		5.4	0.0067	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,6,7,8-HxCDF		ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,7,8,9-HxCDD		**0.020**	J I JNX	5.4	0.0067	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,7,8,9-HxCDF		ND		5.4	0.015	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,7,8-PeCDD		ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
1,2,3,7,8-PeCDF	5.4 U	**0.054**	J I B	5.4	0.0083	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
2,3,4,6,7,8-HxCDF		ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
2,3,4,7,8-PeCDF	5.4 U	**0.027**	J I B	5.4	0.0061	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
2,3,7,8-TCDD		ND		1.1	0.012	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
2,3,7,8-TCDF		ND		1.1	0.0084	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
OCDD		**4.6**	J B	11	0.026	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
OCDF	11 U	**0.22**	J I B	11	0.028	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total HpCDD	5.4 U	**0.55**	J I B	5.4	0.037	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total HpCDF		**0.034**	J I JNX	5.4	0.0056	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total HxCDD	5.4 U	**0.020**	J I B	5.4	0.0066	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total HxCDF	5.4 U	**0.043**	J I B	5.4	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total PeCDD		ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total PeCDF	5.4 U	**0.081**	J I B	5.4	0.0072	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total TCDD		ND		1.1	0.012	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1
Total TCDF		ND		1.1	0.0084	ng/Kg	☼	05/03/22 15:00	05/04/22 18:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*69*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*73*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,6,7,8-HxCDF	*84*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,7,8,9-HxCDD	*79*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*

Client Sample ID: PZ-2022-3 (60-64)
Lab Sample ID: 480-197073-2

Date Collected: 04/21/22 10:40
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 92.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-OCDD	*54*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*
13C-OCDF	*52*		*40 - 135*	*05/03/22 15:00*	*05/04/22 18:44*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.5	0.44	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Arsenic	**3.6**		2.2	0.44	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Barium	**19.9**		0.55	0.12	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Beryllium	**0.23**		0.22	0.031	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Cadmium	**0.075**	**J**	0.22	0.033	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Chromium	**5.0**		0.55	0.22	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Cobalt	**6.8**		0.55	0.055	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Copper	**8.0**	**B**	1.1	0.23	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Lead	**5.9**		1.1	0.26	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Nickel	**9.1**		5.5	0.25	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Selenium	ND		4.4	0.44	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Silver	ND		0.66	0.22	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Thallium	ND		6.6	0.33	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Tin	ND		2.2	0.47	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Vanadium	**5.4**		0.55	0.12	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1
Zinc	**31.2**		2.2	0.70	mg/Kg	☼	04/29/22 14:43	05/03/22 13:00	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0050	mg/Kg	☼	04/30/22 08:26	04/30/22 09:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.94	0.45	mg/Kg	☼	04/29/22 11:43	04/29/22 13:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.2	10.4	mg/Kg	☼		04/29/22 16:35	1

Client Sample ID: PZ-2022-1 (0-1)
Lab Sample ID: 480-197073-3

Date Collected: 04/21/22 13:30
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 91.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.5	0.55	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,1,1-Trichloroethane	ND		5.5	0.40	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,1,2,2-Tetrachloroethane	ND		5.5	0.89	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,1,2-Trichloroethane	ND		5.5	0.71	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1

Client Sample ID: PZ-2022-1 (0-1)
Date Collected: 04/21/22 13:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-3
Matrix: Solid
Percent Solids: 91.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.5	0.67	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,1-Dichloroethene	ND		5.5	0.67	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,2,3-Trichloropropane	ND		5.5	0.56	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,2-Dibromo-3-Chloropropane	ND		5.5	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,2-Dichloroethane	ND		5.5	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
1,2-Dichloropropane	ND		5.5	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
2-Butanone (MEK)	ND		27	2.0	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
2-Chloro-1,3-butadiene	ND		5.5	3.4	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
2-Chloroethyl vinyl ether	ND		11	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
2-Hexanone	ND		27	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
3-Chloro-1-propene	ND		5.5	2.6	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
4-Methyl-2-pentanone (MIBK)	ND		27	1.8	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Acetone	ND		27	4.6	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Acetonitrile	ND		55	6.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Acrolein	ND		27	8.6	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Acrylonitrile	ND		27	4.9	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Benzene	ND		5.5	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Bromoform	ND		5.5	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Bromomethane	ND		5.5	0.49	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Carbon disulfide	ND		5.5	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Carbon tetrachloride	ND		5.5	0.53	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Chlorobenzene	ND		5.5	0.72	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Chlorodibromomethane	ND		5.5	0.70	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Chloroethane	ND		5.5	1.2	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Chloroform	ND		5.5	0.34	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Chloromethane	ND		5.5	0.33	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
cis-1,3-Dichloropropene	ND		5.5	0.79	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Dibromomethane	ND		5.5	0.56	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Dichlorobromomethane	ND		5.5	0.73	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Dichlorodifluoromethane	ND		5.5	0.45	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Ethyl methacrylate	ND		5.5	1.9	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Ethylbenzene	ND		5.5	0.38	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Ethylene Dibromide	ND		5.5	0.70	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Iodomethane	ND		5.5	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Methacrylonitrile	ND		27	6.4	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Methyl methacrylate	ND		5.5	1.1	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Methylene Chloride	ND		5.5	2.5	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
m-Xylene & p-Xylene	ND		11	0.92	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
o-Xylene	ND		5.5	0.71	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Propionitrile	ND		55	31	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Styrene	ND		5.5	0.27	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Tetrachloroethene	ND		5.5	0.73	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Toluene	ND		5.5	0.41	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
trans-1,2-Dichloroethene	ND		5.5	0.56	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
trans-1,3-Dichloropropene	ND		5.5	2.4	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
trans-1,4-Dichloro-2-butene	ND		5.5	1.2	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Trichloroethene	ND		5.5	1.2	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Trichlorofluoromethane	ND		5.5	0.52	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1
Vinyl acetate	ND		11	2.7	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1

Client Sample ID: PZ-2022-1 (0-1)
Date Collected: 04/21/22 13:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-3
Matrix: Solid
Percent Solids: 91.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.5	0.67	ug/Kg	☼	04/22/22 16:00	04/24/22 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/22/22 16:00*	*04/24/22 23:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*04/22/22 16:00*	*04/24/22 23:57*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*	*04/22/22 16:00*	*04/24/22 23:57*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*04/22/22 16:00*	*04/24/22 23:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,3-Dinitrobenzene	ND		360	43	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
1-Naphthylamine	ND		360	120	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,4,5-Trichlorophenol	ND		180	50	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,4-Dichlorophenol	ND		180	20	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,4-Dimethylphenol	ND		180	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Methylphenol	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Picoline	ND		360	41	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
2-Toluidine	ND		360	88	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Chloro-3-methylphenol	ND		180	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1

Client Sample ID: PZ-2022-1 (0-1)
Date Collected: 04/21/22 13:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-3
Matrix: Solid
Percent Solids: 91.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		180	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
a,a-Dimethylphenethylamine	ND	F1	360	360	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	R 1
Acenaphthene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Acenaphthylene	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Acetophenone	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Aniline	ND		360	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Anthracene	ND		180	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Benzidine	ND	F1	5400	2300	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	R 1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Benzo[b]fluoranthene	ND	F2	180	29	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Benzo[g,h,i]perylene	ND		180	20	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Bis(2-ethylhexyl) phthalate	ND		180	63	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Chrysene	ND		180	41	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Diallate	ND		360	46	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Dibenz(a,h)anthracene	ND		180	33	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Dibenzofuran	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Dimethoate	ND		360	45	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Dimethyl phthalate	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Di-n-butyl phthalate	ND		180	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Dinoseb	ND		360	64	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Disulfoton	ND		360	270	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Famphur	ND		720	170	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Fluoranthene	ND		180	20	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Fluorene	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Hexachloroethane	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Hexachloropropene	ND		360	91	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Indeno[1,2,3-cd]pyrene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1

Client Sample ID: PZ-2022-1 (0-1)
Date Collected: 04/21/22 13:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-3
Matrix: Solid
Percent Solids: 91.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		360	63	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Isophorone	ND		180	39	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Isosafrole	ND		360	48	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Kepone	ND	F2	720	360	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Naphthalene	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Nitrobenzene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosodi-n-propylamine	ND		180	32	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosomorpholine	ND		360	80	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Methyl parathion	ND		360	62	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Pentachlorophenol	ND		360	180	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Phenacetin	ND		360	49	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Phenanthrene	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Phenol	ND		180	28	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Phorate	ND		360	99	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
p-Phenylene diamine	ND	F1	870	360	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Pyrene	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Pyridine	ND		360	26	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Safrole	ND		360	49	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1
Thionazin	ND		360	63	ug/Kg	☼	04/26/22 16:02	04/27/22 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*98*		*54 - 120*	*04/26/22 16:02*	*04/27/22 20:01*	*1*
2-Fluorobiphenyl (Surr)	*95*		*60 - 120*	*04/26/22 16:02*	*04/27/22 20:01*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*04/26/22 16:02*	*04/27/22 20:01*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*04/26/22 16:02*	*04/27/22 20:01*	*1*
Phenol-d5 (Surr)	*78*		*54 - 120*	*04/26/22 16:02*	*04/27/22 20:01*	*1*
p-Terphenyl-d14 (Surr)	*112*		*79 - 130*	*04/26/22 16:02*	*04/27/22 20:01*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
4,4'-DDT	ND		1.8	0.42	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1

Client Sample ID: PZ-2022-1 (0-1)
Date Collected: 04/21/22 13:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-3
Matrix: Solid
Percent Solids: 91.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
cis-Chlordane	ND		1.8	0.90	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
Toxaphene	ND		18	11	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	04/22/22 15:53	04/25/22 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*04/22/22 15:53*	*04/25/22 13:44*	*1*
Tetrachloro-m-xylene	*78*		*30 - 124*	*04/22/22 15:53*	*04/25/22 13:44*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/27/22 08:16	04/28/22 10:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*124*		*65 - 174*	*04/27/22 08:16*	*04/28/22 10:28*	*1*
Tetrachloro-m-xylene	*134*		*60 - 154*	*04/27/22 08:16*	*04/28/22 10:28*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	04/26/22 07:11	05/01/22 21:42	1
2,4-D	ND		18	11	ug/Kg	☼	04/26/22 07:11	05/01/22 21:42	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	04/26/22 07:11	05/01/22 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*04/26/22 07:11*	*05/01/22 21:42*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	36	20	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1

Client Sample ID: PZ-2022-1 (0-1)
Date Collected: 04/21/22 13:30
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-3
Matrix: Solid
Percent Solids: 91.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND	H UJ	36	24	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1
Famphur	ND	H UJ	36	19	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1
Methyl parathion	ND	H UJ	36	21	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1
Ethyl Parathion	ND	H UJ	36	20	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1
Phorate	ND	H UJ	36	12	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1
Sulfotepp	ND	H UJ	36	14	ug/Kg	☼	05/05/22 13:08	05/06/22 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*92*		*20 - 135*	*05/05/22 13:08*	*05/06/22 14:40*	*1*
Tributyl phosphate	*91*		*20 - 135*	*05/05/22 13:08*	*05/06/22 14:40*	*1*
Triphenylphosphate	*94*		*33 - 168*	*05/05/22 13:08*	*05/06/22 14:40*	*1*
Triphenylphosphate	*100*		*33 - 168*	*05/05/22 13:08*	*05/06/22 14:40*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.5 U	~~0.75 J I B~~	5.5	0.035	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,4,6,7,8-HpCDF	**0.16**	~~J I~~ JNX	5.5	0.0064	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,4,7,8,9-HpCDF	ND		5.5	0.0089	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,4,7,8-HxCDD	ND		5.5	0.0067	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,4,7,8-HxCDF	5.5 U	~~0.084 J I B~~	5.5	0.016	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,6,7,8-HxCDD	ND		5.5	0.0064	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,6,7,8-HxCDF	**0.10**	~~J I~~ JNX	5.5	0.016	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,7,8,9-HxCDD	**0.068**	~~J I~~ JNX	5.5	0.0070	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,7,8,9-HxCDF	5.5 U	~~0.051 J I B~~	5.5	0.017	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,7,8-PeCDD	ND		5.5	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
1,2,3,7,8-PeCDF	5.5 U	~~0.068 J I B~~	5.5	0.0084	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
2,3,4,6,7,8-HxCDF	5.5 U	~~0.045 J I B~~	5.5	0.015	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
2,3,4,7,8-PeCDF	5.5 U	~~0.047 J I B~~	5.5	0.0066	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
2,3,7,8-TCDD	ND		1.1	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
2,3,7,8-TCDF	ND		1.1	0.0081	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
OCDD	**4.6**	~~J I B~~ JNX	11	0.017	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
OCDF	11 U	~~0.39 J I B~~	11	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total HpCDD	5.5 U	~~0.75 J I B~~	5.5	0.035	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total HpCDF	**0.16**	~~J I~~ JNX	5.5	0.0076	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total HxCDD	5.5 U	~~0.068 J I B~~	5.5	0.0067	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total HxCDF	5.5 U	~~0.28 J I B~~	5.5	0.016	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total PeCDD	ND		5.5	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total PeCDF	5.5 U	~~0.12 J I B~~	5.5	0.0075	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total TCDD	ND		1.1	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1
Total TCDF	ND		1.1	0.0081	ng/Kg	☼	05/03/22 15:00	05/04/22 19:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*63*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*62*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*62*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,4,7,8-HxCDD	*66*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,4,7,8-HxCDF	*67*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,6,7,8-HxCDF	*68*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,7,8,9-HxCDD	*67*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*

Client Sample ID: PZ-2022-1 (0-1)
Lab Sample ID: 480-197073-3

Date Collected: 04/21/22 13:30
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 91.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*72*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-2,3,4,6,7,8-HxCDF	*68*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-2,3,4,7,8-PeCDF	*65*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-OCDD	*53*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*
13C-OCDF	*51*		*40 - 135*	*05/03/22 15:00*	*05/04/22 19:33*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.58**	**J**	16.8	0.45	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Arsenic	**3.8**		2.2	0.45	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Barium	**21.7**		0.56	0.12	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Beryllium	**0.32**		0.22	0.031	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Cadmium	**0.055**	**J**	0.22	0.034	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Chromium	**6.5**		0.56	0.22	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Cobalt	**6.6**		0.56	0.056	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Copper	**8.6**	**B**	1.1	0.24	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Lead	**9.2**		1.1	0.27	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Nickel	**11.2**		5.6	0.26	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Selenium	ND		4.5	0.45	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Silver	ND		0.67	0.22	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Thallium	ND		6.7	0.34	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Tin	**0.59**	**J**	2.2	0.48	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Vanadium	**9.0**		0.56	0.12	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1
Zinc	**35.4**		2.2	0.72	mg/Kg	☼	04/29/22 14:43	05/03/22 13:04	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**	**J**	0.021	0.0048	mg/Kg	☼	04/30/22 08:26	04/30/22 09:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.51	mg/Kg	☼	04/29/22 11:43	04/29/22 13:32	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.8	10.7	mg/Kg	☼		04/29/22 16:35	1

Client Sample ID: PZ-2022-3 (82-86)
Lab Sample ID: 480-197073-4

Date Collected: 04/21/22 14:55
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 92.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*3	12	1.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,1,1-Trichloroethane	ND	*3	12	0.89	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,1,2,2-Tetrachloroethane	ND	*3	12	2.0	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,1,2-Trichloroethane	ND	*3	12	1.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1

Client Sample ID: PZ-2022-3 (82-86)
Date Collected: 04/21/22 14:55
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-4
Matrix: Solid
Percent Solids: 92.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND	*3	12	1.5	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,1-Dichloroethene	ND	*3	12	1.5	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,2,3-Trichloropropane	ND	*3	12	1.3	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,2-Dibromo-3-Chloropropane	ND	*3	12	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,2-Dichloroethane	ND	*3	12	0.62	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
1,2-Dichloropropane	ND	*3	12	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
2-Butanone (MEK)	ND	*3	62	4.5	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
2-Chloro-1,3-butadiene	ND	*3	12	7.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
2-Chloroethyl vinyl ether	ND	*3	25	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
2-Hexanone	ND	*3	62	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
3-Chloro-1-propene	ND	*3	12	5.9	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
4-Methyl-2-pentanone (MIBK)	ND	*3	62	4.0	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Acetone	**73**	***3**	62	10	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Acetonitrile	ND	*3	120	15	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Acrolein	ND	*3	62	19	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Acrylonitrile	ND	*3	62	11	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Benzene	ND	*3	12	0.60	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Bromoform	ND	*3	12	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Bromomethane	ND	*3	12	1.1	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Carbon disulfide	ND	*3	12	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Carbon tetrachloride	ND	*3	12	1.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Chlorobenzene	ND	*3	12	1.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Chlorodibromomethane	ND	*3	12	1.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Chloroethane	ND	*3	12	2.8	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Chloroform	ND	*3	12	0.76	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Chloromethane	ND	*3	12	0.74	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
cis-1,3-Dichloropropene	ND	*3	12	1.8	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Dibromomethane	ND	*3	12	1.3	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Dichlorobromomethane	ND	*3	12	1.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Dichlorodifluoromethane	ND	*3	12	1.0	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Ethyl methacrylate	ND	*3	12	4.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Ethylbenzene	ND	*3	12	0.85	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Ethylene Dibromide	ND	*3	12	1.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Iodomethane	ND	*3	12	0.60	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Methacrylonitrile	ND	*3	62	15	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Methyl methacrylate	ND	*3	12	2.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Methylene Chloride	ND	*3	12	5.7	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
m-Xylene & p-Xylene	ND	*3	25	2.1	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
o-Xylene	ND	*3	12	1.6	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Propionitrile	ND	*3	120	69	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Styrene	ND	*3	12	0.62	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Tetrachloroethene	ND	*3	12	1.7	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Toluene	ND	*3	12	0.93	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
trans-1,2-Dichloroethene	ND	*3	12	1.3	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
trans-1,3-Dichloropropene	ND	*3	12	5.4	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
trans-1,4-Dichloro-2-butene	ND	*3	12	2.8	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Trichloroethene	ND	*3	12	2.7	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Trichlorofluoromethane	ND	*3	12	1.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1
Vinyl acetate	ND	*3	25	6.2	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1

Client Sample ID: PZ-2022-3 (82-86)
Date Collected: 04/21/22 14:55
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-4
Matrix: Solid
Percent Solids: 92.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	*3	12	1.5	ug/Kg	☼	04/26/22 09:21	04/26/22 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*	*3	*64 - 126*	*04/26/22 09:21*	*04/26/22 13:44*	*1*
4-Bromofluorobenzene (Surr)	*101*	*3	*72 - 126*	*04/26/22 09:21*	*04/26/22 13:44*	*1*
Dibromofluoromethane (Surr)	*104*	*3	*60 - 140*	*04/26/22 09:21*	*04/26/22 13:44*	*1*
Toluene-d8 (Surr)	*94*	*3	*71 - 125*	*04/26/22 09:21*	*04/26/22 13:44*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,2,4-Trichlorobenzene	ND		350	25	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,2-Dichlorobenzene	ND		350	24	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,3,5-Trinitrobenzene	ND		350	14	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,3-Dinitrobenzene	ND		350	42	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,4-Dichlorobenzene	ND		350	27	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,4-Dioxane	ND		110	58	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1,4-Naphthoquinone	ND		350	65	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,4-Dinitrophenol	ND		1800	830	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,6-Dichlorophenol	ND		350	65	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Acetylaminofluorene	ND		350	45	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Methylphenol	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Nitroaniline	ND		350	26	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Picoline	ND		350	40	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
2-Toluidine	ND		350	86	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
3 & 4 Methylphenol	ND		350	27	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
3-Methylcholanthrene	ND		350	58	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
3-Methylphenol	ND		350	27	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Aminobiphenyl	ND		350	73	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1

Client Sample ID: PZ-2022-3 (82-86)
Date Collected: 04/21/22 14:55
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-4
Matrix: Solid
Percent Solids: 92.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		180	44	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Methylphenol	ND		350	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Nitroaniline	ND		350	94	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
4-Nitroquinoline-1-oxide	ND		700	350	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Acenaphthene	ND		180	26	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Acenaphthylene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Acetophenone	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Aniline	ND		350	43	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Anthracene	ND		180	44	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Aramite, Total	ND		350	170	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzidine	ND		5300	2200	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Benzyl alcohol	ND		350	24	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Bis(2-ethylhexyl) phthalate	ND		180	61	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Chrysene	ND		180	40	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Diallate	ND		350	44	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Dibenzofuran	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Dimethoate	ND		350	43	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Dinoseb	ND		350	62	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Diphenylamine	ND		350	45	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Disulfoton	ND		350	260	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Chlorobenzilate	ND		350	56	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Ethyl methanesulfonate	ND		350	77	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Famphur	ND		700	170	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Fluoranthene	ND		180	19	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Fluorene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Hexachlorobenzene	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Hexachloroethane	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Hexachloropropene	ND		350	89	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1

Client Sample ID: PZ-2022-3 (82-86)
Lab Sample ID: 480-197073-4
Date Collected: 04/21/22 14:55
Matrix: Solid
Date Received: 04/22/22 10:30
Percent Solids: 92.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		350	61	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Isophorone	ND		180	38	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Isosafrole	ND		350	46	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Kepone	ND		700	350	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Methyl methanesulfonate	ND		350	80	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Naphthalene	ND		180	23	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitro-o-toluidine	ND		350	45	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosodiethylamine	ND		350	81	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosodimethylamine	ND		350	76	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosodi-n-butylamine	ND		350	95	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosomethylethylamine	ND		350	80	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosomorpholine	ND		350	78	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosopiperidine	ND		350	71	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
o,o',o''-Triethylphosphorothioate	ND		350	45	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Methyl parathion	ND		350	60	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
p-Dimethylamino azobenzene	ND		350	59	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Pentachlorobenzene	ND		350	73	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Pentachloronitrobenzene	ND		350	89	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Phenacetin	ND		350	48	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Phenanthrene	ND		180	26	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Phenol	ND		180	27	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Phorate	ND		350	96	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
p-Phenylene diamine	ND		850	350	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Pronamide	ND		350	69	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Pyrene	ND		180	21	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Pyridine	ND		350	25	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Safrole	ND		350	48	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Sulfotepp	ND		350	56	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1
Thionazin	ND		350	61	ug/Kg	☼	04/26/22 16:02	04/27/22 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*04/26/22 16:02*	*04/27/22 21:12*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*04/26/22 16:02*	*04/27/22 21:12*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*04/26/22 16:02*	*04/27/22 21:12*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*04/26/22 16:02*	*04/27/22 21:12*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*04/26/22 16:02*	*04/27/22 21:12*	*1*
p-Terphenyl-d14 (Surr)	*115*		*79 - 130*	*04/26/22 16:02*	*04/27/22 21:12*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
4,4'-DDE	ND		1.8	0.37	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
4,4'-DDT	ND		1.8	0.41	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1

Client Sample ID: PZ-2022-3 (82-86)
Date Collected: 04/21/22 14:55
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-4
Matrix: Solid
Percent Solids: 92.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Chlordane (technical)	ND		18	3.9	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Chlorobenzilate	ND		18	5.9	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
cis-Chlordane	ND		1.8	0.88	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Dieldrin	ND		1.8	0.42	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Endrin aldehyde	ND		1.8	0.45	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
gamma-BHC (Lindane)	ND		1.8	0.32	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Heptachlor	ND		1.8	0.38	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Methoxychlor	ND		1.8	0.36	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
Toxaphene	ND		18	10	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1
trans-Chlordane	ND		1.8	0.56	ug/Kg	☼	04/22/22 15:53	04/25/22 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*45 - 120*	*04/22/22 15:53*	*04/25/22 14:04*	*1*
Tetrachloro-m-xylene	*76*		*30 - 124*	*04/22/22 15:53*	*04/25/22 14:04*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.040	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1
PCB-1221	ND		0.21	0.040	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1
PCB-1232	ND		0.21	0.040	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1
PCB-1242	ND		0.21	0.040	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1
PCB-1248	ND		0.21	0.040	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1
PCB-1254	ND		0.21	0.096	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1
PCB-1260	ND		0.21	0.096	mg/Kg	☼	04/27/22 08:16	04/28/22 10:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*113*		*65 - 174*	*04/27/22 08:16*	*04/28/22 10:41*	*1*
Tetrachloro-m-xylene	*127*		*60 - 154*	*04/27/22 08:16*	*04/28/22 10:41*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	04/26/22 07:11	05/01/22 22:41	1
2,4-D	ND		18	11	ug/Kg	☼	04/26/22 07:11	05/01/22 22:41	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	04/26/22 07:11	05/01/22 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*04/26/22 07:11*	*05/01/22 22:41*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	~~H~~ UJ	35	20	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1

Client Sample ID: PZ-2022-3 (82-86)
Date Collected: 04/21/22 14:55
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-4
Matrix: Solid
Percent Solids: 92.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND	H UJ	35	23	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1
Famphur	ND	H UJ	35	19	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1
Methyl parathion	ND	H UJ	35	20	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1
Ethyl Parathion	ND	H UJ	35	20	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1
Phorate	ND	H UJ	35	12	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1
Sulfotepp	ND	H UJ	35	14	ug/Kg	☼	05/05/22 13:08	05/06/22 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*99*		*20 - 135*	*05/05/22 13:08*	*05/06/22 16:15*	*1*
Tributyl phosphate	*99*		*20 - 135*	*05/05/22 13:08*	*05/06/22 16:15*	*1*
Triphenylphosphate	*107*		*33 - 168*	*05/05/22 13:08*	*05/06/22 16:15*	*1*
Triphenylphosphate	*112*		*33 - 168*	*05/05/22 13:08*	*05/06/22 16:15*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		5.4	0.049	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,4,6,7,8-HpCDF	ND		5.4	0.0047	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,4,7,8,9-HpCDF	ND		5.4	0.0056	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,4,7,8-HxCDD	ND		5.4	0.0066	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,4,7,8-HxCDF	5.4 U	~~0.049 J I B~~	5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,6,7,8-HxCDD	ND		5.4	0.0068	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,6,7,8-HxCDF	ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,7,8,9-HxCDD	**0.041**	~~J I~~ JNX	5.4	0.0067	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,7,8,9-HxCDF	ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,7,8-PeCDD	ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
1,2,3,7,8-PeCDF	5.4 U	~~0.089 J I B~~	5.4	0.0083	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
2,3,4,6,7,8-HxCDF	ND		5.4	0.012	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
2,3,4,7,8-PeCDF	ND		5.4	0.0062	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
2,3,7,8-TCDD	ND		1.1	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
2,3,7,8-TCDF	ND		1.1	0.0073	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
OCDD	11 U	~~1.5 J B~~	11	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
OCDF	11 U	~~0.034 J I B~~	11	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total HpCDD	ND		5.4	0.049	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total HpCDF	ND		5.4	0.0051	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total HxCDD	5.4 U	~~0.041 J I B~~	5.4	0.0067	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total HxCDF	5.4 U	~~0.049 J I B~~	5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total PeCDD	ND		5.4	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total PeCDF	5.4 U	~~0.089 J I B~~	5.4	0.0073	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total TCDD	ND		1.1	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1
Total TCDF	ND		1.1	0.0073	ng/Kg	☼	05/03/22 15:00	05/04/22 20:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*60*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*60*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*67*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*67*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,7,8,9-HxCDD	*68*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*

Client Sample ID: PZ-2022-3 (82-86)
Date Collected: 04/21/22 14:55
Date Received: 04/22/22 10:30

Lab Sample ID: 480-197073-4
Matrix: Solid
Percent Solids: 92.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*70*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-2,3,7,8-TCDF	*69*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-OCDD	*47*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*
13C-OCDF	*48*		*40 - 135*	*05/03/22 15:00*	*05/04/22 20:22*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.7	0.45	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Arsenic	**4.3**		2.2	0.45	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Barium	**9.5**		0.56	0.12	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Beryllium	**0.18**	**J**	0.22	0.031	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Cadmium	**0.049**	**J**	0.22	0.033	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Chromium	**3.5**		0.56	0.22	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Cobalt	**3.9**		0.56	0.056	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Copper	**4.8**	**B**	1.1	0.23	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Lead	**8.6**		1.1	0.27	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Nickel	**6.6**		5.6	0.26	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Selenium	ND		4.5	0.45	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Silver	ND		0.67	0.22	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Thallium	ND		6.7	0.33	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Tin	ND		2.2	0.48	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Vanadium	**4.0**		0.56	0.12	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1
Zinc	**18.6**		2.2	0.71	mg/Kg	☼	04/29/22 14:43	05/03/22 13:36	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0048	mg/Kg	☼	04/30/22 08:26	04/30/22 09:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.51	mg/Kg	☼	04/29/22 11:43	04/29/22 13:36	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		17.2	9.8	mg/Kg	☼		04/29/22 16:35	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-197198-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47566R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 9
3.3 Laboratory Control Sample Analysis 9
3.4 System Performance and Overall Assessment 10
3.5 Data Validation Checklist 10
4 Polychlorinated Biphenyl Analyses 11
4.1 Holding Times 11
4.2 System Performance and Overall Assessment 11
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 12
5.1 Holding Times 12
5.2 Blank Contamination 12
5.3 Compound Identification 13
5.4 System Performance and Overall Assessment 14
5.5 Data Validation Checklist 14
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 14
6.1 Holding Times 14
6.2 Blank Contamination 15
6.3 Compound Identification 18
6.4 System Performance and Overall Assessment 18
6.5 Data Validation Checklist 18
7 Metals Analyses 19
7.1 Holding Times 19
7.2 System Performance and Overall Assessment 19

7.3 Data Validation Checklist 19
8 General Chemistry Analyses 20
8.1 Holding Times 20
8.2 System Performance and Overall Assessment 20
8.3 Data Validation Checklist for General Chemistry 20
9 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 9
Table 7. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 9
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 9. Laboratory Control Sample Criteria and Qualifications 10
Table 10. Holding Time for Method SW-846 8082A 11
Table 11. Holding Time for Method SW-846 8081B/8141B/8151A 12
Table 12. Summary of Blank Contamination Qualifications 13
Table 13. Dual Column Analysis Exhibiting RPD Outside the Control Limit 13
Table 14. Evaluation Criteria for Dual Column Analysis RPD 13
Table 15. Holding Time for Method SW-846 8290A 14
Table 16. Summary of Blank Contamination Qualifications 15
Table 17. Holding Time for Method SW-846 6010C/7471B 19
Table 18. Specified Holding Times 20
Table 19. Overall Summary of Data Usability 21

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197198-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
PZ-2022-1 (12.0-16.0)	480-197198-1	Soil	04/25/22			X	X	X	X	X
PZ-2022-1 (15.0)	480-197198-2	Soil	04/25/22		X					
PZ-2022-1 (28.0-32.0)	480-197198-3	Soil	04/25/22			X	X	X	X	X
PZ-2022-1 (29.0)	480-197198-4	Soil	04/25/22		X					
PZ-2022-1 (45.0-49.0)	480-197198-5	Soil	04/25/22			X	X	X	X	X
PZ-2022-1 (48.0)	480-197198-6	Soil	04/25/22		X					
PZ-2022-1 (58.0-62.0)	480-197198-7	Soil	04/26/22			X	X	X	X	X
PZ-2022-1 (59.0)	480-197198-8	Soil	04/26/22		X					
PZ-2022-1 (72.0-76.0)	480-197198-9	Soil	04/26/22			X	X	X	X	X
PZ-2022-1 (75.0)	480-197198-10	Soil	04/26/22		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and

- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence

audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	5	0	0	0	0	0	5
SVOCs	5	0	0	0	0	0	5
PCBs	5	0	0	0	0	0	5
PEST	5	0	0	0	0	0	5
HERB	5	0	0	0	0	0	5
PCDD/PCDF	5	0	0	0	0	0	5
Metals	5	0	0	0	0	0	5
MISC	5	0	0	0	0	0	5

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was performed on sample PZ-2022-1 (45.0-49.0). The MS/MSD analysis exhibited acceptable recoveries and RPDs with the exceptions noted in the table below.

Table 6. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
PZ-2022-1 (45.0-49.0)	Benzidine	< 10%	< 10%
	Kepone	< 10%	AC
	p-Phenylene diamine	< 10%	< 10%

Note:
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 7. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 5. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compound	LCS Recovery
PZ-2022-1 (12.0-16.0) PZ-2022-1 (28.0-32.0) PZ-2022-1 (45.0-49.0) PZ-2022-1 (58.0-62.0) PZ-2022-1 (72.0-76.0)	Famphur	< 10%
	p-Phenylene diamine	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 6. Laboratory Control Sample Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X	X		

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision (RPD)		X		X	
System performance and column resolution		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were

greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 12. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
PZ-2022-1 (12.0-16.0) PZ-2022-1 (28.0-32.0) PZ-2022-1 (45.0-49.0) PZ-2022-1 (58.0-62.0) PZ-2022-1 (72.0-76.0)	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL

Note:
RL Reporting limit

5.3 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Table 7. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Compound	RPD
PZ-2022-1 (72.0-76.0)	4,4'-DDT	62.7%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 8. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (PCB sample results less than the RL)	U

When the sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide/herbicide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.5 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
Method blanks		X	X		
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
System performance and column resolution		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation

SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 16. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-1 (12.0-16.0)	1,2,3,4,7,8,9-HpCDF	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDD		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	2,3,7,8-TCDF		
	Total HxCDD		
	Total HxCDF		

Sample ID	Compounds	Sample Result	Qualification
	Total PeCDF		
	Total TCDF		
PZ-2022-1 (28.0-32.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	2,3,7,8-TCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
	Total TCDF		
PZ-2022-1 (45.0-49.0)	1,2,3,4,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	OCDD		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
PZ-2022-1 (58.0-62.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDF		
	Total PeCDF		
PZ-2022-1 (72.0-76.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8,9-HxCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	2,3,7,8-TCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		

Sample ID	Compounds	Sample Result	Qualification
	Total PeCDF		
	Total TCDF		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
System performance and column resolution		X		X	
Compound identification and quantitation		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

9 Overall Data Usability

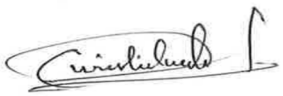
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 19. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.1%	12
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 15, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 16, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information

Client Contact: Mr. Daniel Meandro	Sampler: Richard McDermott	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Company: ARCADIS U.S. Inc	Phone: 551-237-1409	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 1
Address: One Lincoln Center 110 West Fayette St, Suite 300	PWSID:			Job #:
City: Syracuse	Due Date Requested:			
State, Zip: NY, 13202	TAT Requested (days): Standard			
Phone: 315-671-9374(Tel)	Compliance Project: Δ Yes Δ No			
Email: daniel.meandro@arcadis.com	PO #: 30103563.0001			
Project Name: GE Woods Pond Parcel	WO #: WA-EUROFINS-30103563-2022-			
Site: GE Lee	Project #: 48024970			
	SSOW#:			

480-197198 Chain of Custody

H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-1 (12.0-16.0)	4-25-2022	1205	C	S			X	X	X	X										4	
PZ-2022-1 (15.0)	4-25-2022	1205	G	S							X									4	
PZ-2022-1 (28.0-32.0)	4-25-2022	1415	C	S			X	X	X	X										4	
PZ-2022-1 (29.0)	4-25-2022	1415	G	S							X									4	
PZ-2022-1 (45.0-49.0)	4-25-2022	1545	C	S			X	X	X	X										4	
PZ-2022-1 (48.0)	4-25-2022	1545	G	S							X									4	
PZ-2022-1 (58.0-62.0)	4-26-2022	0906	C	S			X	X	X	X										4	
PZ-2022-1 (59.0)	4-26-2022	0905	G	S							X									4	
PZ-2022-1 (72.0-76.0)	4-26-2022	1430	C	S			X	X	X	X										4	
PZ-2022-1 (75.0)	4-26-2022	1429	G	S							X									4	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4-26-2022/1510	ARCADIS	[signature]	4/27/22/000	TAB

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

#1 2.9

05/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Eurofins | Environment Testing America

480-197198 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	17.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsu...	of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-197198-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/10/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-1 (12.0-16.0) (480-197198-1)	4/25/22	12:05 Eastern		Solid			X	1	
PZ-2022-1 (28.0-32.0) (480-197198-3)	4/25/22	14:15 Eastern		Solid			X	1	
PZ-2022-1 (45.0-49.0) (480-197198-5)	4/25/22	15:45 Eastern		Solid			X	1	
PZ-2022-1 (58.0-62.0) (480-197198-7)	4/26/22	09:06 Eastern		Solid			X	1	
PZ-2022-1 (72.0-76.0) (480-197198-9)	4/26/22	14:30 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/27/22 1800	Company: TAB	Received by: DW	Date/Time: 4-28-22	Company: PETA	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 895	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71614.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-197198-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/10/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-1 (12.0-16.0) (480-197198-1)	4/25/22	12:05 Eastern		Solid			X	1	
PZ-2022-1 (28.0-32.0) (480-197198-3)	4/25/22	14:15 Eastern		Solid			X	1	
PZ-2022-1 (45.0-49.0) (480-197198-5)	4/25/22	15:45 Eastern		Solid			X	1	
PZ-2022-1 (58.0-62.0) (480-197198-7)	4/26/22	09:06 Eastern		Solid			X	1	
PZ-2022-1 (72.0-76.0) (480-197198-9)	4/26/22	14:30 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/27/22 1800	TAL			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	4/28/22 1106	FEDEX

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.9

IM

Client Sample ID: PZ-2022-1 (12.0-16.0)
Lab Sample ID: 480-197198-1

Date Collected: 04/25/22 12:05
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 79.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	36	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,2,4-Trichlorobenzene	ND		410	30	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,2-Dichlorobenzene	ND		410	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,2-Diphenylhydrazine	ND		410	23	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,3,5-Trinitrobenzene	ND		410	17	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,3-Dichlorobenzene	ND		410	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,3-Dinitrobenzene	ND		410	49	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,4-Dichlorobenzene	ND		410	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,4-Dioxane	ND		120	68	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1,4-Naphthoquinone	ND		410	77	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
1-Naphthylamine	ND		410	140	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,3,4,6-Tetrachlorophenol	ND		210	43	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,4,5-Trichlorophenol	ND		210	57	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,4,6-Trichlorophenol	ND		210	42	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,4-Dichlorophenol	ND		210	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,4-Dimethylphenol	ND		210	51	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,4-Dinitrophenol	ND		2100	970	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,4-Dinitrotoluene	ND		210	43	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,6-Dichlorophenol	ND		410	77	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2,6-Dinitrotoluene	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Acetylaminofluorene	ND		410	53	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Chloronaphthalene	ND		210	35	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Chlorophenol	ND		410	38	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Methylnaphthalene	ND		210	42	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Methylphenol	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Naphthylamine	ND		410	140	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Nitroaniline	ND		410	31	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Nitrophenol	ND		210	59	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Picoline	ND		410	47	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
2-Toluidine	ND		410	100	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
3 & 4 Methylphenol	ND		410	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
3,3'-Dichlorobenzidine	ND		410	250	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
3,3'-Dimethylbenzidine	ND		820	410	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
3-Methylcholanthrene	ND		410	68	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
3-Methylphenol	ND		410	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
3-Nitroaniline	ND		410	58	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4,6-Dinitro-2-methylphenol	ND		410	210	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Aminobiphenyl	ND		410	85	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Bromophenyl phenyl ether	ND		210	30	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Chloro-3-methylphenol	ND		210	52	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Chloroaniline	ND		210	52	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Chlorophenyl phenyl ether	ND		210	26	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Methylphenol	ND		410	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Nitroaniline	ND		410	110	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Nitrophenol	ND		410	150	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
4-Nitroquinoline-1-oxide	ND		820	410	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
7,12-Dimethylbenz(a)anthracene	ND		410	61	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
a,a-Dimethylphenethylamine	ND		410	410	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Acenaphthene	ND		210	31	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1

Client Sample ID: PZ-2022-1 (12.0-16.0)
Lab Sample ID: 480-197198-1

Date Collected: 04/25/22 12:05
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 79.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		210	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Acetophenone	ND		210	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Aniline	ND		410	51	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Anthracene	ND		210	52	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Aramite, Total	ND		410	200	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzidine	ND		6200	2600	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzo[a]pyrene	ND		210	31	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzo[b]fluoranthene	ND		210	33	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzo[g,h,i]perylene	ND		210	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzo[k]fluoranthene	ND		210	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Benzyl alcohol	ND		410	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
bis (2-chloroisopropyl) ether	ND		210	42	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Bis(2-chloroethoxy)methane	ND		210	44	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Bis(2-chloroethyl)ether	ND		210	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Bis(2-ethylhexyl) phthalate	ND		210	72	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Butyl benzyl phthalate	ND		210	35	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Chrysene	ND		210	47	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Diallate	ND		410	52	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Dibenz(a,h)anthracene	ND		210	37	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Dibenzofuran	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Diethyl phthalate	ND		210	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Dimethoate	ND		410	51	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Dimethyl phthalate	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Di-n-butyl phthalate	ND		210	36	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Di-n-octyl phthalate	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Dinoseb	ND		410	73	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Diphenylamine	ND		410	53	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Disulfoton	ND		410	310	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Chlorobenzilate	ND		410	66	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Ethyl methanesulfonate	ND		410	90	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
~~Famphur~~	~~ND~~	~~*-~~	~~820~~	~~200~~	~~ug/Kg~~	~~☼~~	~~04/28/22 16:09~~	~~05/04/22 19:24~~	R 1
Fluoranthene	ND		210	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Fluorene	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Hexachlorobenzene	ND		210	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Hexachlorobutadiene	ND		210	31	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Hexachlorocyclopentadiene	ND		210	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Hexachloroethane	ND		210	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Hexachloropropene	ND		410	100	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Indeno[1,2,3-cd]pyrene	ND		210	26	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Isodrin	ND		410	72	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Isophorone	ND		210	44	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Isosafrole	ND		410	54	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Kepone	ND		820	410	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Methapyrilene	ND		1900	410	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Methyl methanesulfonate	ND		410	94	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Naphthalene	ND		210	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Nitrobenzene	ND		210	23	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitro-o-toluidine	ND		410	53	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1

Client Sample ID: PZ-2022-1 (12.0-16.0)
Lab Sample ID: 480-197198-1
Date Collected: 04/25/22 12:05
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 79.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		410	95	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosodimethylamine	ND		410	89	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosodi-n-butylamine	ND		410	110	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosodi-n-propylamine	ND		210	36	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosomethylethylamine	ND		410	94	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosomorpholine	ND		410	91	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosopiperidine	ND		410	83	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
N-Nitrosopyrrolidine	ND		410	62	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
o,o',o''-Triethylphosphorothioate	ND		410	53	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Ethyl Parathion	ND		410	46	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Methyl parathion	ND		410	70	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
p-Dimethylamino azobenzene	ND		410	69	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Pentachlorobenzene	ND		410	85	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Pentachloronitrobenzene	ND		410	100	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Pentachlorophenol	ND	*+	410	210	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Phenacetin	ND		410	56	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Phenanthrene	ND		210	31	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Phenol	ND		210	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Phorate	ND		410	110	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
p-Phenylene diamine	ND	*-	990	410	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	R 1
Pronamide	ND		410	80	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Pyrene	ND		210	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Pyridine	ND		410	30	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Safrole	ND		410	56	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Sulfotepp	ND		410	66	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1
Thionazin	ND		410	72	ug/Kg	☼	04/28/22 16:09	05/04/22 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*04/28/22 16:09*	*05/04/22 19:24*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*04/28/22 16:09*	*05/04/22 19:24*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*04/28/22 16:09*	*05/04/22 19:24*	*1*
Nitrobenzene-d5 (Surr)	*87*		*53 - 120*	*04/28/22 16:09*	*05/04/22 19:24*	*1*
Phenol-d5 (Surr)	*82*		*54 - 120*	*04/28/22 16:09*	*05/04/22 19:24*	*1*
p-Terphenyl-d14 (Surr)	*111*		*79 - 130*	*04/28/22 16:09*	*05/04/22 19:24*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.1	0.40	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
4,4'-DDE	ND		2.1	0.43	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
4,4'-DDT	2.1 U	1.3 J B	2.1	0.48	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Aldrin	ND		2.1	0.51	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
alpha-BHC	ND		2.1	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
beta-BHC	ND		2.1	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Chlordane (technical)	ND		21	4.6	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Chlorobenzilate	ND		21	6.9	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
cis-Chlordane	ND		2.1	1.0	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
delta-BHC	ND		2.1	0.38	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Dieldrin	ND		2.1	0.49	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Endosulfan I	ND		2.1	0.39	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1

Client Sample ID: PZ-2022-1 (12.0-16.0)
Lab Sample ID: 480-197198-1

Date Collected: 04/25/22 12:05
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 79.4

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.1	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Endosulfan sulfate	ND		2.1	0.38	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Endrin	ND		2.1	0.41	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Endrin aldehyde	**0.83**	**J B**	2.1	0.53	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Endrin ketone	ND		2.1	0.51	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
gamma-BHC (Lindane)	ND		2.1	0.38	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Heptachlor	ND		2.1	0.45	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Heptachlor epoxide	ND		2.1	0.53	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Methoxychlor	ND		2.1	0.42	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
Toxaphene	ND		21	12	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1
trans-Chlordane	ND		2.1	0.65	ug/Kg	☼	04/27/22 16:13	04/28/22 11:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*45 - 120*	*04/27/22 16:13*	*04/28/22 11:28*	*1*
Tetrachloro-m-xylene	*80*		*30 - 124*	*04/27/22 16:13*	*04/28/22 11:28*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	04/28/22 08:52	04/29/22 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*106*		*65 - 174*	*04/28/22 08:52*	*04/29/22 17:38*	*1*
Tetrachloro-m-xylene	*136*		*60 - 154*	*04/28/22 08:52*	*04/29/22 17:38*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		21	6.6	ug/Kg	☼	05/02/22 08:21	05/04/22 20:43	1
2,4-D	ND		21	13	ug/Kg	☼	05/02/22 08:21	05/04/22 20:43	1
Silvex (2,4,5-TP)	ND		21	7.5	ug/Kg	☼	05/02/22 08:21	05/04/22 20:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*05/02/22 08:21*	*05/04/22 20:43*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	F2	41	23	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1
Disulfoton	ND	F1 F2	41	27	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1
Famphur	ND		41	22	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1
Methyl parathion	ND		41	23	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1
Ethyl Parathion	ND		41	23	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1
Phorate	ND		41	14	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1
Sulfotepp	ND		41	16	ug/Kg	☼	04/29/22 13:20	05/04/22 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*103*		*20 - 135*	*04/29/22 13:20*	*05/04/22 12:25*	*1*

Client Sample ID: PZ-2022-1 (12.0-16.0)
Lab Sample ID: 480-197198-1
Date Collected: 04/25/22 12:05
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 79.4

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*102*		*20 - 135*	*04/29/22 13:20*	*05/04/22 12:25*	*1*
Triphenylphosphate	*113*		*33 - 168*	*04/29/22 13:20*	*05/04/22 12:25*	*1*
Triphenylphosphate	*116*		*33 - 168*	*04/29/22 13:20*	*05/04/22 12:25*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD		**1.2**	**J B**		6.3	0.025	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,4,6,7,8-HpCDF		**0.45**	**J B**		6.3	0.0081	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,4,7,8,9-HpCDF	6.3 U	~~0.075~~	~~J I B~~		6.3	0.012	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,4,7,8-HxCDD	6.3 U	~~0.060~~	~~J I B~~		6.3	0.0081	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,4,7,8-HxCDF	6.3 U	~~0.20~~	~~J I B~~		6.3	0.013	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,6,7,8-HxCDD	6.3 U	~~0.11~~	~~J I B~~		6.3	0.0081	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,6,7,8-HxCDF	6.3 U	~~0.12~~	~~J I B~~		6.3	0.014	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,7,8,9-HxCDD	6.3 U	~~0.092~~	~~J B~~		6.3	0.0085	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,7,8,9-HxCDF	6.3 U	~~0.059~~	~~J B~~		6.3	0.017	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,7,8-PeCDD		ND			6.3	0.017	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
1,2,3,7,8-PeCDF	6.3 U	~~0.11~~	~~J I B~~		6.3	0.014	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
2,3,4,6,7,8-HxCDF	6.3 U	~~0.15~~	~~J I B~~		6.3	0.012	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
2,3,4,7,8-PeCDF	6.3 U	~~0.12~~	~~J I B~~		6.3	0.010	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
2,3,7,8-TCDD		**0.068**	~~J I~~	JNX	1.3	0.0071	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
2,3,7,8-TCDF	6.3 U	~~0.11~~	~~J I B~~		1.3	0.020	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
OCDD		**6.7**	**J B**		13	0.057	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
OCDF		**0.69**	**J B**		13	0.024	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total HpCDD		**1.2**	**J B**		6.3	0.025	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total HpCDF		**0.53**	~~J I B~~	JNX	6.3	0.010	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total HxCDD	6.3 U	~~0.26~~	~~J I B~~		6.3	0.0082	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total HxCDF	6.3 U	~~0.53~~	~~J I B~~		6.3	0.014	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total PeCDD		ND			6.3	0.017	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total PeCDF	6.3 U	~~0.23~~	~~J I B~~		6.3	0.012	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total TCDD		**0.068**	~~J I~~	JNX	1.3	0.0071	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1
Total TCDF	1.3 U	~~0.11~~	~~J I B~~		1.3	0.020	ng/Kg	☼	05/01/22 15:00	05/03/22 00:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*70*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,4,7,8-HxCDD	*72*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,7,8,9-HxCDD	*79*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-2,3,7,8-TCDD	*77*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-2,3,7,8-TCDF	*79*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*
13C-OCDD	*54*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*

Client Sample ID: PZ-2022-1 (12.0-16.0)
Lab Sample ID: 480-197198-1
Date Collected: 04/25/22 12:05
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 79.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*50*		*40 - 135*	*05/01/22 15:00*	*05/03/22 00:33*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.0	0.48	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Arsenic	**4.6**		2.4	0.48	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Barium	**21.5**		0.60	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Beryllium	**0.28**		0.24	0.034	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Cadmium	**0.078**	**J**	0.24	0.036	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Chromium	**5.9**		0.60	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Cobalt	**6.8**		0.60	0.060	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Copper	**10.1**		1.2	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Lead	**8.0**		1.2	0.29	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Nickel	**11.2**		6.0	0.28	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Selenium	ND		4.8	0.48	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Silver	ND		0.72	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Thallium	ND		7.2	0.36	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Tin	ND		2.4	0.51	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Vanadium	**8.0**		0.60	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1
Zinc	**35.0**		2.4	0.77	mg/Kg	☼	05/03/22 15:07	05/11/22 14:19	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0082**	**J**	0.025	0.0057	mg/Kg	☼	05/04/22 09:51	05/04/22 12:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.59	mg/Kg	☼	04/29/22 11:43	04/29/22 13:43	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		23.4	13.3	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-1 (15.0)
Lab Sample ID: 480-197198-2
Date Collected: 04/25/22 12:05
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 83.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.46	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,1,1-Trichloroethane	ND		4.6	0.33	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,1,2,2-Tetrachloroethane	ND		4.6	0.74	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,1,2-Trichloroethane	ND		4.6	0.59	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,1-Dichloroethane	ND		4.6	0.56	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,1-Dichloroethene	ND		4.6	0.56	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,2,3-Trichloropropane	ND		4.6	0.46	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,2-Dibromo-3-Chloropropane	ND		4.6	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,2-Dichloroethane	ND		4.6	0.23	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
1,2-Dichloropropane	ND		4.6	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
2-Chloro-1,3-butadiene	ND		4.6	2.8	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1

Client Sample ID: PZ-2022-1 (15.0)
Date Collected: 04/25/22 12:05
Date Received: 04/27/22 10:00

Lab Sample ID: 480-197198-2
Matrix: Solid
Percent Solids: 83.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		9.1	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
3-Chloro-1-propene	ND		4.6	2.2	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Acetone	ND		23	3.8	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Acetonitrile	ND		46	5.6	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Acrolein	ND		23	7.2	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Acrylonitrile	ND		23	4.1	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Benzene	ND		4.6	0.22	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Bromoform	ND		4.6	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Bromomethane	ND		4.6	0.41	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Carbon disulfide	ND		4.6	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Carbon tetrachloride	ND		4.6	0.44	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Chlorobenzene	ND		4.6	0.60	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Chlorodibromomethane	ND		4.6	0.58	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Chloroethane	ND		4.6	1.0	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Chloroform	ND		4.6	0.28	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Chloromethane	ND		4.6	0.27	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
cis-1,3-Dichloropropene	ND		4.6	0.66	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Dibromomethane	ND		4.6	0.47	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Dichlorobromomethane	ND		4.6	0.61	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Dichlorodifluoromethane	ND		4.6	0.38	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Ethyl methacrylate	ND		4.6	1.6	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Ethylbenzene	ND		4.6	0.31	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Ethylene Dibromide	ND		4.6	0.58	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Iodomethane	ND		4.6	0.22	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Methacrylonitrile	ND		23	5.4	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Methyl methacrylate	ND		4.6	0.96	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Methylene Chloride	ND		4.6	2.1	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
m-Xylene & p-Xylene	ND		9.1	0.76	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
o-Xylene	ND		4.6	0.59	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Propionitrile	ND		46	25	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Styrene	ND		4.6	0.23	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Tetrachloroethene	ND		4.6	0.61	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Toluene	ND		4.6	0.34	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
trans-1,2-Dichloroethene	ND		4.6	0.47	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
trans-1,3-Dichloropropene	ND		4.6	2.0	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
trans-1,4-Dichloro-2-butene	ND		4.6	1.0	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Trichloroethene	ND		4.6	1.0	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Trichlorofluoromethane	ND		4.6	0.43	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Vinyl acetate	ND		9.1	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1
Vinyl chloride	ND		4.6	0.56	ug/Kg	☼	04/27/22 11:30	04/27/22 23:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/27/22 11:30*	*04/27/22 23:16*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/27/22 11:30*	*04/27/22 23:16*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/27/22 11:30*	*04/27/22 23:16*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*04/27/22 11:30*	*04/27/22 23:16*	*1*

Client Sample ID: PZ-2022-1 (28.0-32.0)
Lab Sample ID: 480-197198-3

Date Collected: 04/25/22 14:15
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1,4-Naphthoquinone	ND		360	68	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,3,4,6-Tetrachlorophenol	ND		190	38	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,4,5-Trichlorophenol	ND		190	50	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,4,6-Trichlorophenol	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,4-Dinitrotoluene	ND		190	38	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,6-Dichlorophenol	ND		360	68	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Chloronaphthalene	ND		190	30	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Methylnaphthalene	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Nitrophenol	ND		190	52	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Picoline	ND		360	41	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
2-Toluidine	ND		360	88	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4,6-Dinitro-2-methylphenol	ND		360	190	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Bromophenyl phenyl ether	ND		190	26	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Chloro-3-methylphenol	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Chloroaniline	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Acenaphthene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1

Client Sample ID: PZ-2022-1 (28.0-32.0)
Lab Sample ID: 480-197198-3

Date Collected: 04/25/22 14:15
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Acetophenone	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Aniline	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Anthracene	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzidine	ND		5400	2300	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzo[a]pyrene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzo[b]fluoranthene	ND		190	29	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
bis (2-chloroisopropyl) ether	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Bis(2-chloroethoxy)methane	ND		190	39	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Bis(2-ethylhexyl) phthalate	ND		190	63	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Butyl benzyl phthalate	ND		190	30	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Chrysene	ND		190	41	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Diallate	ND		360	46	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Dimethoate	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Dinoseb	ND		360	64	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Disulfoton	ND		360	270	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Famphur	ND	*-	720	170	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	R 1
Fluoranthene	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Fluorene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Hexachlorobutadiene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Hexachloroethane	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Hexachloropropene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Isodrin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Isophorone	ND		190	39	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Isosafrole	ND		360	48	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Kepone	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Naphthalene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1

Client Sample ID: PZ-2022-1 (28.0-32.0)
Lab Sample ID: 480-197198-3
Date Collected: 04/25/22 14:15
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 91.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosomorpholine	ND		360	81	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Methyl parathion	ND		360	62	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Pentachlorophenol	ND	*+	360	190	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Phenacetin	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Phenanthrene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Phenol	ND		190	28	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Phorate	ND		360	99	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
p-Phenylene diamine	ND	*-	870	360	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Pyrene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Pyridine	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Safrole	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1
Thionazin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*75*		*54 - 120*	*04/28/22 16:09*	*05/04/22 19:48*	*1*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*04/28/22 16:09*	*05/04/22 19:48*	*1*
2-Fluorophenol (Surr)	*69*		*52 - 120*	*04/28/22 16:09*	*05/04/22 19:48*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*04/28/22 16:09*	*05/04/22 19:48*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*04/28/22 16:09*	*05/04/22 19:48*	*1*
p-Terphenyl-d14 (Surr)	*111*		*79 - 130*	*04/28/22 16:09*	*05/04/22 19:48*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
4,4'-DDT	1.8 U	0.87 J B	1.8	0.42	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
cis-Chlordane	ND		1.8	0.89	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1

Client Sample ID: PZ-2022-1 (28.0-32.0)
Lab Sample ID: 480-197198-3

Date Collected: 04/25/22 14:15
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.0

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
Toxaphene	ND		18	10	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	04/27/22 16:13	04/28/22 11:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*86*		*45 - 120*	*04/27/22 16:13*	*04/28/22 11:48*	*1*
Tetrachloro-m-xylene	*82*		*30 - 124*	*04/27/22 16:13*	*04/28/22 11:48*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.042	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1
PCB-1221	ND		0.22	0.042	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1
PCB-1232	ND		0.22	0.042	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1
PCB-1242	ND		0.22	0.042	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1
PCB-1248	ND		0.22	0.042	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/28/22 08:52	04/29/22 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*04/28/22 08:52*	*04/29/22 17:24*	*1*
Tetrachloro-m-xylene	*121*		*60 - 154*	*04/28/22 08:52*	*04/29/22 17:24*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	05/02/22 08:21	05/04/22 21:12	1
2,4-D	ND		18	11	ug/Kg	☼	05/02/22 08:21	05/04/22 21:12	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	05/02/22 08:21	05/04/22 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*05/02/22 08:21*	*05/04/22 21:12*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1
Disulfoton	ND		36	24	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1
Famphur	ND		36	19	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1
Methyl parathion	ND		36	21	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1
Phorate	ND		36	12	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1
Sulfotepp	ND		36	14	ug/Kg	☼	04/29/22 13:20	05/04/22 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*69*		*20 - 135*	*04/29/22 13:20*	*05/04/22 14:00*	*1*

Client Sample ID: PZ-2022-1 (28.0-32.0)
Lab Sample ID: 480-197198-3

Date Collected: 04/25/22 14:15
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	69		20 - 135	04/29/22 13:20	05/04/22 14:00	1
Triphenylphosphate	96		33 - 168	04/29/22 13:20	05/04/22 14:00	1
Triphenylphosphate	100		33 - 168	04/29/22 13:20	05/04/22 14:00	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.5 U	~~0.17 J I B~~	5.5	0.018	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,4,6,7,8-HpCDF	5.5 U	~~0.046 J I B~~	5.5	0.0017	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,4,7,8,9-HpCDF	5.5 U	~~0.044 J I B~~	5.5	0.0025	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,4,7,8-HxCDD	5.5 U	~~0.047 J I B~~	5.5	0.0067	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,4,7,8-HxCDF	5.5 U	~~0.051 J I B~~	5.5	0.0058	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,6,7,8-HxCDD	5.5 U	~~0.049 J I B~~	5.5	0.0070	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,6,7,8-HxCDF	5.5 U	~~0.046 J I B~~	5.5	0.0056	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,7,8,9-HxCDD	5.5 U	~~0.059 J I B~~	5.5	0.0070	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,7,8,9-HxCDF	5.5 U	~~0.053 J B~~	5.5	0.0075	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,7,8-PeCDD		0.075 ~~J I~~ JNX	5.5	0.011	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
1,2,3,7,8-PeCDF	5.5 U	~~0.15 J B~~	5.5	0.0070	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
2,3,4,6,7,8-HxCDF	5.5 U	~~0.049 J I B~~	5.5	0.0054	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
2,3,4,7,8-PeCDF	5.5 U	~~0.030 J I B~~	5.5	0.0050	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
2,3,7,8-TCDD		0.036 ~~J I~~ JNX	1.1	0.0057	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
2,3,7,8-TCDF	1.1 U	~~0.062 J I B~~	1.1	0.0046	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
OCDD	11 U	~~0.67 J B~~	11	0.033	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
OCDF	11 U	~~0.12 J I B~~	11	0.0078	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total HpCDD	5.5 U	~~0.17 J I B~~	5.5	0.018	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total HpCDF	5.5 U	~~0.090 J I B~~	5.5	0.0021	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total HxCDD	5.5 U	~~0.16 J I B~~	5.5	0.0069	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total HxCDF	5.5 U	~~0.17 J I B~~	5.5	0.0061	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total PeCDD		0.075 ~~J I~~ JNX	5.5	0.011	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total PeCDF	5.5 U	~~0.18 J I B~~	5.5	0.0060	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total TCDD		0.036 ~~J I~~ JNX	1.1	0.0057	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1
Total TCDF	1.1 U	~~0.062 J I B~~	1.1	0.0046	ng/Kg	☼	05/01/22 15:00	05/03/22 01:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	71		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,4,6,7,8-HpCDF	77		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,4,7,8,9-HpCDF	73		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,4,7,8-HxCDD	74		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,4,7,8-HxCDF	80		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,6,7,8-HxCDD	78		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,6,7,8-HxCDF	84		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,7,8,9-HxCDD	79		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,7,8,9-HxCDF	80		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,7,8-PeCDD	76		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-1,2,3,7,8-PeCDF	79		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-2,3,4,6,7,8-HxCDF	82		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-2,3,4,7,8-PeCDF	78		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-2,3,7,8-TCDD	79		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-2,3,7,8-TCDF	81		40 - 135	05/01/22 15:00	05/03/22 01:23	1
13C-OCDD	54		40 - 135	05/01/22 15:00	05/03/22 01:23	1

Client Sample ID: PZ-2022-1 (28.0-32.0)
Lab Sample ID: 480-197198-3

Date Collected: 04/25/22 14:15
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 91.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*52*		*40 - 135*	*05/01/22 15:00*	*05/03/22 01:23*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		15.7	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Arsenic	**4.7**		2.1	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Barium	**22.8**	F1	0.52	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Beryllium	**0.26**		0.21	0.029	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Cadmium	**0.064**	J	0.21	0.031	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Chromium	**5.4**		0.52	0.21	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Cobalt	**6.8**		0.52	0.052	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Copper	**7.0**		1.0	0.22	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Lead	**9.6**		1.0	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Nickel	**11.3**		5.2	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Selenium	ND		4.2	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Silver	ND		0.63	0.21	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Thallium	ND		6.3	0.31	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Tin	ND		2.1	0.45	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Vanadium	**5.6**		0.52	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1
Zinc	**32.5**		2.1	0.67	mg/Kg	☼	05/03/22 15:07	05/11/22 14:23	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	05/04/22 09:51	05/04/22 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.48	mg/Kg	☼	04/29/22 11:43	04/29/22 13:45	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.9	11.4	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-1 (29.0)
Lab Sample ID: 480-197198-4

Date Collected: 04/25/22 14:15
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 96.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.76	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,1,2-Trichloroethane	ND		4.7	0.61	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,1-Dichloroethane	ND		4.7	0.57	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,1-Dichloroethene	ND		4.7	0.57	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,2,3-Trichloropropane	ND		4.7	0.48	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,2-Dichloroethane	ND		4.7	0.24	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
1,2-Dichloropropane	ND		4.7	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
2-Chloro-1,3-butadiene	ND		4.7	2.9	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1

Client Sample ID: PZ-2022-1 (29.0)
Date Collected: 04/25/22 14:15
Date Received: 04/27/22 10:00

Lab Sample ID: 480-197198-4
Matrix: Solid
Percent Solids: 96.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		9.4	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
3-Chloro-1-propene	ND		4.7	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Acetone	ND		23	4.0	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Acetonitrile	ND		47	5.7	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Acrolein	ND		23	7.4	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Acrylonitrile	ND		23	4.2	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Benzene	ND		4.7	0.23	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Bromoform	ND		4.7	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Bromomethane	ND		4.7	0.42	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Carbon disulfide	ND		4.7	2.3	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Carbon tetrachloride	ND		4.7	0.45	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Chlorobenzene	ND		4.7	0.62	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Chlorodibromomethane	ND		4.7	0.60	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Chloroform	ND		4.7	0.29	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Chloromethane	ND		4.7	0.28	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
cis-1,3-Dichloropropene	ND		4.7	0.68	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Dibromomethane	ND		4.7	0.48	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Dichlorobromomethane	ND		4.7	0.63	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Ethylbenzene	ND		4.7	0.32	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Ethylene Dibromide	ND		4.7	0.60	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Methacrylonitrile	ND		23	5.5	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Methyl methacrylate	ND		4.7	0.99	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Methylene Chloride	ND		4.7	2.2	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
m-Xylene & p-Xylene	ND		9.4	0.79	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
o-Xylene	ND		4.7	0.61	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Propionitrile	ND		47	26	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Styrene	ND		4.7	0.23	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Tetrachloroethene	ND		4.7	0.63	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Toluene	ND		4.7	0.35	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
trans-1,2-Dichloroethene	ND		4.7	0.48	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Trichlorofluoromethane	ND		4.7	0.44	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Vinyl acetate	ND		9.4	2.4	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1
Vinyl chloride	ND		4.7	0.57	ug/Kg	☼	04/27/22 11:30	04/27/22 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*04/27/22 11:30*	*04/27/22 23:40*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/27/22 11:30*	*04/27/22 23:40*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*04/27/22 11:30*	*04/27/22 23:40*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*04/27/22 11:30*	*04/27/22 23:40*	*1*

Client Sample ID: PZ-2022-1 (45.0-49.0)
Lab Sample ID: 480-197198-5

Date Collected: 04/25/22 15:45
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 93.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,2,4-Trichlorobenzene	ND		350	25	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,2-Dichlorobenzene	ND		350	24	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,3,5-Trinitrobenzene	ND		350	14	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,3-Dinitrobenzene	ND		350	42	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,4-Dichlorobenzene	ND		350	28	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,4-Dioxane	ND		110	58	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1,4-Naphthoquinone	ND		350	66	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,4-Dichlorophenol	ND	F2	180	19	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,4-Dinitrophenol	ND		1800	830	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,6-Dichlorophenol	ND		350	66	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Acetylaminofluorene	ND		350	45	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Methylphenol	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Nitroaniline	ND		350	26	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Picoline	ND		350	40	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
2-Toluidine	ND		350	86	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
3 & 4 Methylphenol	ND		350	28	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
3-Methylcholanthrene	ND		350	58	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
3-Methylphenol	ND		350	28	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Aminobiphenyl	ND	*	350	73	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Chloroaniline	ND		180	44	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Methylphenol	ND		350	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Nitroaniline	ND		350	94	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
4-Nitroquinoline-1-oxide	ND		700	350	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Acenaphthene	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1

Client Sample ID: PZ-2022-1 (45.0-49.0)
Lab Sample ID: 480-197198-5
Date Collected: 04/25/22 15:45
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 93.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Acetophenone	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Aniline	ND		350	43	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Anthracene	ND		180	44	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Aramite, Total	ND	F2	350	170	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Benzidine	ND	F1	5300	2200	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	R 1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Benzyl alcohol	ND		350	24	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Bis(2-ethylhexyl) phthalate	ND		180	61	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Chrysene	ND		180	40	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Diallate	ND		350	44	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Dibenzofuran	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Dimethoate	ND		350	43	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Dinoseb	ND		350	62	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Diphenylamine	ND		350	45	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Disulfoton	ND		350	260	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Chlorobenzilate	ND		350	56	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Ethyl methanesulfonate	ND		350	77	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Famphur	ND	*-	700	170	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	R 1
Fluoranthene	ND		180	19	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Fluorene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Hexachlorobenzene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Hexachloroethane	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Hexachloropropene	ND		350	89	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Isodrin	ND		350	61	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Isophorone	ND		180	38	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Isosafrole	ND		350	47	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Kepone	ND	F1	700	350	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	R 1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Methyl methanesulfonate	ND		350	80	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Naphthalene	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitro-o-toluidine	ND		350	45	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1

Client Sample ID: PZ-2022-1 (45.0-49.0)
Lab Sample ID: 480-197198-5
Date Collected: 04/25/22 15:45
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 93.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		350	81	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosodimethylamine	ND		350	76	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosodi-n-butylamine	ND		350	95	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosomethylethylamine	ND	F2	350	80	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosomorpholine	ND		350	78	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosopiperidine	ND		350	71	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
o,o',o''-Triethylphosphorothioate	ND		350	45	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Ethyl Parathion	ND	F2	350	39	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Methyl parathion	ND		350	60	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
p-Dimethylamino azobenzene	ND		350	59	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Pentachlorobenzene	ND		350	73	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Pentachloronitrobenzene	ND		350	89	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Pentachlorophenol	ND	*+	350	180	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Phenacetin	ND		350	48	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Phenanthrene	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Phenol	ND		180	28	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Phorate	ND		350	96	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
p-Phenylene diamine	ND	*- F1	850	350	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	R 1
Pronamide	ND		350	69	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Pyrene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Pyridine	ND		350	25	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Safrole	ND		350	48	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Sulfotepp	ND		350	56	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1
Thionazin	ND		350	61	ug/Kg	☼	04/28/22 16:09	05/04/22 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*75*		*54 - 120*	*04/28/22 16:09*	*05/04/22 18:59*	*1*
2-Fluorobiphenyl (Surr)	*98*		*60 - 120*	*04/28/22 16:09*	*05/04/22 18:59*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*04/28/22 16:09*	*05/04/22 18:59*	*1*
Nitrobenzene-d5 (Surr)	*91*		*53 - 120*	*04/28/22 16:09*	*05/04/22 18:59*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*04/28/22 16:09*	*05/04/22 18:59*	*1*
p-Terphenyl-d14 (Surr)	*119*		*79 - 130*	*04/28/22 16:09*	*05/04/22 18:59*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
4,4'-DDE	ND		1.8	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
4,4'-DDT	1.8 U	0.88 J B	1.8	0.42	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Chlordane (technical)	ND		18	3.9	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
cis-Chlordane	ND		1.8	0.89	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1

Client Sample ID: PZ-2022-1 (45.0-49.0)
Lab Sample ID: 480-197198-5

Date Collected: 04/25/22 15:45
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 93.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Endrin aldehyde	**0.61**	**J B**	1.8	0.45	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Methoxychlor	ND		1.8	0.36	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
Toxaphene	ND		18	10	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	04/27/22 16:13	04/28/22 11:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*45 - 120*	*04/27/22 16:13*	*04/28/22 11:08*	*1*
Tetrachloro-m-xylene	*84*		*30 - 124*	*04/27/22 16:13*	*04/28/22 11:08*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	04/28/22 08:52	04/29/22 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*109*		*65 - 174*	*04/28/22 08:52*	*04/29/22 18:17*	*1*
Tetrachloro-m-xylene	*127*		*60 - 154*	*04/28/22 08:52*	*04/29/22 18:17*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.6	ug/Kg	☼	05/02/22 08:21	05/04/22 21:42	1
2,4-D	ND		18	11	ug/Kg	☼	05/02/22 08:21	05/04/22 21:42	1
Silvex (2,4,5-TP)	ND		18	6.3	ug/Kg	☼	05/02/22 08:21	05/04/22 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*05/02/22 08:21*	*05/04/22 21:42*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		35	20	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1
Disulfoton	ND		35	23	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1
Famphur	ND		35	19	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1
Methyl parathion	ND		35	20	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1
Ethyl Parathion	ND		35	20	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1
Phorate	ND		35	12	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1
Sulfotepp	ND		35	14	ug/Kg	☼	04/29/22 13:20	05/04/22 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*20 - 135*	*04/29/22 13:20*	*05/04/22 14:32*	*1*

Client Sample ID: PZ-2022-1 (45.0-49.0)
Lab Sample ID: 480-197198-5

Date Collected: 04/25/22 15:45
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 93.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*91*		*20 - 135*	*04/29/22 13:20*	*05/04/22 14:32*	*1*
Triphenylphosphate	*96*		*33 - 168*	*04/29/22 13:20*	*05/04/22 14:32*	*1*
Triphenylphosphate	*100*		*33 - 168*	*04/29/22 13:20*	*05/04/22 14:32*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD		ND			5.4	0.064	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,4,6,7,8-HpCDF		ND			5.4	0.0071	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,4,7,8,9-HpCDF		ND			5.4	0.010	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,4,7,8-HxCDD	5.4 U	~~0.041~~	~~J B~~		5.4	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,4,7,8-HxCDF		ND			5.4	0.019	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,6,7,8-HxCDD		**0.055**	~~J+~~	JNX	5.4	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,6,7,8-HxCDF		**0.063**	~~J+~~	JNX	5.4	0.017	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,7,8,9-HxCDD		ND			5.4	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,7,8,9-HxCDF	5.4 U	~~0.14~~	~~J B~~		5.4	0.019	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,7,8-PeCDD		ND			5.4	0.021	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
1,2,3,7,8-PeCDF	5.4 U	~~0.13~~	~~J+B~~		5.4	0.014	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
2,3,4,6,7,8-HxCDF	5.4 U	~~0.085~~	~~J+B~~		5.4	0.017	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
2,3,4,7,8-PeCDF		ND			5.4	0.0099	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
2,3,7,8-TCDD		ND			1.1	0.018	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
2,3,7,8-TCDF		ND			1.1	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
OCDD	11 U	~~0.52~~	~~J+B~~		11	0.021	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
OCDF		ND			11	0.018	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total HpCDD		ND			5.4	0.064	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total HpCDF		ND			5.4	0.010	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total HxCDD	5.4 U	~~0.096~~	~~J+B~~		5.4	0.011	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total HxCDF	5.4 U	~~0.29~~	~~J+B~~		5.4	0.018	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total PeCDD		ND			5.4	0.021	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total PeCDF	5.4 U	~~0.13~~	~~J+B~~		5.4	0.012	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total TCDD		ND			1.1	0.018	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1
Total TCDF		ND			1.1	0.013	ng/Kg	☼	05/03/22 15:00	05/04/22 21:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*46*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*45*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*46*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*46*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*46*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*48*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*51*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,7,8,9-HxCDD	*48*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*50*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,7,8-PeCDD	*46*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-1,2,3,7,8-PeCDF	*48*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*48*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-2,3,4,7,8-PeCDF	*49*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-2,3,7,8-TCDD	*50*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-2,3,7,8-TCDF	*47*		*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*
13C-OCDD	*36*	*5-	*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*

Client Sample ID: PZ-2022-1 (45.0-49.0)
Lab Sample ID: 480-197198-5

Date Collected: 04/25/22 15:45
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 93.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*35*	*5-*	*40 - 135*	*05/03/22 15:00*	*05/04/22 21:11*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.0	0.45	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Arsenic	**14.0**		2.3	0.45	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Barium	**25.6**		0.57	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Beryllium	**0.43**		0.23	0.032	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Cadmium	**0.17**	**J**	0.23	0.034	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Chromium	**5.6**		0.57	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Cobalt	**12.4**		0.57	0.057	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Copper	**10.8**		1.1	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Lead	**10.5**		1.1	0.27	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Nickel	**18.0**		5.7	0.26	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Selenium	ND		4.5	0.45	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Silver	ND		0.68	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Thallium	ND		6.8	0.34	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Tin	ND		2.3	0.49	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Vanadium	**6.8**		0.57	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1
Zinc	**41.6**		2.3	0.73	mg/Kg	☼	05/03/22 15:07	05/11/22 14:54	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0048	mg/Kg	☼	05/04/22 09:51	05/04/22 12:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.94	0.46	mg/Kg	☼	04/29/22 11:43	04/29/22 13:46	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.2	10.9	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-1 (48.0)
Lab Sample ID: 480-197198-6

Date Collected: 04/25/22 15:45
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 89.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.83	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,1,2-Trichloroethane	ND		5.1	0.67	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,1-Dichloroethane	ND		5.1	0.63	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,1-Dichloroethene	ND		5.1	0.63	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,2-Dichloroethane	ND		5.1	0.26	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
1,2-Dichloropropane	ND		5.1	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
2-Chloro-1,3-butadiene	ND		5.1	3.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1

Client Sample ID: PZ-2022-1 (48.0)
Date Collected: 04/25/22 15:45
Date Received: 04/27/22 10:00

Lab Sample ID: 480-197198-6
Matrix: Solid
Percent Solids: 89.1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		10	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
3-Chloro-1-propene	ND		5.1	2.5	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Acetone	ND		26	4.3	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Acetonitrile	ND		51	6.3	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Acrolein	ND		26	8.1	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Benzene	ND		5.1	0.25	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Bromoform	ND		5.1	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Carbon disulfide	ND		5.1	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Carbon tetrachloride	ND		5.1	0.50	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Chlorobenzene	ND		5.1	0.68	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Chlorodibromomethane	ND		5.1	0.66	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Chloroethane	ND		5.1	1.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Chloroform	ND		5.1	0.32	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
cis-1,3-Dichloropropene	ND		5.1	0.74	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Dibromomethane	ND		5.1	0.53	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Dichlorobromomethane	ND		5.1	0.69	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Ethyl methacrylate	ND		5.1	1.8	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Ethylene Dibromide	ND		5.1	0.66	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Methacrylonitrile	ND		26	6.1	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Methyl methacrylate	ND		5.1	1.1	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Methylene Chloride	ND		5.1	2.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
m-Xylene & p-Xylene	ND		10	0.86	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
o-Xylene	ND		5.1	0.67	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Propionitrile	ND		51	29	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Styrene	ND		5.1	0.26	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Tetrachloroethene	ND		5.1	0.69	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Toluene	ND		5.1	0.39	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
trans-1,2-Dichloroethene	ND		5.1	0.53	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
trans-1,3-Dichloropropene	ND		5.1	2.3	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
trans-1,4-Dichloro-2-butene	ND		5.1	1.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Trichlorofluoromethane	ND		5.1	0.49	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1
Vinyl chloride	ND		5.1	0.63	ug/Kg	☼	04/27/22 11:30	04/28/22 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/27/22 11:30*	*04/28/22 00:04*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/27/22 11:30*	*04/28/22 00:04*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/27/22 11:30*	*04/28/22 00:04*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*04/27/22 11:30*	*04/28/22 00:04*	*1*

Client Sample ID: PZ-2022-1 (58.0-62.0)
Lab Sample ID: 480-197198-7

Date Collected: 04/26/22 09:06
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 90.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,4,5-Trichlorophenol	ND		180	50	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,4-Dichlorophenol	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,4-Dimethylphenol	ND		180	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Methylphenol	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Picoline	ND		360	41	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
2-Toluidine	ND		360	88	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Chloro-3-methylphenol	ND		180	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Chloroaniline	ND		180	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Acenaphthene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1

Client Sample ID: PZ-2022-1 (58.0-62.0)
Lab Sample ID: 480-197198-7

Date Collected: 04/26/22 09:06
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 90.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Acetophenone	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Aniline	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Anthracene	ND		180	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzidine	ND		5400	2300	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzo[g,h,i]perylene	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Bis(2-ethylhexyl) phthalate	ND		180	63	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Chrysene	ND		180	41	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Diallate	ND		360	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Dibenz(a,h)anthracene	ND		180	33	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Dibenzofuran	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Dimethoate	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Dimethyl phthalate	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Di-n-butyl phthalate	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Dinoseb	ND		360	64	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Disulfoton	ND		360	270	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
~~Famphur~~	~~ND~~	~~*-~~	~~720~~	~~170~~	~~ug/Kg~~	~~☼~~	~~04/28/22 16:09~~	~~05/04/22 20:12~~	R 1
Fluoranthene	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Fluorene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Hexachloroethane	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Hexachloropropene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Indeno[1,2,3-cd]pyrene	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Isodrin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Isophorone	ND		180	39	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Isosafrole	ND		360	48	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Kepone	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Naphthalene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Nitrobenzene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1

Client Sample ID: PZ-2022-1 (58.0-62.0)
Lab Sample ID: 480-197198-7
Date Collected: 04/26/22 09:06
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 90.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosodi-n-propylamine	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosomorpholine	ND		360	80	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Methyl parathion	ND		360	62	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Pentachlorophenol	ND	*+	360	180	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Phenacetin	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Phenanthrene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Phenol	ND		180	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Phorate	ND		360	99	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~870~~	~~360~~	~~ug/Kg~~	~~☼~~	~~04/28/22 16:09~~	~~05/04/22 20:12~~	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Pyrene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Pyridine	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Safrole	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1
Thionazin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*54 - 120*	*04/28/22 16:09*	*05/04/22 20:12*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*04/28/22 16:09*	*05/04/22 20:12*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*04/28/22 16:09*	*05/04/22 20:12*	*1*
Nitrobenzene-d5 (Surr)	*87*		*53 - 120*	*04/28/22 16:09*	*05/04/22 20:12*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*04/28/22 16:09*	*05/04/22 20:12*	*1*
p-Terphenyl-d14 (Surr)	*108*		*79 - 130*	*04/28/22 16:09*	*05/04/22 20:12*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
4,4'-DDT	1.8 U	~~0.83 J B~~	1.8	0.43	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
cis-Chlordane	ND		1.8	0.91	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1

Client Sample ID: PZ-2022-1 (58.0-62.0)
Lab Sample ID: 480-197198-7

Date Collected: 04/26/22 09:06
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 90.5

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
Toxaphene	ND		18	11	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	04/27/22 16:13	04/28/22 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*45 - 120*	*04/27/22 16:13*	*04/28/22 12:07*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*04/27/22 16:13*	*04/28/22 12:07*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.046	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1
PCB-1221	ND		0.24	0.046	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1
PCB-1232	ND		0.24	0.046	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1
PCB-1242	ND		0.24	0.046	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1
PCB-1248	ND		0.24	0.046	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/28/22 08:52	04/29/22 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*113*		*65 - 174*	*04/28/22 08:52*	*04/29/22 18:31*	*1*
Tetrachloro-m-xylene	*134*		*60 - 154*	*04/28/22 08:52*	*04/29/22 18:31*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.8	ug/Kg	☼	05/02/22 08:21	05/04/22 22:12	1
2,4-D	ND		18	12	ug/Kg	☼	05/02/22 08:21	05/04/22 22:12	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	05/02/22 08:21	05/04/22 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*05/02/22 08:21*	*05/04/22 22:12*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	21	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1
Disulfoton	ND		36	24	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1
Famphur	ND		36	19	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1
Methyl parathion	ND		36	21	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1
Phorate	ND		36	12	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1
Sulfotepp	ND		36	14	ug/Kg	☼	04/29/22 13:20	05/04/22 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*20 - 135*	*04/29/22 13:20*	*05/04/22 15:03*	*1*

Client Sample ID: PZ-2022-1 (58.0-62.0)
Lab Sample ID: 480-197198-7

Date Collected: 04/26/22 09:06
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 90.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*93*		*20 - 135*	*04/29/22 13:20*	*05/04/22 15:03*	*1*
Triphenylphosphate	*103*		*33 - 168*	*04/29/22 13:20*	*05/04/22 15:03*	*1*
Triphenylphosphate	*108*		*33 - 168*	*04/29/22 13:20*	*05/04/22 15:03*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.5 U	~~0.15 J I B~~	5.5	0.038	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,4,6,7,8-HpCDF	5.5 U	~~0.027 J I B~~	5.5	0.0040	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,4,7,8,9-HpCDF	5.5 U	~~0.027 J I B~~	5.5	0.0051	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,4,7,8-HxCDD	ND		5.5	0.0062	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,4,7,8-HxCDF	5.5 U	~~0.067 J B~~	5.5	0.015	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,6,7,8-HxCDD	ND		5.5	0.0060	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,6,7,8-HxCDF	5.5 U	~~0.041 J I B~~	5.5	0.014	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,7,8,9-HxCDD	ND		5.5	0.0063	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,7,8,9-HxCDF	5.5 U	~~0.048 J I B~~	5.5	0.014	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,7,8-PeCDD	0.077	~~J I~~ JNX	5.5	0.012	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
1,2,3,7,8-PeCDF	5.5 U	~~0.074 J I B~~	5.5	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
2,3,4,6,7,8-HxCDF	5.5 U	~~0.048 J I B~~	5.5	0.013	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
2,3,4,7,8-PeCDF	5.5 U	~~0.11 J I B~~	5.5	0.0087	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
2,3,7,8-TCDD	ND		1.1	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
2,3,7,8-TCDF	ND		1.1	0.0074	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
OCDD	11 U	~~0.39 J I B~~	11	0.020	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
OCDF	11 U	~~0.13 J I B~~	11	0.0088	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total HpCDD	5.5 U	~~0.15 J I B~~	5.5	0.038	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total HpCDF	5.5 U	~~0.054 J I B~~	5.5	0.0045	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total HxCDD	ND		5.5	0.0062	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total HxCDF	5.5 U	~~0.20 J I B~~	5.5	0.014	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total PeCDD	0.077	~~J I~~ JNX	5.5	0.012	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total PeCDF	5.5 U	~~0.18 J I B~~	5.5	0.0099	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total TCDD	ND		1.1	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1
Total TCDF	ND		1.1	0.0074	ng/Kg	☼	05/01/22 15:00	05/02/22 19:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*82*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,7,8,9-HxCDD	*77*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*88*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-2,3,7,8-TCDD	*79*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-2,3,7,8-TCDF	*77*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*
13C-OCDD	*62*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*

Client Sample ID: PZ-2022-1 (58.0-62.0)
Lab Sample ID: 480-197198-7

Date Collected: 04/26/22 09:06
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 90.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*63*		*40 - 135*	*05/01/22 15:00*	*05/02/22 19:11*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		15.8	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Arsenic	**2.4**		2.1	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Barium	**27.5**		0.53	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Beryllium	**0.23**		0.21	0.029	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Cadmium	**0.036**	**J**	0.21	0.032	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Chromium	**5.4**		0.53	0.21	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Cobalt	**5.9**		0.53	0.053	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Copper	**6.6**		1.1	0.22	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Lead	**6.1**		1.1	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Nickel	**9.5**		5.3	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Selenium	ND		4.2	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Silver	ND		0.63	0.21	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Thallium	ND		6.3	0.32	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Tin	ND		2.1	0.45	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Vanadium	**7.3**		0.53	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1
Zinc	**32.2**		2.1	0.67	mg/Kg	☼	05/03/22 15:07	05/11/22 14:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0049	mg/Kg	☼	05/04/22 09:51	05/04/22 12:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.50	mg/Kg	☼	04/29/22 11:43	04/29/22 13:47	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.6	11.2	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-1 (59.0)
Lab Sample ID: 480-197198-8

Date Collected: 04/26/22 09:05
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.8	0.38	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,1,1-Trichloroethane	ND		3.8	0.28	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,1,2,2-Tetrachloroethane	ND		3.8	0.62	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,1,2-Trichloroethane	ND		3.8	0.49	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,1-Dichloroethane	ND		3.8	0.46	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,1-Dichloroethene	ND		3.8	0.47	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,2,3-Trichloropropane	ND		3.8	0.39	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,2-Dibromo-3-Chloropropane	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,2-Dichloroethane	ND		3.8	0.19	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
1,2-Dichloropropane	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
2-Butanone (MEK)	ND		19	1.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
2-Chloro-1,3-butadiene	ND		3.8	2.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1

Client Sample ID: PZ-2022-1 (59.0)
Lab Sample ID: 480-197198-8

Date Collected: 04/26/22 09:05
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		7.6	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
2-Hexanone	ND		19	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
3-Chloro-1-propene	ND		3.8	1.8	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
4-Methyl-2-pentanone (MIBK)	ND		19	1.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Acetone	**3.2**	**J**	19	3.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Acetonitrile	ND		38	4.7	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Acrolein	ND		19	6.0	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Acrylonitrile	ND		19	3.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Benzene	ND		3.8	0.19	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Bromoform	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Bromomethane	ND		3.8	0.34	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Carbon disulfide	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Carbon tetrachloride	ND		3.8	0.37	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Chlorobenzene	ND		3.8	0.50	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Chlorodibromomethane	ND		3.8	0.49	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Chloroethane	ND		3.8	0.86	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Chloroform	**0.87**	**J**	3.8	0.24	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Chloromethane	ND		3.8	0.23	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
cis-1,3-Dichloropropene	ND		3.8	0.55	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Dibromomethane	ND		3.8	0.39	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Dichlorobromomethane	ND		3.8	0.51	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Dichlorodifluoromethane	ND		3.8	0.31	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Ethyl methacrylate	ND		3.8	1.3	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Ethylbenzene	ND		3.8	0.26	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Ethylene Dibromide	ND		3.8	0.49	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Iodomethane	ND		3.8	0.18	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Methacrylonitrile	ND		19	4.5	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Methyl methacrylate	ND		3.8	0.80	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Methylene Chloride	ND		3.8	1.8	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
m-Xylene & p-Xylene	ND		7.6	0.64	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
o-Xylene	ND		3.8	0.50	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Propionitrile	ND		38	21	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Styrene	ND		3.8	0.19	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Tetrachloroethene	ND		3.8	0.51	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Toluene	ND		3.8	0.29	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
trans-1,2-Dichloroethene	ND		3.8	0.39	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
trans-1,3-Dichloropropene	ND		3.8	1.7	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
trans-1,4-Dichloro-2-butene	ND		3.8	0.86	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Trichloroethene	ND		3.8	0.84	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Trichlorofluoromethane	ND		3.8	0.36	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Vinyl acetate	ND		7.6	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1
Vinyl chloride	ND		3.8	0.46	ug/Kg	☼	04/27/22 11:30	04/28/22 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/27/22 11:30*	*04/28/22 00:29*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*04/27/22 11:30*	*04/28/22 00:29*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/27/22 11:30*	*04/28/22 00:29*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*04/27/22 11:30*	*04/28/22 00:29*	*1*

Client Sample ID: PZ-2022-1 (72.0-76.0)
Lab Sample ID: 480-197198-9

Date Collected: 04/26/22 14:30
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,2,4-Trichlorobenzene	ND		350	26	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,2-Dichlorobenzene	ND		350	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,3,5-Trinitrobenzene	ND		350	15	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,3-Dinitrobenzene	ND		350	43	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,4-Dichlorobenzene	ND		350	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1,4-Naphthoquinone	ND		350	66	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,4-Dinitrophenol	ND		1800	840	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,6-Dichlorophenol	ND		350	66	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Acetylaminofluorene	ND		350	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Methylphenol	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Nitroaniline	ND		350	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Picoline	ND		350	41	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
2-Toluidine	ND		350	87	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
3 & 4 Methylphenol	ND		350	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
3,3'-Dimethylbenzidine	ND		710	350	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
3-Methylcholanthrene	ND		350	59	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
3-Methylphenol	ND		350	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Aminobiphenyl	ND		350	74	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Chloroaniline	ND		180	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Methylphenol	ND		350	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Nitroaniline	ND		350	95	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
4-Nitroquinoline-1-oxide	ND		710	350	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Acenaphthene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1

Client Sample ID: PZ-2022-1 (72.0-76.0)
Lab Sample ID: 480-197198-9

Date Collected: 04/26/22 14:30
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Acetophenone	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Aniline	ND		350	44	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Anthracene	ND		180	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Aramite, Total	ND		350	170	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzidine	ND		5400	2300	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Benzyl alcohol	ND		350	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Bis(2-ethylhexyl) phthalate	ND		180	62	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Chrysene	ND		180	41	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Diallate	ND		350	45	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Dibenzofuran	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Dimethoate	ND		350	44	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Dinoseb	ND		350	63	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Diphenylamine	ND		350	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Disulfoton	ND		350	270	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Chlorobenzilate	ND		350	57	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Ethyl methanesulfonate	ND		350	78	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Famphur	ND	*-	710	170	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	R 1
Fluoranthene	ND		180	19	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Fluorene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Hexachloroethane	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Hexachloropropene	ND		350	90	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Isodrin	ND		350	62	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Isophorone	ND		180	39	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Isosafrole	ND		350	47	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Kepone	ND		710	350	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Methapyrilene	ND		1600	350	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Methyl methanesulfonate	ND		350	81	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Naphthalene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Nitrobenzene	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitro-o-toluidine	ND		350	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1

Client Sample ID: PZ-2022-1 (72.0-76.0)
Lab Sample ID: 480-197198-9
Date Collected: 04/26/22 14:30
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 91.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		350	82	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosodimethylamine	ND		350	77	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosodi-n-butylamine	ND		350	96	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosomethylethylamine	ND		350	81	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosomorpholine	ND		350	79	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosopiperidine	ND		350	72	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
N-Nitrosopyrrolidine	ND		350	54	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
o,o',o''-Triethylphosphorothioate	ND		350	46	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Ethyl Parathion	ND		350	40	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Methyl parathion	ND		350	61	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
p-Dimethylamino azobenzene	ND		350	60	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Pentachlorobenzene	ND		350	74	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Pentachloronitrobenzene	ND		350	90	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Pentachlorophenol	ND	*+	350	180	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Phenacetin	ND		350	48	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Phenanthrene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Phenol	ND		180	28	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Phorate	ND		350	97	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
p-Phenylene diamine	ND	*	860	350	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	R 1
Pronamide	ND		350	70	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Pyrene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Pyridine	ND		350	26	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Safrole	ND		350	48	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Sulfotepp	ND		350	57	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1
Thionazin	ND		350	62	ug/Kg	☼	04/28/22 16:09	05/04/22 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*54 - 120*	*04/28/22 16:09*	*05/04/22 20:36*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*04/28/22 16:09*	*05/04/22 20:36*	*1*
2-Fluorophenol (Surr)	*68*		*52 - 120*	*04/28/22 16:09*	*05/04/22 20:36*	*1*
Nitrobenzene-d5 (Surr)	*87*		*53 - 120*	*04/28/22 16:09*	*05/04/22 20:36*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*04/28/22 16:09*	*05/04/22 20:36*	*1*
p-Terphenyl-d14 (Surr)	*109*		*79 - 130*	*04/28/22 16:09*	*05/04/22 20:36*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.34	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
4,4'-DDE	ND		1.8	0.37	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
4,4'-DDT	1.8 U	1.2 J B	1.8	0.41	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Chlordane (technical)	ND		18	3.9	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
cis-Chlordane	ND		1.8	0.88	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1

Client Sample ID: PZ-2022-1 (72.0-76.0)
Date Collected: 04/26/22 14:30
Date Received: 04/27/22 10:00

Lab Sample ID: 480-197198-9
Matrix: Solid
Percent Solids: 91.8

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Endrin	ND		1.8	0.35	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Endrin aldehyde	ND		1.8	0.45	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Heptachlor	ND		1.8	0.38	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Methoxychlor	ND		1.8	0.36	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
Toxaphene	ND		18	10	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1
trans-Chlordane	ND		1.8	0.56	ug/Kg	☼	04/27/22 16:13	04/28/22 12:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*45 - 120*	*04/27/22 16:13*	*04/28/22 12:26*	*1*
Tetrachloro-m-xylene	*82*		*30 - 124*	*04/27/22 16:13*	*04/28/22 12:26*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.044	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1
PCB-1221	ND		0.22	0.044	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1
PCB-1232	ND		0.22	0.044	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1
PCB-1242	ND		0.22	0.044	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1
PCB-1248	ND		0.22	0.044	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	04/28/22 08:52	04/29/22 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*115*		*65 - 174*	*04/28/22 08:52*	*04/29/22 18:44*	*1*
Tetrachloro-m-xylene	*142*		*60 - 154*	*04/28/22 08:52*	*04/29/22 18:44*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.8	ug/Kg	☼	05/02/22 08:21	05/04/22 22:41	1
2,4-D	ND		18	11	ug/Kg	☼	05/02/22 08:21	05/04/22 22:41	1
Silvex (2,4,5-TP)	ND		18	6.5	ug/Kg	☼	05/02/22 08:21	05/04/22 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*05/02/22 08:21*	*05/04/22 22:41*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		35	20	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1
Disulfoton	ND		35	23	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1
Famphur	ND		35	19	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1
Methyl parathion	ND		35	20	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1
Ethyl Parathion	ND		35	19	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1
Phorate	ND		35	12	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1
Sulfotepp	ND		35	14	ug/Kg	☼	04/29/22 13:20	05/04/22 15:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*107*		*20 - 135*	*04/29/22 13:20*	*05/04/22 15:35*	*1*

Client Sample ID: PZ-2022-1 (72.0-76.0)
Lab Sample ID: 480-197198-9

Date Collected: 04/26/22 14:30
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 91.8

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*106*		*20 - 135*	*04/29/22 13:20*	*05/04/22 15:35*	*1*
Triphenylphosphate	*113*		*33 - 168*	*04/29/22 13:20*	*05/04/22 15:35*	*1*
Triphenylphosphate	*119*		*33 - 168*	*04/29/22 13:20*	*05/04/22 15:35*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.4 U	~~0.13~~	~~J B~~		5.4	0.020	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,4,6,7,8-HpCDF	5.4 U	~~0.089~~	~~J I B~~		5.4	0.0052	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,4,7,8,9-HpCDF	5.4 U	~~0.043~~	~~J I B~~		5.4	0.0065	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,4,7,8-HxCDD	5.4 U	~~0.020~~	~~J I B~~		5.4	0.0081	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,4,7,8-HxCDF	5.4 U	~~0.053~~	~~J B~~		5.4	0.012	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,6,7,8-HxCDD	5.4 U	~~0.086~~	~~J I B~~		5.4	0.0079	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,6,7,8-HxCDF	5.4 U	~~0.047~~	~~J I B~~		5.4	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,7,8,9-HxCDD	5.4 U	~~0.15~~	~~J B~~		5.4	0.0083	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,7,8,9-HxCDF	5.4 U	~~0.090~~	~~J I B~~		5.4	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,7,8-PeCDD		0.088	~~J I~~	JNX	5.4	0.016	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
1,2,3,7,8-PeCDF		ND			5.4	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
2,3,4,6,7,8-HxCDF	5.4 U	~~0.043~~	~~J I B~~		5.4	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
2,3,4,7,8-PeCDF	5.4 U	~~0.070~~	~~J I B~~		5.4	0.0082	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
2,3,7,8-TCDD		ND			1.1	0.015	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
2,3,7,8-TCDF	1.1 U	~~0.015~~	~~J I B~~		1.1	0.010	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
OCDD	11 U	~~0.68~~	~~J I B~~		11	0.014	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
OCDF	11 U	~~0.081~~	~~J I B~~		11	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total HpCDD	5.4 U	~~0.13~~	~~J B~~		5.4	0.020	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total HpCDF	5.4 U	~~0.13~~	~~J I B~~		5.4	0.0058	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total HxCDD	5.4 U	~~0.26~~	~~J I B~~		5.4	0.0081	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total HxCDF	5.4 U	~~0.23~~	~~J I B~~		5.4	0.011	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total PeCDD		0.088	~~J I~~	JNX	5.4	0.016	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total PeCDF	5.4 U	~~0.070~~	~~J I B~~		5.4	0.0097	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total TCDD		ND			1.1	0.015	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1
Total TCDF	1.1 U	~~0.015~~	~~J I B~~		1.1	0.010	ng/Kg	☼	05/01/22 15:00	05/02/22 20:00	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*72*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,4,7,8-HxCDD	*73*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,7,8,9-HxCDD	*76*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-2,3,4,7,8-PeCDF	*75*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-2,3,7,8-TCDF	*67*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*
13C-OCDD	*62*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*

Client Sample ID: PZ-2022-1 (72.0-76.0)
Lab Sample ID: 480-197198-9
Date Collected: 04/26/22 14:30
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 91.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*64*		*40 - 135*	*05/01/22 15:00*	*05/02/22 20:00*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.4	0.44	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Arsenic	**3.5**		2.2	0.44	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Barium	**33.3**		0.55	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Beryllium	**0.39**		0.22	0.031	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Cadmium	ND		0.22	0.033	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Chromium	**9.8**		0.55	0.22	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Cobalt	**13.0**		0.55	0.055	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Copper	**10.1**		1.1	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Lead	**9.1**		1.1	0.26	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Nickel	**21.6**		5.5	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Selenium	ND		4.4	0.44	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Silver	ND		0.66	0.22	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Thallium	ND		6.6	0.33	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Tin	ND		2.2	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Vanadium	**11.8**		0.55	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1
Zinc	**50.2**		2.2	0.70	mg/Kg	☼	05/03/22 15:07	05/11/22 15:02	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	05/04/22 09:51	05/04/22 12:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.50	mg/Kg	☼	05/03/22 14:22	05/03/22 16:58	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.9	11.4	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-1 (75.0)
Lab Sample ID: 480-197198-10
Date Collected: 04/26/22 14:29
Matrix: Solid
Date Received: 04/27/22 10:00
Percent Solids: 87.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.8	0.38	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,1,1-Trichloroethane	ND		3.8	0.27	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,1,2,2-Tetrachloroethane	ND		3.8	0.61	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,1,2-Trichloroethane	ND		3.8	0.49	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,1-Dichloroethane	ND		3.8	0.46	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,1-Dichloroethene	ND		3.8	0.46	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,2,3-Trichloropropane	ND		3.8	0.38	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,2-Dibromo-3-Chloropropane	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,2-Dichloroethane	ND		3.8	0.19	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
1,2-Dichloropropane	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
2-Butanone (MEK)	ND		19	1.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
2-Chloro-1,3-butadiene	ND		3.8	2.3	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1

Client Sample ID: PZ-2022-1 (75.0)
Lab Sample ID: 480-197198-10

Date Collected: 04/26/22 14:29
Matrix: Solid

Date Received: 04/27/22 10:00
Percent Solids: 87.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		7.5	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
2-Hexanone	ND		19	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
3-Chloro-1-propene	ND		3.8	1.8	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
4-Methyl-2-pentanone (MIBK)	ND		19	1.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Acetone	**5.0**	**J**	19	3.2	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Acetonitrile	ND		38	4.6	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Acrolein	ND		19	5.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Acrylonitrile	ND		19	3.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Benzene	ND		3.8	0.18	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Bromoform	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Bromomethane	ND		3.8	0.34	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Carbon disulfide	ND		3.8	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Carbon tetrachloride	ND		3.8	0.36	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Chlorobenzene	ND		3.8	0.50	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Chlorodibromomethane	ND		3.8	0.48	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Chloroethane	ND		3.8	0.85	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Chloroform	**0.43**	**J**	3.8	0.23	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Chloromethane	ND		3.8	0.23	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
cis-1,3-Dichloropropene	ND		3.8	0.54	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Dibromomethane	ND		3.8	0.39	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Dichlorobromomethane	ND		3.8	0.50	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Dichlorodifluoromethane	ND		3.8	0.31	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Ethyl methacrylate	ND		3.8	1.3	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Ethylbenzene	ND		3.8	0.26	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Ethylene Dibromide	ND		3.8	0.48	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Iodomethane	ND		3.8	0.18	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Methacrylonitrile	ND		19	4.4	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Methyl methacrylate	ND		3.8	0.79	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Methylene Chloride	ND		3.8	1.7	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
m-Xylene & p-Xylene	ND		7.5	0.63	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
o-Xylene	ND		3.8	0.49	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Propionitrile	ND		38	21	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Styrene	ND		3.8	0.19	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Tetrachloroethene	ND		3.8	0.50	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Toluene	ND		3.8	0.28	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
trans-1,2-Dichloroethene	ND		3.8	0.39	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
trans-1,3-Dichloropropene	ND		3.8	1.7	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
trans-1,4-Dichloro-2-butene	ND		3.8	0.85	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Trichloroethene	ND		3.8	0.83	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Trichlorofluoromethane	ND		3.8	0.36	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Vinyl acetate	ND		7.5	1.9	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1
Vinyl chloride	ND		3.8	0.46	ug/Kg	☼	04/27/22 11:30	04/28/22 00:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/27/22 11:30*	*04/28/22 00:53*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/27/22 11:30*	*04/28/22 00:53*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*	*04/27/22 11:30*	*04/28/22 00:53*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*04/27/22 11:30*	*04/28/22 00:53*	*1*

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-197341-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47567R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Laboratory Control Sample Analysis 8
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 9
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 10
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 Compound Identification 11
5.3 System Performance and Overall Assessment 12
5.4 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 13
6.3 Compound Identification 14
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Metals Analyses 15
7.1 Holding Times 15
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 16
8 General Chemistry Analyses 16

8.1 Holding Times 16
8.2 System Performance and Overall Assessment 17
8.3 Data Validation Checklist for General Chemistry 17
9 Overall Data Usability 17

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 7. Laboratory Control Sample Criteria and Qualifications 9
Table 8. Holding Time for Method SW-846 8082A 10
Table 9. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 10. Dual Column Analysis Exhibiting RPD Outside the Control Limit 11
Table 11. Evaluation Criteria for Dual Column Analysis RPD 11
Table 12. Holding Time for Method SW-846 8290A 13
Table 13. Summary of Blank Contamination Qualifications 13
Table 14. Holding Time for Method SW-846 6010C/7471B 16
Table 15. Specified Holding Times 16
Table 16. Overall Summary of Data Usability 17

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197341-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
PZ-2022-2 (43.0-45.0)	480-197341-1	Soil	04/28/22			X	X	X	X	X
PZ-2022-2 (44.0)	480-197341-2	Soil	04/28/22		X					
PZ-2022-2 (58.0-62.0)	480-197341-3	Soil	04/28/22			X	X	X	X	X
PZ-2022-2 (59.0)	480-197341-4	Soil	04/28/22		X					
PZ-2022-2 (75.0-78.0)	480-197341-5	Soil	04/28/22			X	X	X	X	X
PZ-2022-2 (76.0)	480-197341-6	Soil	04/28/22		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	3	0	0	0	0	0	3
SVOCs	3	0	0	0	0	0	3
PCBs	3	0	0	0	0	0	3
PEST	3	0	0	0	0	0	3
HERB	3	0	0	0	0	0	3
PCDD/PCDF	3	0	0	0	0	0	3
Metals	3	0	0	0	0	0	3
MISC	3	0	0	0	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compound	LCS Recovery
PZ-2022-2 (43.0-45.0) PZ-2022-2 (58.0-62.0) PZ-2022-2 (75.0-78.0)	Famphur	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 7. Laboratory Control Sample Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
System performance and column resolution		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8141B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Table 10. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Compound	RPD
PZ-2022-2 (58.0-62.0)	4,4'-DDT	52.6%
PZ-2022-2 (75.0-78.0)	4,4'-DDT	69.9%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 11. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J

Control Limit (RPD)	Qualification
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (PCB sample results less than the RL)	U

When the sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide/herbicide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
System performance and column resolution		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-2 (43.0-45.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDD		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8-PeCDF		

Sample ID	Compounds	Sample Result	Qualification
	2,3,7,8-TCDF		
	OCDD		
	Total HpCDD		
	Total HxCDD		
	Total PeCDF		
	Total TCDF		
PZ-2022-2 (58.0-62.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,7,8-PeCDF		
	2,3,7,8-TCDF		
	OCDD		
	Total HpCDD		
	Total PeCDF		
	Total TCDF		
PZ-2022-2 (75.0-78.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8-PeCDF		
	2,3,7,8-TCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
	Total TCDF		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 15. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

9 Overall Data Usability

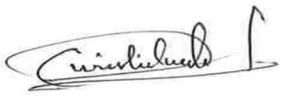
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 16. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	99.2%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 15, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 16, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Eurofins | Environment Testing America

Client Information	Sampler: Richard McDermott	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 551-237-1409	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

480-197341 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-2 (43.0-45.0)	4-28-2022	0859	C	S			X	X	X	X										4	
PZ-2022-2 (44.0)	4-28-2022	0858	G	S							X									4	
PZ-2022-2 (58.0-62.0)	4-28-2022	1036	C	S			X	X	X	X										4	
PZ-2022-2 (59.0)	4-28-2022	1035	G	S							X									4	
PZ-2022-2 (75.0-78.0)	4-28-2022	1457	C	S			X	X	X	X										4	
PZ-2022-2 (76.0)	4-28-2022	1456	G	S							X									4	

J - DI Water
K - EDTA
L - EDA
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Richard McDermott	Date/Time: 4-28-2022/1600	Company ARCADIS	Received by: [illegible]
Relinquished by:	Date/Time:	Company	Received by: Date/Time: 4/29/22 1000 Company A
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.1 # ice

05/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

9188

Chain of Custody Record

480-197341 Chain of Custody

Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-197341-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/12/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-2 (43.0-45.0) (480-197341-1)	4/28/22	08:59 Eastern		Solid			X	1	
PZ-2022-2 (58.0-62.0) (480-197341-3)	4/28/22	10:36 Eastern		Solid			X	1	
PZ-2022-2 (75.0-78.0) (480-197341-5)	4/28/22	14:57 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification Unconfirmed	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 5-2-22 1200	Company TAB	Received by: DW	Date/Time: 5-3-22	Company ECTAMH	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10:00	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

05/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71776.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-197341-1
Address: 2425 New Holland Pike,	Due Date Requested: 5/12/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-2 (43.0-45.0) (480-197341-1)	4/28/22	08:59 Eastern		Solid			X	1	
PZ-2022-2 (58.0-62.0) (480-197341-3)	4/28/22	10:36 Eastern		Solid			X	1	
PZ-2022-2 (75.0-78.0) (480-197341-5)	4/28/22	14:57 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/2/22 1700	FA			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 5/3/22 1030	Company ELAT

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4 /

JM

Client Sample ID: PZ-2022-2 (43.0-45.0)
Date Collected: 04/28/22 08:59
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-1
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Picoline	ND		390	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
2-Toluidine	ND		390	96	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1

Client Sample ID: PZ-2022-2 (43.0-45.0)
Lab Sample ID: 480-197341-1
Date Collected: 04/28/22 08:59
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Acetophenone	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Aniline	ND		390	49	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Anthracene	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzidine	ND		6000	2500	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Chrysene	ND		200	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Diallate	ND		390	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Dimethoate	ND		390	49	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Dinoseb	ND		390	70	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Disulfoton	ND		390	300	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
~~Famphur~~	~~ND~~	~~*-~~	~~790~~	~~190~~	~~ug/Kg~~	☼	~~05/02/22 15:39~~	~~05/05/22 01:24~~	R 1
Fluoranthene	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Fluorene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Hexachloropropene	ND		390	100	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Isodrin	ND		390	69	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Isophorone	ND		200	43	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Isosafrole	ND		390	52	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Kepone	ND		790	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Methapyrilene	ND		1800	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Methyl methanesulfonate	ND		390	90	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Naphthalene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Nitrobenzene	ND		200	23	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1

Client Sample ID: PZ-2022-2 (43.0-45.0)
Lab Sample ID: 480-197341-1

Date Collected: 04/28/22 08:59
Matrix: Solid

Date Received: 04/29/22 10:00
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosomethylethylamine	ND		390	90	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Methyl parathion	ND		390	68	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Pentachlorophenol	ND	*+	390	200	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Phenacetin	ND		390	54	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Phenol	ND		200	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Phorate	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Pronamide	ND		390	77	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Pyrene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Pyridine	ND		390	29	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Safrole	ND		390	54	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1
Thionazin	ND		390	69	ug/Kg	☼	05/02/22 15:39	05/05/22 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*104*		*54 - 120*	*05/02/22 15:39*	*05/05/22 01:24*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*05/02/22 15:39*	*05/05/22 01:24*	*1*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*05/02/22 15:39*	*05/05/22 01:24*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*05/02/22 15:39*	*05/05/22 01:24*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*05/02/22 15:39*	*05/05/22 01:24*	*1*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*05/02/22 15:39*	*05/05/22 01:24*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
4,4'-DDT	**1.3**	**J**	2.0	0.47	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
cis-Chlordane	ND		2.0	0.99	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1

Client Sample ID: PZ-2022-2 (43.0-45.0)
Date Collected: 04/28/22 08:59
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-1
Matrix: Solid
Percent Solids: 82.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
Toxaphene	ND		20	12	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/29/22 15:53	05/01/22 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*103*		*45 - 120*	*04/29/22 15:53*	*05/01/22 16:17*	*1*
Tetrachloro-m-xylene	*86*		*30 - 124*	*04/29/22 15:53*	*05/01/22 16:17*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	05/03/22 15:49	05/04/22 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*65 - 174*	*05/03/22 15:49*	*05/04/22 16:27*	*1*
Tetrachloro-m-xylene	*128*		*60 - 154*	*05/03/22 15:49*	*05/04/22 16:27*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.4	ug/Kg	☼	05/02/22 08:21	05/05/22 00:40	1
2,4-D	ND		20	13	ug/Kg	☼	05/02/22 08:21	05/05/22 00:40	1
Silvex (2,4,5-TP)	ND		20	7.2	ug/Kg	☼	05/02/22 08:21	05/05/22 00:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*60*		*28 - 129*	*05/02/22 08:21*	*05/05/22 00:40*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	22	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1
Disulfoton	ND		40	26	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1
Famphur	ND		40	21	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1
Phorate	ND		40	13	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1
Sulfotepp	ND		40	15	ug/Kg	☼	05/04/22 18:44	05/06/22 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*20 - 135*	*05/04/22 18:44*	*05/06/22 13:05*	*1*

Client Sample ID: PZ-2022-2 (43.0-45.0)
Date Collected: 04/28/22 08:59
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-1
Matrix: Solid
Percent Solids: 82.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*83*		*20 - 135*	*05/04/22 18:44*	*05/06/22 13:05*	*1*
Triphenylphosphate	*87*		*33 - 168*	*05/04/22 18:44*	*05/06/22 13:05*	*1*
Triphenylphosphate	*92*		*33 - 168*	*05/04/22 18:44*	*05/06/22 13:05*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	6.1 U	~~0.24 J I B~~	6.1	0.047	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,4,6,7,8-HpCDF	ND		6.1	0.013	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,4,7,8,9-HpCDF	ND		6.1	0.015	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,4,7,8-HxCDD	ND		6.1	0.0046	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,4,7,8-HxCDF	ND		6.1	0.025	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,6,7,8-HxCDD	6.1 U	~~0.042 J I B~~	6.1	0.0048	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,6,7,8-HxCDF	ND		6.1	0.024	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,7,8,9-HxCDD	6.1 U	~~0.036 J I B~~	6.1	0.0046	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,7,8,9-HxCDF	ND		6.1	0.025	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,7,8-PeCDD	ND		6.1	0.021	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
1,2,3,7,8-PeCDF	6.1 U	~~0.029 J I B~~	6.1	0.0054	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
2,3,4,6,7,8-HxCDF	ND		6.1	0.022	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
2,3,4,7,8-PeCDF	ND		6.1	0.0040	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
2,3,7,8-TCDD	ND		1.2	0.0070	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
2,3,7,8-TCDF	1.2 U	~~0.016 J B~~	1.2	0.0048	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
OCDD	12 U	~~3.5 J B~~	12	0.085	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
OCDF	ND		12	0.029	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total HpCDD	6.1 U	~~0.24 J I B~~	6.1	0.047	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total HpCDF	ND		6.1	0.015	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total HxCDD	6.1 U	~~0.078 J I B~~	6.1	0.0047	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total HxCDF	ND		6.1	0.024	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total PeCDD	ND		6.1	0.021	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total PeCDF	6.1 U	~~0.029 J I B~~	6.1	0.0047	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total TCDD	ND		1.2	0.0070	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1
Total TCDF	1.2 U	~~0.016 J I B~~	1.2	0.0048	ng/Kg	☼	05/09/22 15:35	05/10/22 14:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*87*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,4,7,8-HxCDD	*90*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,6,7,8-HxCDD	*92*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,7,8,9-HxCDD	*91*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,7,8,9-HxCDF	*94*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-2,3,4,6,7,8-HxCDF	*89*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-2,3,7,8-TCDD	*83*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*
13C-OCDD	*75*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*

Client Sample ID: PZ-2022-2 (43.0-45.0)
Lab Sample ID: 480-197341-1

Date Collected: 04/28/22 08:59
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 82.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*75*		*40 - 135*	*05/09/22 15:35*	*05/10/22 14:10*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.6	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Arsenic	**3.5**		2.4	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Barium	**17.1**		0.59	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Beryllium	**0.18**	**J**	0.24	0.033	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Cadmium	**0.059**	**J**	0.24	0.035	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Chromium	**3.3**		0.59	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Cobalt	**7.0**		0.59	0.059	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Copper	**5.9**		1.2	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Lead	**6.7**		1.2	0.28	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Nickel	**7.7**		5.9	0.27	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Selenium	ND		4.7	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Silver	ND		0.71	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Thallium	ND		7.1	0.35	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Tin	ND		2.4	0.51	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Vanadium	**4.4**		0.59	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1
Zinc	**20.5**		2.4	0.75	mg/Kg	☼	05/03/22 15:07	05/11/22 18:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0056	mg/Kg	☼	05/06/22 08:32	05/06/22 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.57**	**J**	1.1	0.55	mg/Kg	☼	05/03/22 14:22	05/03/22 16:51	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.9	12.5	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-2 (44.0)
Lab Sample ID: 480-197341-2

Date Collected: 04/28/22 08:58
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 83.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	0.54	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,1,1-Trichloroethane	ND		5.4	0.39	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,1,2,2-Tetrachloroethane	ND		5.4	0.87	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,1,2-Trichloroethane	ND		5.4	0.70	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,1-Dichloroethane	ND		5.4	0.65	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,1-Dichloroethene	ND		5.4	0.66	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,2,3-Trichloropropane	ND		5.4	0.55	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,2-Dichloroethane	ND		5.4	0.27	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
1,2-Dichloropropane	ND		5.4	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
2-Butanone (MEK)	ND		27	2.0	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
2-Chloro-1,3-butadiene	ND		5.4	3.3	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1

Client Sample ID: PZ-2022-2 (44.0)
Date Collected: 04/28/22 08:58
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-2
Matrix: Solid
Percent Solids: 83.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		11	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
2-Hexanone	ND		27	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
3-Chloro-1-propene	ND		5.4	2.6	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
4-Methyl-2-pentanone (MIBK)	ND		27	1.8	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Acetone	ND		27	4.5	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Acetonitrile	ND		54	6.6	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Acrolein	ND		27	8.5	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Acrylonitrile	ND		27	4.8	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Benzene	ND		5.4	0.26	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Bromoform	ND		5.4	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Bromomethane	ND		5.4	0.48	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Carbon disulfide	ND		5.4	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Carbon tetrachloride	ND		5.4	0.52	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Chlorobenzene	ND		5.4	0.71	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Chlorodibromomethane	ND		5.4	0.69	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Chloroethane	ND		5.4	1.2	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Chloroform	**2.3**	**J**	5.4	0.33	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Chloromethane	ND		5.4	0.32	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
cis-1,3-Dichloropropene	ND		5.4	0.77	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Dibromomethane	ND		5.4	0.55	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Dichlorobromomethane	ND		5.4	0.72	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Dichlorodifluoromethane	ND		5.4	0.44	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Ethyl methacrylate	ND		5.4	1.8	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Ethylbenzene	ND		5.4	0.37	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Ethylene Dibromide	ND		5.4	0.69	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Iodomethane	ND		5.4	0.26	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Methacrylonitrile	ND		27	6.3	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Methyl methacrylate	ND		5.4	1.1	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Methylene Chloride	ND		5.4	2.5	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
m-Xylene & p-Xylene	ND		11	0.90	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
o-Xylene	ND		5.4	0.70	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Propionitrile	ND		54	30	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Styrene	ND		5.4	0.27	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Tetrachloroethene	ND		5.4	0.72	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Toluene	ND		5.4	0.41	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
trans-1,2-Dichloroethene	ND		5.4	0.55	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
trans-1,3-Dichloropropene	ND		5.4	2.4	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
trans-1,4-Dichloro-2-butene	ND		5.4	1.2	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Trichloroethene	ND		5.4	1.2	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Trichlorofluoromethane	ND		5.4	0.51	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Vinyl acetate	ND		11	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1
Vinyl chloride	ND		5.4	0.65	ug/Kg	☼	04/29/22 16:00	05/03/22 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/29/22 16:00*	*05/03/22 20:45*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/29/22 16:00*	*05/03/22 20:45*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/29/22 16:00*	*05/03/22 20:45*	*1*
Toluene-d8 (Surr)	*90*		*71 - 125*	*04/29/22 16:00*	*05/03/22 20:45*	*1*

Client Sample ID: PZ-2022-2 (58.0-62.0)
Date Collected: 04/28/22 10:36
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-3
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1,4-Naphthoquinone	ND		390	73	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,6-Dichlorophenol	ND		390	73	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Picoline	ND		390	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
2-Toluidine	ND		390	96	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1

Client Sample ID: PZ-2022-2 (58.0-62.0)
Date Collected: 04/28/22 10:36
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-3
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Acetophenone	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Aniline	ND		390	48	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Anthracene	ND		200	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzidine	ND		5900	2500	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Chrysene	ND		200	45	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Diallate	ND		390	50	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Dimethoate	ND		390	48	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Dinoseb	ND		390	70	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Disulfoton	ND		390	300	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Ethyl methanesulfonate	ND		390	86	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
~~Famphur~~	~~ND~~	~~*-~~	~~780~~	~~190~~	~~ug/Kg~~	☼	~~05/02/22 15:39~~	~~05/05/22 01:48~~	R 1
Fluoranthene	ND		200	21	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Fluorene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Hexachloropropene	ND		390	99	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Isodrin	ND		390	69	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Isophorone	ND		200	43	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Isosafrole	ND		390	52	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Kepone	ND		780	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Methapyrilene	ND		1800	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Methyl methanesulfonate	ND		390	90	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Naphthalene	ND		200	26	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Nitrobenzene	ND		200	22	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1

Client Sample ID: PZ-2022-2 (58.0-62.0)
Date Collected: 04/28/22 10:36
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-3
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	91	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosomethylethylamine	ND		390	90	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosomorpholine	ND		390	87	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosopiperidine	ND		390	79	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Methyl parathion	ND		390	67	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Pentachloronitrobenzene	ND		390	99	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Phenacetin	ND		390	53	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Phenol	ND		200	31	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Phorate	ND		390	110	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Pronamide	ND		390	77	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Pyrene	ND		200	24	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Pyridine	ND		390	28	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Safrole	ND		390	53	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1
Thionazin	ND		390	69	ug/Kg	☼	05/02/22 15:39	05/05/22 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*101*		*54 - 120*	*05/02/22 15:39*	*05/05/22 01:48*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*05/02/22 15:39*	*05/05/22 01:48*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*05/02/22 15:39*	*05/05/22 01:48*	*1*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*	*05/02/22 15:39*	*05/05/22 01:48*	*1*
Phenol-d5 (Surr)	*85*		*54 - 120*	*05/02/22 15:39*	*05/05/22 01:48*	*1*
p-Terphenyl-d14 (Surr)	*108*		*79 - 130*	*05/02/22 15:39*	*05/05/22 01:48*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
4,4'-DDT	2.0 U ~~1.3~~	~~J~~	2.0	0.46	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
cis-Chlordane	ND		2.0	0.98	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
delta-BHC	**0.45**	**J**	2.0	0.37	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1

Client Sample ID: PZ-2022-2 (58.0-62.0)
Date Collected: 04/28/22 10:36
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-3
Matrix: Solid
Percent Solids: 82.4

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Endrin	ND		2.0	0.39	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
Toxaphene	ND		20	12	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	04/29/22 15:53	05/01/22 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*96*		*45 - 120*	*04/29/22 15:53*	*05/01/22 16:36*	*1*
Tetrachloro-m-xylene	*78*		*30 - 124*	*04/29/22 15:53*	*05/01/22 16:36*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	05/03/22 15:49	05/04/22 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*65 - 174*	*05/03/22 15:49*	*05/04/22 16:40*	*1*
Tetrachloro-m-xylene	*130*		*60 - 154*	*05/03/22 15:49*	*05/04/22 16:40*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.4	ug/Kg	☼	05/02/22 08:21	05/05/22 01:09	1
2,4-D	ND		20	13	ug/Kg	☼	05/02/22 08:21	05/05/22 01:09	1
Silvex (2,4,5-TP)	ND		20	7.2	ug/Kg	☼	05/02/22 08:21	05/05/22 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*05/02/22 08:21*	*05/05/22 01:09*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	22	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1
Disulfoton	ND		40	26	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1
Famphur	ND		40	21	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1
Phorate	ND		40	14	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1
Sulfotepp	ND		40	15	ug/Kg	☼	05/04/22 18:44	05/06/22 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*20 - 135*	*05/04/22 18:44*	*05/06/22 12:34*	*1*

Client Sample ID: PZ-2022-2 (58.0-62.0)
Date Collected: 04/28/22 10:36
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-3
Matrix: Solid
Percent Solids: 82.4

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*89*		*20 - 135*	*05/04/22 18:44*	*05/06/22 12:34*	*1*
Triphenylphosphate	*89*		*33 - 168*	*05/04/22 18:44*	*05/06/22 12:34*	*1*
Triphenylphosphate	*93*		*33 - 168*	*05/04/22 18:44*	*05/06/22 12:34*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	6.1 U	~~0.21 J I B~~		6.1	0.043	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,4,6,7,8-HpCDF	ND			6.1	0.055	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,4,7,8,9-HpCDF	ND			6.1	0.062	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,4,7,8-HxCDD	ND			6.1	0.036	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,4,7,8-HxCDF	ND			6.1	0.032	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,6,7,8-HxCDD	ND			6.1	0.034	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,6,7,8-HxCDF	ND			6.1	0.032	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,7,8,9-HxCDD	ND			6.1	0.037	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,7,8,9-HxCDF	ND			6.1	0.037	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,7,8-PeCDD	ND			6.1	0.027	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
1,2,3,7,8-PeCDF	6.1 U	~~0.035 J I B~~		6.1	0.027	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
2,3,4,6,7,8-HxCDF	ND			6.1	0.028	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
2,3,4,7,8-PeCDF		**0.034** ~~J I~~	JNX	6.1	0.020	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
2,3,7,8-TCDD	ND			1.2	0.012	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
2,3,7,8-TCDF	1.2 U	~~0.013 J I B~~		1.2	0.0098	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
OCDD	12 U	~~0.49 J I B~~		12	0.036	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
OCDF	ND			12	0.11	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total HpCDD	6.1 U	~~0.21 J I B~~		6.1	0.043	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total HpCDF	ND			6.1	0.058	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total HxCDD	ND			6.1	0.037	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total HxCDF	ND			6.1	0.037	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total PeCDD	ND			6.1	0.027	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total PeCDF	6.1 U	~~0.069 J I B~~		6.1	0.023	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total TCDD	ND			1.2	0.012	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1
Total TCDF	1.2 U	~~0.013 J I B~~		1.2	0.0098	ng/Kg	☼	05/09/22 15:35	05/10/22 09:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*74*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*69*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*78*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,4,7,8-HxCDD	*73*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*72*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,6,7,8-HxCDF	*76*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,7,8,9-HxCDD	*77*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-2,3,7,8-TCDD	*90*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-2,3,7,8-TCDF	*78*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*
13C-OCDD	*83*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*

Client Sample ID: PZ-2022-2 (58.0-62.0)
Lab Sample ID: 480-197341-3

Date Collected: 04/28/22 10:36
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 82.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*79*		*40 - 135*	*05/09/22 15:35*	*05/10/22 09:41*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.7	0.50	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Arsenic	**6.1**		2.5	0.50	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Barium	**14.1**		0.62	0.14	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Beryllium	**0.25**		0.25	0.035	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Cadmium	**0.051**	**J**	0.25	0.037	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Chromium	**3.4**		0.62	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Cobalt	**6.6**		0.62	0.062	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Copper	**5.0**		1.2	0.26	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Lead	**6.8**		1.2	0.30	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Nickel	**8.6**		6.2	0.29	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Selenium	ND		5.0	0.50	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Silver	ND		0.75	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Thallium	ND		7.5	0.37	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Tin	ND		2.5	0.53	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Vanadium	**3.9**		0.62	0.14	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1
Zinc	**30.4**		2.5	0.80	mg/Kg	☼	05/03/22 15:07	05/11/22 19:02	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.025	0.0059	mg/Kg	☼	05/06/22 08:32	05/06/22 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	05/03/22 14:22	05/03/22 16:52	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.7	11.8	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-2 (59.0)
Lab Sample ID: 480-197341-4

Date Collected: 04/28/22 10:35
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.0	0.60	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,1,1-Trichloroethane	ND		6.0	0.43	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,1,2,2-Tetrachloroethane	ND		6.0	0.97	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,1,2-Trichloroethane	ND		6.0	0.77	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,1-Dichloroethane	ND		6.0	0.73	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,1-Dichloroethene	ND		6.0	0.73	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,2,3-Trichloropropane	ND		6.0	0.61	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,2-Dibromo-3-Chloropropane	ND		6.0	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,2-Dichloroethane	ND		6.0	0.30	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
1,2-Dichloropropane	ND		6.0	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
2-Butanone (MEK)	ND		30	2.2	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
2-Chloro-1,3-butadiene	ND		6.0	3.7	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1

Client Sample ID: PZ-2022-2 (59.0)
Date Collected: 04/28/22 10:35
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-4
Matrix: Solid
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		12	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
2-Hexanone	ND		30	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
3-Chloro-1-propene	ND		6.0	2.9	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
4-Methyl-2-pentanone (MIBK)	ND		30	2.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Acetone	ND		30	5.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Acetonitrile	ND		60	7.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Acrolein	ND		30	9.4	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Acrylonitrile	ND		30	5.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Benzene	ND		6.0	0.29	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Bromoform	ND		6.0	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Bromomethane	ND		6.0	0.54	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Carbon disulfide	ND		6.0	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Carbon tetrachloride	ND		6.0	0.58	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Chlorobenzene	ND		6.0	0.79	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Chlorodibromomethane	ND		6.0	0.76	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Chloroethane	ND		6.0	1.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Chloroform	**1.4**	**J**	6.0	0.37	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Chloromethane	ND		6.0	0.36	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
cis-1,3-Dichloropropene	ND		6.0	0.86	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Dibromomethane	ND		6.0	0.61	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Dichlorobromomethane	ND		6.0	0.80	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Dichlorodifluoromethane	ND		6.0	0.49	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Ethyl methacrylate	ND		6.0	2.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Ethylbenzene	ND		6.0	0.41	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Ethylene Dibromide	ND		6.0	0.77	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Iodomethane	ND		6.0	0.29	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Methacrylonitrile	ND		30	7.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Methyl methacrylate	ND		6.0	1.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Methylene Chloride	ND		6.0	2.7	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
m-Xylene & p-Xylene	ND		12	1.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
o-Xylene	ND		6.0	0.78	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Propionitrile	ND		60	33	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Styrene	ND		6.0	0.30	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Tetrachloroethene	ND		6.0	0.80	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Toluene	ND		6.0	0.45	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
trans-1,2-Dichloroethene	ND		6.0	0.61	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
trans-1,3-Dichloropropene	ND		6.0	2.6	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
trans-1,4-Dichloro-2-butene	ND		6.0	1.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Trichloroethene	ND		6.0	1.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Trichlorofluoromethane	ND		6.0	0.56	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Vinyl acetate	ND		12	3.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1
Vinyl chloride	ND		6.0	0.73	ug/Kg	☼	04/29/22 16:00	05/03/22 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*64 - 126*	*04/29/22 16:00*	*05/03/22 21:09*	*1*
4-Bromofluorobenzene (Surr)	*100*		*72 - 126*	*04/29/22 16:00*	*05/03/22 21:09*	*1*
Dibromofluoromethane (Surr)	*108*		*60 - 140*	*04/29/22 16:00*	*05/03/22 21:09*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*04/29/22 16:00*	*05/03/22 21:09*	*1*

Client Sample ID: PZ-2022-2 (75.0-78.0)
Date Collected: 04/28/22 14:57
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-5
Matrix: Solid
Percent Solids: 90.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,3-Dinitrobenzene	ND		360	43	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
1-Naphthylamine	ND		360	120	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,4,5-Trichlorophenol	ND		180	50	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Methylphenol	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Picoline	ND		360	41	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
2-Toluidine	ND		360	88	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
3,3'-Dimethylbenzidine	ND		710	360	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
3-Methylphenol	ND		360	28	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Chloroaniline	ND		180	45	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Methylphenol	ND		360	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Nitroaniline	ND		360	96	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
4-Nitroquinoline-1-oxide	ND		710	360	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Acenaphthene	ND		180	27	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1

Client Sample ID: PZ-2022-2 (75.0-78.0)
Lab Sample ID: 480-197341-5

Date Collected: 04/28/22 14:57
Matrix: Solid

Date Received: 04/29/22 10:00
Percent Solids: 90.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	24	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Acetophenone	ND		180	25	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Aniline	ND		360	44	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Anthracene	ND		180	45	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Aramite, Total	ND		360	170	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzidine	ND		5400	2300	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Bis(2-ethylhexyl) phthalate	ND		180	63	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Chrysene	ND		180	41	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Diallate	ND		360	45	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Dibenzofuran	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Dimethoate	ND		360	44	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Dimethyl phthalate	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Dinoseb	ND		360	64	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Diphenylamine	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Disulfoton	ND		360	270	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Chlorobenzilate	ND		360	57	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
~~Famphur~~	~~ND~~	~~*-~~	~~710~~	~~170~~	~~ug/Kg~~	~~☼~~	~~05/02/22 15:39~~	~~05/05/22 02:12~~	R 1
Fluoranthene	ND		180	19	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Fluorene	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Hexachloroethane	ND		180	24	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Hexachloropropene	ND		360	91	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Indeno[1,2,3-cd]pyrene	ND		180	23	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Isodrin	ND		360	63	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Isophorone	ND		180	39	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Isosafrole	ND		360	48	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Kepone	ND		710	360	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Methapyrilene	ND		1600	360	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Methyl methanesulfonate	ND		360	82	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Naphthalene	ND		180	24	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Nitrobenzene	ND		180	21	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1

Client Sample ID: PZ-2022-2 (75.0-78.0)
Lab Sample ID: 480-197341-5

Date Collected: 04/28/22 14:57
Matrix: Solid

Date Received: 04/29/22 10:00
Percent Solids: 90.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	83	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosodi-n-butylamine	ND		360	97	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosomethylethylamine	ND		360	82	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosomorpholine	ND		360	80	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Methyl parathion	ND		360	62	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Pentachlorophenol	ND	~~*+~~	360	180	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Phenacetin	ND		360	49	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Phenanthrene	ND		180	27	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Phenol	ND		180	28	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Phorate	ND		360	98	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
p-Phenylene diamine	ND		870	360	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Pronamide	ND		360	70	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Pyrene	ND		180	22	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Pyridine	ND		360	26	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Safrole	ND		360	49	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Sulfotepp	ND		360	57	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1
Thionazin	ND		360	63	ug/Kg	☼	05/02/22 15:39	05/05/22 02:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*94*		*54 - 120*	*05/02/22 15:39*	*05/05/22 02:12*	*1*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*05/02/22 15:39*	*05/05/22 02:12*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*05/02/22 15:39*	*05/05/22 02:12*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*05/02/22 15:39*	*05/05/22 02:12*	*1*
Phenol-d5 (Surr)	*78*		*54 - 120*	*05/02/22 15:39*	*05/05/22 02:12*	*1*
p-Terphenyl-d14 (Surr)	*97*		*79 - 130*	*05/02/22 15:39*	*05/05/22 02:12*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
4,4'-DDT	1.8 U	~~0.91 J~~	1.8	0.43	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Chlordane (technical)	ND		18	4.1	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
cis-Chlordane	ND		1.8	0.91	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1

Client Sample ID: PZ-2022-2 (75.0-78.0)
Date Collected: 04/28/22 14:57
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-5
Matrix: Solid
Percent Solids: 90.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Endrin aldehyde	ND		1.8	0.47	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
Toxaphene	ND		18	11	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	04/29/22 15:53	05/01/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*45 - 120*	*04/29/22 15:53*	*05/01/22 16:56*	*1*
Tetrachloro-m-xylene	*75*		*30 - 124*	*04/29/22 15:53*	*05/01/22 16:56*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1
PCB-1254	ND		0.21	0.098	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1
PCB-1260	ND		0.21	0.098	mg/Kg	☼	05/03/22 15:49	05/04/22 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*65 - 174*	*05/03/22 15:49*	*05/04/22 16:53*	*1*
Tetrachloro-m-xylene	*133*		*60 - 154*	*05/03/22 15:49*	*05/04/22 16:53*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.8	ug/Kg	☼	05/02/22 08:21	05/05/22 19:52	1
2,4-D	ND		18	11	ug/Kg	☼	05/02/22 08:21	05/05/22 19:52	1
Silvex (2,4,5-TP)	ND		18	6.5	ug/Kg	☼	05/02/22 08:21	05/05/22 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*05/02/22 08:21*	*05/05/22 19:52*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	F2	36	20	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1
Disulfoton	ND		36	24	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1
Famphur	ND		36	19	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1
Methyl parathion	ND		36	21	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1
Phorate	ND		36	12	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/04/22 18:44	05/06/22 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*20 - 135*	*05/04/22 18:44*	*05/06/22 10:59*	*1*

Client Sample ID: PZ-2022-2 (75.0-78.0)
Date Collected: 04/28/22 14:57
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-5
Matrix: Solid
Percent Solids: 90.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*86*		*20 - 135*	*05/04/22 18:44*	*05/06/22 10:59*	*1*
Triphenylphosphate	*93*		*33 - 168*	*05/04/22 18:44*	*05/06/22 10:59*	*1*
Triphenylphosphate	*99*		*33 - 168*	*05/04/22 18:44*	*05/06/22 10:59*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.5 U	~~0.21 J B~~		5.5	0.040	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,4,6,7,8-HpCDF	ND			5.5	0.019	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,4,7,8,9-HpCDF	ND			5.5	0.022	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,4,7,8-HxCDD	ND			5.5	0.0098	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,4,7,8-HxCDF	5.5 U	~~0.019 J I B~~		5.5	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,6,7,8-HxCDD	ND			5.5	0.0093	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,6,7,8-HxCDF	ND			5.5	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,7,8,9-HxCDD	5.5 U	~~0.016 J I B~~		5.5	0.0099	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,7,8,9-HxCDF	ND			5.5	0.012	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,7,8-PeCDD	ND			5.5	0.015	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
1,2,3,7,8-PeCDF	5.5 U	~~0.035 J B~~		5.5	0.012	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
2,3,4,6,7,8-HxCDF	ND			5.5	0.0097	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
2,3,4,7,8-PeCDF	0.014	~~J I~~	JNX	5.5	0.0092	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
2,3,7,8-TCDD	ND			1.1	0.012	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
2,3,7,8-TCDF	1.1 U	~~0.015 J I B~~		1.1	0.0067	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
OCDD	11 U	~~1.3 J B~~		11	0.020	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
OCDF	11 U	~~0.14 J I B~~		11	0.020	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total HpCDD	5.5 U	~~0.21 J B~~		5.5	0.040	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total HpCDF	ND			5.5	0.020	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total HxCDD	5.5 U	~~0.016 J I B~~		5.5	0.0097	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total HxCDF	5.5 U	~~0.019 J I B~~		5.5	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total PeCDD	ND			5.5	0.015	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total PeCDF	5.5 U	~~0.049 J I B~~		5.5	0.011	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total TCDD	ND			1.1	0.012	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1
Total TCDF	1.1 U	~~0.015 J I B~~		1.1	0.0067	ng/Kg	☼	05/09/22 15:35	05/10/22 10:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,6,7,8-HxCDF	*83*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,7,8,9-HxCDD	*84*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,7,8-PeCDD	*86*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-2,3,7,8-TCDD	*94*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-2,3,7,8-TCDF	*82*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*
13C-OCDD	*98*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*

Client Sample ID: PZ-2022-2 (75.0-78.0)
Lab Sample ID: 480-197341-5

Date Collected: 04/28/22 14:57
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 90.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*91*		*40 - 135*	*05/09/22 15:35*	*05/10/22 10:29*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.3	0.46	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Arsenic	**2.3**		2.3	0.46	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Barium	**14.0**		0.58	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Beryllium	**0.20**	**J**	0.23	0.032	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Cadmium	**0.054**	**J**	0.23	0.035	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Chromium	**4.7**		0.58	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Cobalt	**4.0**		0.58	0.058	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Copper	**5.4**		1.2	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Lead	**4.8**		1.2	0.28	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Nickel	**7.6**		5.8	0.27	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Selenium	ND		4.6	0.46	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Silver	ND		0.69	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Thallium	ND		6.9	0.35	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Tin	**0.59**	**J**	2.3	0.50	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Vanadium	**5.5**		0.58	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1
Zinc	**22.0**		2.3	0.74	mg/Kg	☼	05/03/22 15:07	05/11/22 19:06	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0053	mg/Kg	☼	05/06/22 08:32	05/06/22 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.49	mg/Kg	☼	05/03/22 14:22	05/03/22 16:54	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.9	11.9	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-2 (76.0)
Lab Sample ID: 480-197341-6

Date Collected: 04/28/22 14:56
Matrix: Solid
Date Received: 04/29/22 10:00
Percent Solids: 80.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.46	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,1,1-Trichloroethane	ND		4.6	0.34	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,1,2,2-Tetrachloroethane	ND		4.6	0.75	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,1,2-Trichloroethane	ND		4.6	0.60	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,1-Dichloroethane	ND		4.6	0.57	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,1-Dichloroethene	ND		4.6	0.57	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,2,3-Trichloropropane	ND		4.6	0.47	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,2-Dibromo-3-Chloropropane	ND		4.6	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,2-Dichloroethane	ND		4.6	0.23	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
1,2-Dichloropropane	ND		4.6	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
2-Chloro-1,3-butadiene	ND		4.6	2.9	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1

Client Sample ID: PZ-2022-2 (76.0)
Date Collected: 04/28/22 14:56
Date Received: 04/29/22 10:00

Lab Sample ID: 480-197341-6
Matrix: Solid
Percent Solids: 80.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		9.3	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
3-Chloro-1-propene	ND		4.6	2.2	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Acetone	ND		23	3.9	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Acetonitrile	ND		46	5.7	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Acrolein	ND		23	7.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Acrylonitrile	ND		23	4.2	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Benzene	ND		4.6	0.23	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Bromoform	ND		4.6	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Bromomethane	ND		4.6	0.42	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Carbon disulfide	ND		4.6	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Carbon tetrachloride	ND		4.6	0.45	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Chlorobenzene	ND		4.6	0.61	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Chlorodibromomethane	ND		4.6	0.59	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Chloroethane	ND		4.6	1.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Chloroform	**0.45**	**J**	4.6	0.29	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Chloromethane	ND		4.6	0.28	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
cis-1,3-Dichloropropene	ND		4.6	0.67	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Dibromomethane	ND		4.6	0.48	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Dichlorobromomethane	ND		4.6	0.62	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Dichlorodifluoromethane	ND		4.6	0.38	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Ethyl methacrylate	ND		4.6	1.6	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Ethylbenzene	ND		4.6	0.32	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Ethylene Dibromide	ND		4.6	0.60	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Iodomethane	ND		4.6	0.23	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Methacrylonitrile	ND		23	5.5	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Methyl methacrylate	ND		4.6	0.97	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Methylene Chloride	ND		4.6	2.1	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
m-Xylene & p-Xylene	ND		9.3	0.78	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
o-Xylene	ND		4.6	0.61	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Propionitrile	ND		46	26	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Styrene	ND		4.6	0.23	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Tetrachloroethene	ND		4.6	0.62	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Toluene	ND		4.6	0.35	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
trans-1,2-Dichloroethene	ND		4.6	0.48	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
trans-1,3-Dichloropropene	ND		4.6	2.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
trans-1,4-Dichloro-2-butene	ND		4.6	1.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Trichloroethene	ND		4.6	1.0	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Trichlorofluoromethane	ND		4.6	0.44	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Vinyl acetate	ND		9.3	2.3	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1
Vinyl chloride	ND		4.6	0.57	ug/Kg	☼	04/29/22 16:00	05/03/22 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*64 - 126*	*04/29/22 16:00*	*05/03/22 21:34*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/29/22 16:00*	*05/03/22 21:34*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*	*04/29/22 16:00*	*05/03/22 21:34*	*1*
Toluene-d8 (Surr)	*91*		*71 - 125*	*04/29/22 16:00*	*05/03/22 21:34*	*1*

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-197287-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47568R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Laboratory Control Sample Analysis 8
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 9
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 10
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 Compound Identification 11
5.3 System Performance and Overall Assessment 12
5.4 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 13
6.3 Compound Identification 15
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Metals Analyses 16
7.1 Holding Times 16
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 17
8 General Chemistry Analyses 17

8.1 Holding Times 17
8.2 System Performance and Overall Assessment 17
8.3 Data Validation Checklist for General Chemistry 18
9 Overall Data Usability 18

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 7. Laboratory Control Sample Criteria and Qualifications 9
Table 8. Holding Time for Method SW-846 8082A 10
Table 9. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 10. Dual Column Analysis Exhibiting RPD Outside the Control Limit 11
Table 11. Evaluation Criteria for Dual Column Analysis RPD 12
Table 12. Holding Time for Method SW-846 8290A 13
Table 13. Summary of Blank Contamination Qualifications 13
Table 14. Holding Time for Method SW-846 6010C/7471B 16
Table 15. Specified Holding Times 17
Table 16. Overall Summary of Data Usability 18

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197287-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
PZ-2022-2 (0.0-0.1)	480-197287-1	Soil	04/27/22			X	X	X	X	X
PZ02022-2 (0.5)	480-197287-2	Soil	04/27/22		X					
PZ-2022-2 (12.0-16.0)	480-197287-3	Soil	04/27/22			X	X	X	X	X
PZ-2022-2 (14.0)	480-197287-4	Soil	04/27/22		X					
PZ-2022-2 (26.0-30.0)	480-197287-5	Soil	04/27/22			X	X	X	X	X
PZ-2022-2 (29.0)	480-197287-6	Soil	04/27/22		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	3	0	0	0	0	0	3
SVOCs	3	0	0	0	0	0	3
PCBs	3	0	0	0	0	0	3
PEST	3	0	0	0	0	0	3
HERB	3	0	0	0	0	0	3
PCDD/PCDF	3	0	0	0	0	0	3
Metals	3	0	0	0	0	0	3
MISC	3	0	0	0	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits with the exceptions noted in the table below.

Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compound	LCS Recovery
PZ-2022-2 (0.0-0.1) PZ-2022-2 (12.0-16.0) PZ-2022-2 (26.0-30.0)	Famphur	< 10%
	p-Phenylene diamine	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 7. Laboratory Control Sample Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate (LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
System performance and column resolution		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and column resolution		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

5.2 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Table 10. Dual Column Analysis Exhibiting RPD Outside the Control Limit

Sample ID	Compound	RPD
PZ-2022-2 (26.0-30.0)	4,4'-DDT	81.1%

The criteria used to evaluate the RPD are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 11. Evaluation Criteria for Dual Column Analysis RPD

Control Limit (RPD)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (PCB sample results less than the RL)	U

When the sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide/herbicide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
System performance and column resolution		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
PZ-2022-2 (0.0-0.1)	1,2,3,4,7,8-HxCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,6,7,8-HxCDD		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		

Sample ID	Compounds	Sample Result	Qualification
	OCDF		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
PZ-2022-2 (12.0-16.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	OCDD		
	OCDF		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		
PZ-2022-2 (26.0-30.0)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8,9-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,4,7,8-HxCDF		
	1,2,3,6,7,8-HxCDD		
	1,2,3,6,7,8-HxCDF		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8,9-HxCDF		
	1,2,3,7,8-PeCDF		
	2,3,4,6,7,8-HxCDF		
	2,3,4,7,8-PeCDF		
	OCDD		
	OCDF		

Sample ID	Compounds	Sample Result	Qualification
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total HxCDF		
	Total PeCDF		

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 15. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 16. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	6
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality.

These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Hrishikesh Upadhyaya

SIGNATURE: 

DATE: November 16, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 16, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Richard McDermott	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 551-237-1409	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 3
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
PZ-2022-2 (0.0-1.0)	4-27-2022	1325	C	S			X	X	X	X										4	
PZ-2022-2 (0.5)	4-27-2022	1324	G	S							X									4	
PZ-2022-2 (12.0-16.0)	4-27-2022	1502	C	S			X	X	X	X										4	
PZ-2022-2 (14.0)	4-27-2022	1501	G	S							X									4	
PZ-2022-2 (26.0-30.0)	4-27-2022	1557	C	S			X	X	X	X										4	
PZ-2022-2 (29.0)	4-27-2022	1556	G	S							X									4	



Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, (IV) Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	4-27-2022 1612	ARA	[signature]	4/28/22 1000	TAB
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 3.0

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Environment Testing America

480-197287 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-197287-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/11/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-2 (0.0-0.1) (480-197287-1)	4/27/22	13:25 Eastern		Solid			X	1	
PZ-2022-2 (12.0-16.0) (480-197287-3)	4/27/22	15:02 Eastern		Solid			X	1	
PZ-2022-2 (26.0-30.0) (480-197287-5)	4/27/22	15:57 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4-28-22 1700	TAB	[signature]	4.29.22	[illegible]
2	Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company 5'1C

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71657.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-197287-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/11/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PZ-2022-2 (0.0-0.1) (480-197287-1)	4/27/22	13:25 Eastern		Solid			X	1	
PZ-2022-2 (12.0-16.0) (480-197287-3)	4/27/22	15:02 Eastern		Solid			X	1	
PZ-2022-2 (26.0-30.0) (480-197287-5)	4/27/22	15:57 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4-28-22 1700	TAB			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 4/29/22 1057	Company ELET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.1

Ver: 06/08/2021

Client Sample ID: PZ-2022-2 (0.0-0.1)
Lab Sample ID: 480-197287-1

Date Collected: 04/27/22 13:25
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 91.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,4,5-Trichlorophenol	ND		180	50	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,4-Dichlorophenol	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,4-Dimethylphenol	ND		180	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Methylphenol	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Picoline	ND		360	41	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
2-Toluidine	ND		360	88	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Aminobiphenyl	ND	*	360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Chloro-3-methylphenol	ND		180	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Chloroaniline	ND		180	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Acenaphthene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1

Client Sample ID: PZ-2022-2 (0.0-0.1)
Lab Sample ID: 480-197287-1

Date Collected: 04/27/22 13:25
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 91.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Acetophenone	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Aniline	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Anthracene	ND		180	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzidine	ND		5400	2300	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzo[g,h,i]perylene	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Bis(2-ethylhexyl) phthalate	ND		180	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Chrysene	ND		180	41	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Diallate	ND		360	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Dibenz(a,h)anthracene	ND		180	33	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Dibenzofuran	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Diethyl phthalate	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Dimethoate	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Dimethyl phthalate	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Di-n-butyl phthalate	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Dinoseb	ND		360	64	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Disulfoton	ND		360	270	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Famphur	ND	*-	720	170	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	R 1
Fluoranthene	ND		180	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Fluorene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Hexachlorobenzene	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Hexachloroethane	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Hexachloropropene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Indeno[1,2,3-cd]pyrene	ND		180	23	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Isodrin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Isophorone	ND		180	39	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Isosafrole	ND		360	48	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Kepone	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Naphthalene	ND		180	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Nitrobenzene	ND		180	21	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1

Client Sample ID: PZ-2022-2 (0.0-0.1)
Date Collected: 04/27/22 13:25
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-1
Matrix: Solid
Percent Solids: 91.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosodi-n-propylamine	ND		180	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosomorpholine	ND		360	81	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Methyl parathion	ND		360	62	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Pentachlorophenol	ND	*+	360	180	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Phenacetin	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Phenanthrene	ND		180	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Phenol	ND		180	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Phorate	ND		360	99	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
p-Phenylene diamine	ND	*-	870	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Pyrene	ND		180	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Pyridine	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Safrole	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1
Thionazin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*04/28/22 16:09*	*05/04/22 21:00*	*1*
2-Fluorobiphenyl (Surr)	*87*		*60 - 120*	*04/28/22 16:09*	*05/04/22 21:00*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*04/28/22 16:09*	*05/04/22 21:00*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*04/28/22 16:09*	*05/04/22 21:00*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*04/28/22 16:09*	*05/04/22 21:00*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*04/28/22 16:09*	*05/04/22 21:00*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
4,4'-DDT	ND		1.8	0.42	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Chlorobenzilate	ND		18	6.0	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
cis-Chlordane	ND		1.8	0.89	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1

Client Sample ID: PZ-2022-2 (0.0-0.1)
Date Collected: 04/27/22 13:25
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-1
Matrix: Solid
Percent Solids: 91.4

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
Toxaphene	ND		18	10	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	04/29/22 15:00	05/01/22 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*45 - 120*	*04/29/22 15:00*	*05/01/22 14:39*	*1*
Tetrachloro-m-xylene	*72*		*30 - 124*	*04/29/22 15:00*	*05/01/22 14:39*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.19	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1
PCB-1221	ND		0.19	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1
PCB-1232	ND		0.19	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1
PCB-1242	ND		0.19	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1
PCB-1248	ND		0.19	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1
PCB-1254	ND		0.19	0.091	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1
PCB-1260	ND		0.19	0.091	mg/Kg	☼	04/28/22 16:24	04/29/22 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*65 - 174*	*04/28/22 16:24*	*04/29/22 14:19*	*1*
Tetrachloro-m-xylene	*110*		*60 - 154*	*04/28/22 16:24*	*04/29/22 14:19*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.8	ug/Kg	☼	05/02/22 08:21	05/04/22 23:11	1
2,4-D	ND		18	11	ug/Kg	☼	05/02/22 08:21	05/04/22 23:11	1
Silvex (2,4,5-TP)	ND		18	6.5	ug/Kg	☼	05/02/22 08:21	05/04/22 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*71*		*28 - 129*	*05/02/22 08:21*	*05/04/22 23:11*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1
Disulfoton	ND	~~F2 F1~~	36	24	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1
Famphur	ND		36	19	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1
Methyl parathion	ND		36	20	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1
Phorate	ND		36	12	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1
Sulfotepp	ND		36	14	ug/Kg	☼	04/29/22 22:02	05/04/22 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*104*		*20 - 135*	*04/29/22 22:02*	*05/04/22 17:09*	*1*

Client Sample ID: PZ-2022-2 (0.0-0.1)
Date Collected: 04/27/22 13:25
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-1
Matrix: Solid
Percent Solids: 91.4

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*104*		*20 - 135*	*04/29/22 22:02*	*05/04/22 17:09*	*1*
Triphenylphosphate	*112*		*33 - 168*	*04/29/22 22:02*	*05/04/22 17:09*	*1*
Triphenylphosphate	*118*		*33 - 168*	*04/29/22 22:02*	*05/04/22 17:09*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD		**2.4**	**J B**		5.5	0.040	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,4,6,7,8-HpCDF		**0.56**	**J B**		5.5	0.0033	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,4,7,8,9-HpCDF		ND			5.5	0.0046	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,4,7,8-HxCDD	5.5 U	**0.17**	**J I B**		5.5	0.0054	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,4,7,8-HxCDF		**0.18**	**J B**		5.5	0.029	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,6,7,8-HxCDD	5.5 U	**0.083**	**J I B**		5.5	0.0052	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,6,7,8-HxCDF		ND			5.5	0.026	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,7,8,9-HxCDD	5.5 U	**0.20**	**J B**		5.5	0.0056	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,7,8,9-HxCDF		**0.18**	**J B**		5.5	0.029	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,7,8-PeCDD		**0.048**	**J I**	JNX	5.5	0.016	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
1,2,3,7,8-PeCDF	5.5 U	**0.10**	**J I B**		5.5	0.013	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
2,3,4,6,7,8-HxCDF	5.5 U	**0.11**	**J I B**		5.5	0.025	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
2,3,4,7,8-PeCDF		**0.15**	**J I B**	JNX	5.5	0.011	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
2,3,7,8-TCDD		ND			1.1	0.0082	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
2,3,7,8-TCDF		ND			1.1	0.0056	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
OCDD		**18**	**B**		11	0.050	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
OCDF	11 U	**1.6**	**J I B**		11	0.010	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total HpCDD		**2.4**	**J B**		5.5	0.040	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total HpCDF	5.5 U	**0.56**	**J B**		5.5	0.0040	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total HxCDD	5.5 U	**0.45**	**J I B**		5.5	0.0054	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total HxCDF	5.5 U	**0.47**	**J I B**		5.5	0.027	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total PeCDD		**0.048**	**J I**	JNX	5.5	0.016	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total PeCDF		**0.25**	**J I B**	JNX	5.5	0.012	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total TCDD		ND			1.1	0.0082	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1
Total TCDF		ND			1.1	0.0056	ng/Kg	☼	05/05/22 15:00	05/09/22 19:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*66*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*60*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*64*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*63*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,7,8,9-HxCDD	*63*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*65*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-2,3,4,7,8-PeCDF	*51*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-2,3,7,8-TCDD	*57*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-2,3,7,8-TCDF	*57*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*
13C-OCDD	*56*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*

Client Sample ID: PZ-2022-2 (0.0-0.1)
Lab Sample ID: 480-197287-1

Date Collected: 04/27/22 13:25
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 91.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*55*		*40 - 135*	*05/05/22 15:00*	*05/09/22 19:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		15.9	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Arsenic	**3.2**		2.1	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Barium	**16.1**		0.53	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Beryllium	**0.23**		0.21	0.030	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Cadmium	**0.047**	**J**	0.21	0.032	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Chromium	**4.9**		0.53	0.21	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Cobalt	**6.1**		0.53	0.053	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Copper	**7.4**		1.1	0.22	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Lead	**7.1**		1.1	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Nickel	**10.1**		5.3	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Selenium	ND		4.2	0.42	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Silver	ND		0.63	0.21	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Thallium	ND		6.3	0.32	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Tin	ND		2.1	0.45	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Vanadium	**6.8**		0.53	0.12	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1
Zinc	**29.6**		2.1	0.68	mg/Kg	☼	05/03/22 15:07	05/11/22 15:06	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0069**	**J**	0.021	0.0048	mg/Kg	☼	05/04/22 09:51	05/04/22 12:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.00010	0.000049	mg/Kg	☼	05/03/22 14:22	05/03/22 17:03	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.0	12.0	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ02022-2 (0.5)
Lab Sample ID: 480-197287-2

Date Collected: 04/27/22 13:24
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.1	0.61	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,1,1-Trichloroethane	ND		6.1	0.44	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,1,2,2-Tetrachloroethane	ND		6.1	0.99	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,1,2-Trichloroethane	ND		6.1	0.80	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,1-Dichloroethane	ND		6.1	0.75	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,1-Dichloroethene	ND		6.1	0.75	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,2,3-Trichloropropane	ND		6.1	0.62	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,2-Dibromo-3-Chloropropane	ND		6.1	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,2-Dichloroethane	ND		6.1	0.31	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
1,2-Dichloropropane	ND		6.1	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
2-Butanone (MEK)	ND		31	2.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
2-Chloro-1,3-butadiene	ND		6.1	3.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1

Client Sample ID: PZ02022-2 (0.5)
Date Collected: 04/27/22 13:24
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-2
Matrix: Solid
Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		12	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
2-Hexanone	ND		31	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
3-Chloro-1-propene	ND		6.1	2.9	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
4-Methyl-2-pentanone (MIBK)	ND		31	2.0	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Acetone	ND		31	5.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Acetonitrile	ND		61	7.5	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Acrolein	ND		31	9.7	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Acrylonitrile	ND		31	5.5	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Benzene	ND		6.1	0.30	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Bromoform	ND		6.1	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Bromomethane	ND		6.1	0.55	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Carbon disulfide	ND		6.1	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Carbon tetrachloride	ND		6.1	0.59	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Chlorobenzene	ND		6.1	0.81	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Chlorodibromomethane	ND		6.1	0.78	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Chloroethane	ND		6.1	1.4	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Chloroform	ND		6.1	0.38	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Chloromethane	ND		6.1	0.37	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
cis-1,3-Dichloropropene	ND		6.1	0.88	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Dibromomethane	ND		6.1	0.63	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Dichlorobromomethane	ND		6.1	0.82	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Dichlorodifluoromethane	ND		6.1	0.51	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Ethyl methacrylate	ND		6.1	2.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Ethylbenzene	ND		6.1	0.42	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Ethylene Dibromide	ND		6.1	0.79	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Iodomethane	ND		6.1	0.30	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Methacrylonitrile	ND		31	7.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Methyl methacrylate	ND		6.1	1.3	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Methylene Chloride	ND		6.1	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
m-Xylene & p-Xylene	ND		12	1.0	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
o-Xylene	ND		6.1	0.80	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Propionitrile	ND		61	34	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Styrene	ND		6.1	0.31	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Tetrachloroethene	ND		6.1	0.82	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Toluene	ND		6.1	0.46	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
trans-1,2-Dichloroethene	ND		6.1	0.63	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
trans-1,3-Dichloropropene	ND		6.1	2.7	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
trans-1,4-Dichloro-2-butene	ND		6.1	1.4	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Trichloroethene	ND		6.1	1.3	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Trichlorofluoromethane	ND		6.1	0.58	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Vinyl acetate	ND		12	3.1	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1
Vinyl chloride	ND		6.1	0.75	ug/Kg	☼	04/28/22 14:00	05/02/22 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*04/28/22 14:00*	*05/02/22 15:18*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/28/22 14:00*	*05/02/22 15:18*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*	*04/28/22 14:00*	*05/02/22 15:18*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*04/28/22 14:00*	*05/02/22 15:18*	*1*

Client Sample ID: PZ-2022-2 (12.0-16.0)
Lab Sample ID: 480-197287-3

Date Collected: 04/27/22 15:02
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 89.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,3,4,6-Tetrachlorophenol	ND		190	38	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,4,5-Trichlorophenol	ND		190	50	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,4,6-Trichlorophenol	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,4-Dinitrotoluene	ND		190	38	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Chloronaphthalene	ND		190	30	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Methylnaphthalene	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Nitrophenol	ND		190	52	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Picoline	ND		360	41	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
2-Toluidine	ND		360	88	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4,6-Dinitro-2-methylphenol	ND		360	190	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Bromophenyl phenyl ether	ND		190	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Chloro-3-methylphenol	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Chloroaniline	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Acenaphthene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1

Client Sample ID: PZ-2022-2 (12.0-16.0)
Lab Sample ID: 480-197287-3

Date Collected: 04/27/22 15:02
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 89.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Acetophenone	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Aniline	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Anthracene	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzidine	ND		5400	2300	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzo[a]pyrene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzo[b]fluoranthene	ND		190	29	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
bis (2-chloroisopropyl) ether	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Bis(2-chloroethoxy)methane	ND		190	39	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Bis(2-ethylhexyl) phthalate	ND		190	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Butyl benzyl phthalate	ND		190	30	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Chrysene	ND		190	41	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Diallate	ND		360	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Dimethoate	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Dinoseb	ND		360	64	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Disulfoton	ND		360	270	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Famphur	ND	*-	720	170	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	R 1
Fluoranthene	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Fluorene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Hexachlorobutadiene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Hexachloroethane	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Hexachloropropene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Isodrin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Isophorone	ND		190	39	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Isosafrole	ND		360	48	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Kepone	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Naphthalene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1

Client Sample ID: PZ-2022-2 (12.0-16.0)
Lab Sample ID: 480-197287-3

Date Collected: 04/27/22 15:02
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 89.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosomorpholine	ND		360	81	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Methyl parathion	ND		360	62	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Pentachlorophenol	ND	*+	360	190	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Phenacetin	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Phenanthrene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Phenol	ND		190	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Phorate	ND		360	99	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
p-Phenylene diamine	ND	*	870	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Pyrene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Pyridine	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Safrole	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1
Thionazin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*04/28/22 16:09*	*05/04/22 21:23*	*1*
2-Fluorobiphenyl (Surr)	*92*		*60 - 120*	*04/28/22 16:09*	*05/04/22 21:23*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*04/28/22 16:09*	*05/04/22 21:23*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*04/28/22 16:09*	*05/04/22 21:23*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*04/28/22 16:09*	*05/04/22 21:23*	*1*
p-Terphenyl-d14 (Surr)	*118*		*79 - 130*	*04/28/22 16:09*	*05/04/22 21:23*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.36	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
4,4'-DDE	ND		1.8	0.39	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
4,4'-DDT	**1.9**		1.8	0.43	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Chlordane (technical)	ND		18	4.1	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Chlorobenzilate	ND		18	6.2	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
cis-Chlordane	ND		1.8	0.92	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1

Client Sample ID: PZ-2022-2 (12.0-16.0)
Date Collected: 04/27/22 15:02
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-3
Matrix: Solid
Percent Solids: 89.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Endrin aldehyde	**0.62**	**J**	1.8	0.47	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Methoxychlor	ND		1.8	0.38	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
Toxaphene	ND		18	11	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1
trans-Chlordane	ND		1.8	0.59	ug/Kg	☼	04/29/22 15:00	05/01/22 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*04/29/22 15:00*	*05/01/22 15:38*	*1*
Tetrachloro-m-xylene	*66*		*30 - 124*	*04/29/22 15:00*	*05/01/22 15:38*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.046	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1
PCB-1221	ND		0.24	0.046	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1
PCB-1232	ND		0.24	0.046	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1
PCB-1242	ND		0.24	0.046	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1
PCB-1248	ND		0.24	0.046	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	04/28/22 16:24	04/29/22 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*101*		*65 - 174*	*04/28/22 16:24*	*04/29/22 15:51*	*1*
Tetrachloro-m-xylene	*114*		*60 - 154*	*04/28/22 16:24*	*04/29/22 15:51*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	05/02/22 08:21	05/04/22 23:41	1
2,4-D	ND		18	12	ug/Kg	☼	05/02/22 08:21	05/04/22 23:41	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	05/02/22 08:21	05/04/22 23:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*05/02/22 08:21*	*05/04/22 23:41*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1
Disulfoton	ND		37	24	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1
Famphur	ND		37	20	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1
Methyl parathion	ND		37	21	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1
Ethyl Parathion	ND		37	20	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1
Phorate	ND		37	12	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1
Sulfotepp	ND		37	14	ug/Kg	☼	04/29/22 22:02	05/04/22 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*119*		*20 - 135*	*04/29/22 22:02*	*05/04/22 18:44*	*1*

Client Sample ID: PZ-2022-2 (12.0-16.0)
Lab Sample ID: 480-197287-3

Date Collected: 04/27/22 15:02
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 89.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*119*		*20 - 135*	*04/29/22 22:02*	*05/04/22 18:44*	*1*
Triphenylphosphate	*126*		*33 - 168*	*04/29/22 22:02*	*05/04/22 18:44*	*1*
Triphenylphosphate	*131*		*33 - 168*	*04/29/22 22:02*	*05/04/22 18:44*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.5 U	~~0.65~~	~~J I B~~		5.5	0.024	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,4,6,7,8-HpCDF	5.5 U	~~0.20~~	~~J B~~		5.5	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,4,7,8,9-HpCDF	5.5 U	~~0.036~~	~~J I B~~		5.5	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,4,7,8-HxCDD		ND			5.5	0.0075	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,4,7,8-HxCDF	5.5 U	~~0.033~~	~~J I B~~		5.5	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,6,7,8-HxCDD	5.5 U	~~0.047~~	~~J I B~~		5.5	0.0073	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,6,7,8-HxCDF	5.5 U	~~0.037~~	~~J I B~~		5.5	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,7,8,9-HxCDD	5.5 U	~~0.029~~	~~J I B~~		5.5	0.0083	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,7,8,9-HxCDF	5.5 U	~~0.020~~	~~J I B~~		5.5	0.0090	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,7,8-PeCDD		ND			5.5	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
1,2,3,7,8-PeCDF	5.5 U	~~0.043~~	~~J I B~~		5.5	0.0097	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
2,3,4,6,7,8-HxCDF	5.5 U	~~0.018~~	~~J B~~		5.5	0.0070	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
2,3,4,7,8-PeCDF		ND			5.5	0.0068	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
2,3,7,8-TCDD		ND			1.1	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
2,3,7,8-TCDF		0.013	~~J I~~	JNX	1.1	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
OCDD	11 U	~~1.9~~	~~J B~~		11	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
OCDF	11 U	~~0.83~~	~~J B~~		11	0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total HpCDD	5.5 U	~~0.65~~	~~J I B~~		5.5	0.024	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total HpCDF	5.5 U	~~0.24~~	~~J I B~~		5.5	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total HxCDD	5.5 U	~~0.076~~	~~J I B~~		5.5	0.0077	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total HxCDF	5.5 U	~~0.11~~	~~J I B~~		5.5	0.0079	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total PeCDD		ND			5.5	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total PeCDF	5.5 U	~~0.043~~	~~J I B~~		5.5	0.0083	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total TCDD		ND			1.1	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1
Total TCDF		0.013	~~J I~~	JNX	1.1	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 00:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*70*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,4,7,8-HxCDD	*70*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,7,8,9-HxCDD	*69*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,7,8,9-HxCDF	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-2,3,4,6,7,8-HxCDF	*67*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-2,3,7,8-TCDD	*82*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*
13C-OCDD	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*

Client Sample ID: PZ-2022-2 (12.0-16.0)
Lab Sample ID: 480-197287-3

Date Collected: 04/27/22 15:02
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 89.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 00:55*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.7	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Arsenic	**3.6**		2.4	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Barium	**15.7**		0.59	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Beryllium	**0.21**	**J**	0.24	0.033	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Cadmium	**0.059**	**J**	0.24	0.035	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Chromium	**4.3**		0.59	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Cobalt	**5.9**		0.59	0.059	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Copper	**8.2**		1.2	0.25	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Lead	**6.4**		1.2	0.28	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Nickel	**10.2**		5.9	0.27	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Selenium	ND		4.7	0.47	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Silver	ND		0.71	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Thallium	ND		7.1	0.35	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Tin	ND		2.4	0.51	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Vanadium	**5.3**		0.59	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1
Zinc	**27.0**		2.4	0.76	mg/Kg	☼	05/03/22 15:07	05/11/22 15:10	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	05/04/22 09:51	05/04/22 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.96	0.47	mg/Kg	☼	05/03/22 14:22	05/03/22 17:04	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.7	11.2	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-2 (14.0)
Lab Sample ID: 480-197287-4

Date Collected: 04/27/22 15:01
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 94.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.5	0.55	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,1,1-Trichloroethane	ND		5.5	0.40	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,1,2,2-Tetrachloroethane	ND		5.5	0.89	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,1,2-Trichloroethane	ND		5.5	0.72	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,1-Dichloroethane	ND		5.5	0.67	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,1-Dichloroethene	ND		5.5	0.67	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,2,3-Trichloropropane	ND		5.5	0.56	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,2-Dibromo-3-Chloropropane	ND		5.5	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,2-Dichloroethane	ND		5.5	0.28	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
1,2-Dichloropropane	ND		5.5	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
2-Butanone (MEK)	ND		28	2.0	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
2-Chloro-1,3-butadiene	ND		5.5	3.4	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1

Client Sample ID: PZ-2022-2 (14.0)
Date Collected: 04/27/22 15:01
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-4
Matrix: Solid
Percent Solids: 94.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		11	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
2-Hexanone	ND		28	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
3-Chloro-1-propene	ND		5.5	2.6	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
4-Methyl-2-pentanone (MIBK)	ND		28	1.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Acetone	ND		28	4.6	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Acetonitrile	ND		55	6.7	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Acrolein	ND		28	8.7	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Acrylonitrile	ND		28	4.9	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Benzene	ND		5.5	0.27	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Bromoform	ND		5.5	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Bromomethane	ND		5.5	0.50	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Carbon disulfide	ND		5.5	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Carbon tetrachloride	ND		5.5	0.53	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Chlorobenzene	ND		5.5	0.73	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Chlorodibromomethane	ND		5.5	0.70	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Chloroethane	ND		5.5	1.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Chloroform	ND		5.5	0.34	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Chloromethane	ND		5.5	0.33	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
cis-1,3-Dichloropropene	ND		5.5	0.79	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Dibromomethane	ND		5.5	0.57	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Dichlorobromomethane	ND		5.5	0.74	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Dichlorodifluoromethane	ND		5.5	0.45	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Ethyl methacrylate	ND		5.5	1.9	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Ethylbenzene	ND		5.5	0.38	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Ethylene Dibromide	ND		5.5	0.71	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Iodomethane	ND		5.5	0.27	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Methacrylonitrile	ND		28	6.5	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Methyl methacrylate	ND		5.5	1.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Methylene Chloride	ND		5.5	2.5	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
m-Xylene & p-Xylene	ND		11	0.92	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
o-Xylene	ND		5.5	0.72	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Propionitrile	ND		55	31	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Styrene	ND		5.5	0.28	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Tetrachloroethene	ND		5.5	0.74	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Toluene	ND		5.5	0.42	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
trans-1,2-Dichloroethene	ND		5.5	0.57	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
trans-1,3-Dichloropropene	ND		5.5	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
trans-1,4-Dichloro-2-butene	ND		5.5	1.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Trichloroethene	ND		5.5	1.2	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Trichlorofluoromethane	ND		5.5	0.52	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Vinyl acetate	ND		11	2.8	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1
Vinyl chloride	ND		5.5	0.67	ug/Kg	☼	04/28/22 14:00	05/02/22 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*04/28/22 14:00*	*05/02/22 15:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*04/28/22 14:00*	*05/02/22 15:42*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*04/28/22 14:00*	*05/02/22 15:42*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*04/28/22 14:00*	*05/02/22 15:42*	*1*

Client Sample ID: PZ-2022-2 (26.0-30.0)
Lab Sample ID: 480-197287-5

Date Collected: 04/27/22 15:57
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 89.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,3-Dinitrobenzene	ND		360	44	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,4-Dioxane	ND		110	60	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1,4-Naphthoquinone	ND		360	68	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
1-Naphthylamine	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,3,4,6-Tetrachlorophenol	ND		190	38	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,4,5-Trichlorophenol	ND		190	50	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,4,6-Trichlorophenol	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,4-Dimethylphenol	ND		190	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,4-Dinitrophenol	ND		1800	860	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,4-Dinitrotoluene	ND		190	38	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,6-Dichlorophenol	ND		360	68	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Acetylaminofluorene	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Chlorophenol	ND		360	34	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Methylnaphthalene	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Methylphenol	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Nitrophenol	ND		190	52	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Picoline	ND		360	41	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
2-Toluidine	ND		360	88	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
3,3'-Dimethylbenzidine	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
3-Methylcholanthrene	ND		360	60	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
3-Methylphenol	ND		360	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4,6-Dinitro-2-methylphenol	ND		360	190	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Bromophenyl phenyl ether	ND		190	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Chloro-3-methylphenol	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Chloroaniline	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Methylphenol	ND		360	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Nitroaniline	ND		360	97	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
4-Nitroquinoline-1-oxide	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Acenaphthene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1

Client Sample ID: PZ-2022-2 (26.0-30.0)
Date Collected: 04/27/22 15:57
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-5
Matrix: Solid
Percent Solids: 89.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Acetophenone	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Aniline	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Anthracene	ND		190	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Aramite, Total	ND		360	170	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzidine	ND		5500	2300	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzo[a]pyrene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzo[b]fluoranthene	ND		190	29	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Benzyl alcohol	ND		360	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
bis (2-chloroisopropyl) ether	ND		190	37	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Bis(2-chloroethoxy)methane	ND		190	39	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Bis(2-chloroethyl)ether	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Bis(2-ethylhexyl) phthalate	ND		190	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Chrysene	ND		190	41	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Diallate	ND		360	46	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Dibenzofuran	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Diethyl phthalate	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Dimethoate	ND		360	45	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Dinoseb	ND		360	64	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Diphenylamine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Disulfoton	ND		360	270	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Chlorobenzilate	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Ethyl methanesulfonate	ND		360	80	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
~~Famphur~~	~~ND~~	~~*-~~	~~720~~	~~170~~	~~ug/Kg~~	~~☼~~	~~04/28/22 16:09~~	~~05/04/22 21:48~~	R 1
Fluoranthene	ND		190	20	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Fluorene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Hexachlorobenzene	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Hexachlorobutadiene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Hexachloroethane	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Hexachloropropene	ND		360	92	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Isodrin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Isophorone	ND		190	39	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Isosafrole	ND		360	48	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Kepone	ND		720	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Methapyrilene	ND		1600	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Methyl methanesulfonate	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Naphthalene	ND		190	24	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Nitrobenzene	ND		190	21	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitro-o-toluidine	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1

Client Sample ID: PZ-2022-2 (26.0-30.0)
Lab Sample ID: 480-197287-5

Date Collected: 04/27/22 15:57
Matrix: Solid

Date Received: 04/28/22 10:00
Percent Solids: 89.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	84	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosodimethylamine	ND		360	79	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosodi-n-butylamine	ND		360	98	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosomethylethylamine	ND		360	83	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosomorpholine	ND		360	81	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosopiperidine	ND		360	73	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
N-Nitrosopyrrolidine	ND		360	55	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
o,o',o''-Triethylphosphorothioate	ND		360	47	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Methyl parathion	ND		360	62	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
p-Dimethylamino azobenzene	ND		360	61	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Pentachloronitrobenzene	ND		360	92	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Pentachlorophenol	ND	*+	360	190	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Phenacetin	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Phenanthrene	ND		190	27	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Phenol	ND		190	28	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Phorate	ND		360	99	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
p-Phenylene diamine	ND	*-	870	360	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	R 1
Pronamide	ND		360	71	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Pyrene	ND		190	22	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Pyridine	ND		360	26	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Safrole	ND		360	49	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Sulfotepp	ND		360	58	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1
Thionazin	ND		360	63	ug/Kg	☼	04/28/22 16:09	05/04/22 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*04/28/22 16:09*	*05/04/22 21:48*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*04/28/22 16:09*	*05/04/22 21:48*	*1*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*04/28/22 16:09*	*05/04/22 21:48*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*04/28/22 16:09*	*05/04/22 21:48*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*04/28/22 16:09*	*05/04/22 21:48*	*1*
p-Terphenyl-d14 (Surr)	*111*		*79 - 130*	*04/28/22 16:09*	*05/04/22 21:48*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
4,4'-DDT	1.8 U	0.90 J	1.8	0.43	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Aldrin	ND		1.8	0.45	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
cis-Chlordane	ND		1.8	0.91	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
delta-BHC	**0.44**	**J**	1.8	0.34	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1

Client Sample ID: PZ-2022-2 (26.0-30.0)
Date Collected: 04/27/22 15:57
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-5
Matrix: Solid
Percent Solids: 89.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Endrin	ND		1.8	0.36	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Endrin aldehyde	ND		1.8	0.47	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
Toxaphene	ND		18	11	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	04/29/22 15:00	05/01/22 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*80*		*45 - 120*	*04/29/22 15:00*	*05/01/22 15:57*	*1*
Tetrachloro-m-xylene	*72*		*30 - 124*	*04/29/22 15:00*	*05/01/22 15:57*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.20	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1
PCB-1221	ND		0.20	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1
PCB-1232	ND		0.20	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1
PCB-1242	ND		0.20	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1
PCB-1248	ND		0.20	0.038	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1
PCB-1254	ND		0.20	0.091	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1
PCB-1260	ND		0.20	0.091	mg/Kg	☼	04/28/22 16:24	04/29/22 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*114*		*65 - 174*	*04/28/22 16:24*	*04/29/22 16:05*	*1*
Tetrachloro-m-xylene	*128*		*60 - 154*	*04/28/22 16:24*	*04/29/22 16:05*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	05/02/22 08:21	05/05/22 00:10	1
2,4-D	ND		18	12	ug/Kg	☼	05/02/22 08:21	05/05/22 00:10	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	05/02/22 08:21	05/05/22 00:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*05/02/22 08:21*	*05/05/22 00:10*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1
Disulfoton	ND		36	24	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1
Famphur	ND		36	19	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1
Methyl parathion	ND		36	21	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1
Phorate	ND		36	12	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1
Sulfotepp	ND		36	14	ug/Kg	☼	04/29/22 22:02	05/04/22 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*111*		*20 - 135*	*04/29/22 22:02*	*05/04/22 19:15*	*1*

Client Sample ID: PZ-2022-2 (26.0-30.0)
Date Collected: 04/27/22 15:57
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-5
Matrix: Solid
Percent Solids: 89.9

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	110		20 - 135	04/29/22 22:02	05/04/22 19:15	1
Triphenylphosphate	120		33 - 168	04/29/22 22:02	05/04/22 19:15	1
Triphenylphosphate	124		33 - 168	04/29/22 22:02	05/04/22 19:15	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte		Result	Qualifier		RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.4 U	~~0.64~~	~~J I B~~		5.4	0.023	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,4,6,7,8-HpCDF	5.4 U	~~0.32~~	~~J B~~		5.4	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,4,7,8,9-HpCDF	5.4 U	~~0.040~~	~~J I B~~		5.4	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,4,7,8-HxCDD	5.4 U	~~0.041~~	~~J B~~		5.4	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,4,7,8-HxCDF	5.4 U	~~0.10~~	~~J B~~		5.4	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,6,7,8-HxCDD	5.4 U	~~0.060~~	~~J B~~		5.4	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,6,7,8-HxCDF	5.4 U	~~0.078~~	~~J I B~~		5.4	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,7,8,9-HxCDD	5.4 U	~~0.061~~	~~J I B~~		5.4	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,7,8,9-HxCDF	5.4 U	~~0.030~~	~~J I B~~		5.4	0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,7,8-PeCDD		0.058	~~J I~~	JNX	5.4	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
1,2,3,7,8-PeCDF	5.4 U	~~0.082~~	~~J I B~~		5.4	0.0092	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
2,3,4,6,7,8-HxCDF	5.4 U	~~0.062~~	~~J I B~~		5.4	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
2,3,4,7,8-PeCDF	5.4 U	~~0.070~~	~~J B~~		5.4	0.0064	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
2,3,7,8-TCDD		0.015	~~J I~~	JNX	1.1	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
2,3,7,8-TCDF		0.034	J		1.1	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
OCDD	11 U	~~2.2~~	~~J B~~		11	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
OCDF	11 U	~~0.97~~	~~J B~~		11	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total HpCDD	5.4 U	~~0.64~~	~~J I B~~		5.4	0.023	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total HpCDF	5.4 U	~~0.36~~	~~J I B~~		5.4	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total HxCDD	5.4 U	~~0.16~~	~~J I B~~		5.4	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total HxCDF	5.4 U	~~0.27~~	~~J I B~~		5.4	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total PeCDD		0.058	~~J I~~	JNX	5.4	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total PeCDF	5.4 U	~~0.15~~	~~J I B~~		5.4	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total TCDD		0.015	~~J I~~	JNX	1.1	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32	1
Total TCDF		0.034	~~J I~~	JNX	1.1	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 02:32 U	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	61		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,4,6,7,8-HpCDF	59		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,4,7,8,9-HpCDF	64		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,4,7,8-HxCDD	64		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,4,7,8-HxCDF	63		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,6,7,8-HxCDD	67		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,6,7,8-HxCDF	66		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,7,8,9-HxCDD	65		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,7,8,9-HxCDF	69		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,7,8-PeCDD	68		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-1,2,3,7,8-PeCDF	63		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-2,3,4,6,7,8-HxCDF	64		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-2,3,4,7,8-PeCDF	68		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-2,3,7,8-TCDD	84		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-2,3,7,8-TCDF	62		40 - 135	05/11/22 11:05	05/13/22 02:32	1
13C-OCDD	73		40 - 135	05/11/22 11:05	05/13/22 02:32	1

Client Sample ID: PZ-2022-2 (26.0-30.0)
Lab Sample ID: 480-197287-5

Date Collected: 04/27/22 15:57
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 89.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDF	*64*		*40 - 135*	*05/11/22 11:05*	*05/13/22 02:32*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.3	0.46	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Arsenic	**2.5**		2.3	0.46	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Barium	**22.2**		0.58	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Beryllium	**0.18**	**J**	0.23	0.032	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Cadmium	**0.053**	**J**	0.23	0.035	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Chromium	**4.1**		0.58	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Cobalt	**4.6**		0.58	0.058	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Copper	**5.7**		1.2	0.24	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Lead	**6.1**		1.2	0.28	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Nickel	**7.5**		5.8	0.27	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Selenium	ND		4.6	0.46	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Silver	ND		0.69	0.23	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Thallium	ND		6.9	0.35	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Tin	ND		2.3	0.50	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Vanadium	**4.8**		0.58	0.13	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1
Zinc	**21.9**		2.3	0.74	mg/Kg	☼	05/03/22 15:07	05/11/22 15:14	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0053	mg/Kg	☼	05/04/22 09:51	05/04/22 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	F1	1.0	0.49	mg/Kg	☼	05/03/22 14:22	05/03/22 17:08	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		19.3	11.0	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: PZ-2022-2 (29.0)
Lab Sample ID: 480-197287-6

Date Collected: 04/27/22 15:56
Matrix: Solid
Date Received: 04/28/22 10:00
Percent Solids: 97.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.77	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,1,2-Trichloroethane	ND		4.7	0.61	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,1-Dichloroethane	ND		4.7	0.58	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,1-Dichloroethene	ND		4.7	0.58	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,2,3-Trichloropropane	ND		4.7	0.48	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,2-Dichloroethane	ND		4.7	0.24	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
1,2-Dichloropropane	ND		4.7	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
2-Butanone (MEK)	ND		24	1.7	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
2-Chloro-1,3-butadiene	ND		4.7	2.9	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1

Client Sample ID: PZ-2022-2 (29.0)
Date Collected: 04/27/22 15:56
Date Received: 04/28/22 10:00

Lab Sample ID: 480-197287-6
Matrix: Solid
Percent Solids: 97.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		9.4	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
3-Chloro-1-propene	ND		4.7	2.3	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.5	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Acetone	ND		24	4.0	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Acetonitrile	ND		47	5.8	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Acrolein	ND		24	7.5	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Acrylonitrile	ND		24	4.2	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Benzene	ND		4.7	0.23	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Bromoform	ND		4.7	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Bromomethane	ND		4.7	0.42	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Carbon disulfide	ND		4.7	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Carbon tetrachloride	ND		4.7	0.46	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Chlorobenzene	ND		4.7	0.62	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Chlorodibromomethane	ND		4.7	0.60	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Chloroform	ND		4.7	0.29	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Chloromethane	ND		4.7	0.29	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
cis-1,3-Dichloropropene	ND		4.7	0.68	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Dibromomethane	ND		4.7	0.49	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Dichlorobromomethane	ND		4.7	0.63	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Ethylbenzene	ND		4.7	0.33	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Ethylene Dibromide	ND		4.7	0.61	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Methacrylonitrile	ND		24	5.6	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Methyl methacrylate	ND		4.7	0.99	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Methylene Chloride	ND		4.7	2.2	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
m-Xylene & p-Xylene	ND		9.4	0.79	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
o-Xylene	ND		4.7	0.62	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Propionitrile	ND		47	26	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Styrene	ND		4.7	0.24	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Tetrachloroethene	ND		4.7	0.63	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Toluene	ND		4.7	0.36	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
trans-1,2-Dichloroethene	ND		4.7	0.49	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Trichlorofluoromethane	ND		4.7	0.45	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Vinyl acetate	ND		9.4	2.4	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1
Vinyl chloride	ND		4.7	0.58	ug/Kg	☼	04/28/22 14:00	05/02/22 16:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*04/28/22 14:00*	*05/02/22 16:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*04/28/22 14:00*	*05/02/22 16:07*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*04/28/22 14:00*	*05/02/22 16:07*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*04/28/22 14:00*	*05/02/22 16:07*	*1*

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-199073-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47590R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Laboratory Control Sample Analysis 8
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 9
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 10
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 System Performance and Overall Assessment 12
5.3 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 12
6.1 Holding Times 12
6.2 Blank Contamination 13
6.3 Compound Identification 14
6.4 System Performance and Overall Assessment 14
6.5 Data Validation Checklist 14
7 Metals Analyses 15
7.1 Holding Times 15
7.2 System Performance and Overall Assessment 15
7.3 Data Validation Checklist 15
8 General Chemistry Analyses 16
8.1 Holding Times 16

8.2 System Performance and Overall Assessment 16
8.3 Data Validation Checklist for General Chemistry 16
9 Overall Data Usability 17

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 6. Holding Time for Method SW-846 8270D 8
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 8. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications 9
Table 9. Holding Time for Method SW-846 8082A 10
Table 10. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 14. Holding Time for Method SW-846 8290A 13
Table 15. Summary of Blank Contamination Qualifications 13
Table 16. Holding Time for Method SW-846 6010C/7471B 15
Table 17. Specified Holding Times 16
Table 18. Overall Summary of Data Usability 17

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199073-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-1 (1)	480-199073-1	Soil	6/15/2022		X					
MW-2022-1 (0-2)	480-199073-2	Soil	6/15/2022			X	X	X	X	X
MW-2022-1 (15)	480-199073-3	Soil	6/15/2022		X					
MW-2022-1 (15-19)	480-199073-4	Soil	6/15/2022			X	X	X	X	X
MW-2022-1 (29)	480-199073-5	Soil	6/15/2022		X					
MW-2022-1 (28-32)	480-199073-6	Soil	6/15/2022			X	X	X	X	X
MW-2022-1 (43)	480-199073-7	Soil	6/15/2022		X					
MW-2022-1 (40-44)	480-199073-8	Soil	6/15/2022			X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	4	0	0	0	0	0	4
SVOCs	4	0	0	0	0	0	4
PCBs	4	0	0	0	0	0	4
PEST	4	0	0	0	0	0	4
HERB	4	0	0	0	0	0	4
PCDD/PCDF	4	0	0	0	0	0	4
Metals	4	0	0	0	0	0	4
MISC	4	0	0	0	0	0	4

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The LCS analysis exhibited acceptable recoveries with the exceptions noted in the table below.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Compounds	LCS Recovery
MW-2022-1 (0-2) MW-2022-1 (15-19) MW-2022-1 (28-32) MW-2022-1 (40-44)	Famphur	< 10%
	p-Phenylene diamine	< 10%

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS / LCSD deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.					

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B / 8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding times are presented in the following table.

Sample ID	Holding Time	Criteria
MW-2022-1 (0-2) MW-2022-1 (15-19) MW-2022-1 (28-32) MW-2022-1 (40-44)	Samples were extracted 9th day from collection	7 days from collection to extraction

Sample results associated with samples analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed greater than two times holding time	J	R

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-1 (0-2)	1,2,3,4,7,8-HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-1 (0-2) MW-2022-1 (40-44)	1,2,3,4,7,8-HxCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-1 (0-2) MW-2022-1 (15-19) MW-2022-1 (28-32)	1,2,3,7,8,9-HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-1 (15-19) MW-2022-1 (28-32) MW-2022-1 (40-44)	OCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-1 (0-2) MW-2022-1 (15-19) MW-2022-1 (28-32) MW-2022-1 (40-44)	OCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-1 (0-2) MW-2022-1 (15-19) MW-2022-1 (28-32)	Total HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
MW-2022-1 (0-2) MW-2022-1 (15-19) MW-2022-1 (40-44)	Total HxCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB – Method blank
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		
System performance and overall assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)					
Atomic Absorption – Manual Cold Vapor (CV)					

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	

9 Overall Data Usability

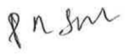
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 18. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	8
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 15, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 16, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: MAT	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: (772) 579-1202	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	N	A	N	D	B	N	N	N	CB	X	
MW-2022-1 (1)	6/15/22	0805	G	S							X									4	
MW-2022-1 (0-2)	" "	0805	" "	" "			X	X	X	X										4	
MW-2022-1 (15)	" "	1015	" "	" "							X									4	
MW-2022-1 (15-19)	" "	1015	" "	" "			X	X	X	X										4	
MW-2022-1 (29)		1110									X									4	
MW-2022-1 (28-32)		1110					X	X	X	X										4	
MW-2022-1 ~~(44)~~ MT (43)		1145									X									4	
MW-2022-1 (40-44)		1145					X	X	X	X										4	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assesse
☐ Return To Client ☒ Disposal

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

480-199073 Chain of Custody

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Mabe [signature]	6/15/22, 1630	ANA	C Wallace	6/16/22 1000	TAB

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.5

Ver: 01/16/2019

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-1 (1)
Lab Sample ID: 480-199073-1

Date Collected: 06/15/22 08:05
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 83.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.3	0.53	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,1,1-Trichloroethane	ND		5.3	0.39	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,1,2,2-Tetrachloroethane	ND		5.3	0.86	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,1,2-Trichloroethane	ND		5.3	0.69	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,1-Dichloroethane	ND		5.3	0.65	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,1-Dichloroethene	ND		5.3	0.65	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,2,3-Trichloropropane	ND		5.3	0.54	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,2-Dibromo-3-Chloropropane	ND		5.3	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,2-Dichloroethane	ND		5.3	0.27	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
1,2-Dichloropropane	ND		5.3	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
2-Butanone (MEK)	ND		27	1.9	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
2-Chloro-1,3-butadiene	ND	*+	5.3	3.3	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
2-Chloroethyl vinyl ether	ND		11	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
2-Hexanone	ND		27	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
3-Chloro-1-propene	ND		5.3	2.5	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
4-Methyl-2-pentanone (MIBK)	ND		27	1.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Acetone	ND		27	4.5	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Acetonitrile	ND		53	6.5	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Acrolein	ND	*+	27	8.4	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Acrylonitrile	ND		27	4.8	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Benzene	ND		5.3	0.26	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Bromoform	ND		5.3	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Bromomethane	ND		5.3	0.48	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Carbon disulfide	ND		5.3	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Carbon tetrachloride	ND		5.3	0.51	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Chlorobenzene	ND		5.3	0.70	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Chlorodibromomethane	ND		5.3	0.68	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Chloroethane	ND		5.3	1.2	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Chloroform	ND		5.3	0.33	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Chloromethane	ND		5.3	0.32	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
cis-1,3-Dichloropropene	ND		5.3	0.76	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Dibromomethane	ND		5.3	0.55	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Dichlorobromomethane	ND		5.3	0.71	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Dichlorodifluoromethane	ND		5.3	0.44	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Ethyl methacrylate	ND		5.3	1.8	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Ethylbenzene	ND		5.3	0.37	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Ethylene Dibromide	ND		5.3	0.68	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Iodomethane	ND		5.3	0.26	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Methacrylonitrile	ND		27	6.3	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Methyl methacrylate	ND		5.3	1.1	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Methylene Chloride	ND		5.3	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
m-Xylene & p-Xylene	ND		11	0.89	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
o-Xylene	ND		5.3	0.69	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Propionitrile	ND		53	30	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Styrene	ND		5.3	0.27	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Tetrachloroethene	ND		5.3	0.71	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Toluene	ND		5.3	0.40	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
trans-1,2-Dichloroethene	ND		5.3	0.55	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
trans-1,3-Dichloropropene	ND		5.3	2.3	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1

Client Sample ID: MW-2022-1 (1)
Lab Sample ID: 480-199073-1
Date Collected: 06/15/22 08:05
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 83.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.3	1.2	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Trichloroethene	ND		5.3	1.2	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Trichlorofluoromethane	ND		5.3	0.50	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Vinyl acetate	ND		11	2.7	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1
Vinyl chloride	ND		5.3	0.65	ug/Kg	☼	06/16/22 13:30	06/17/22 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*06/16/22 13:30*	*06/17/22 00:36*	*1*
4-Bromofluorobenzene (Surr)	*90*		*72 - 126*	*06/16/22 13:30*	*06/17/22 00:36*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*06/16/22 13:30*	*06/17/22 00:36*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*06/16/22 13:30*	*06/17/22 00:36*	*1*

Client Sample ID: MW-2022-1 (0-2)
Lab Sample ID: 480-199073-2
Date Collected: 06/15/22 08:05
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 83.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Methylphenol	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Picoline	ND		390	45	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
2-Toluidine	ND		390	96	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1

Client Sample ID: MW-2022-1 (0-2)
Date Collected: 06/15/22 08:05
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-2
Matrix: Solid
Percent Solids: 83.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
3-Methylphenol	ND		390	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Methylphenol	ND		390	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Acenaphthene	ND		200	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Acenaphthylene	ND		200	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Acetophenone	ND		200	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Aniline	ND		390	49	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Anthracene	ND		200	50	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Aramite, Total	ND		390	190	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzidine	ND		6000	2500	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Chrysene	ND		200	45	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Diallate	ND		390	50	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Dibenzofuran	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Dimethoate	ND		390	49	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Dinoseb	ND		390	70	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Diphenylamine	ND		390	51	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Disulfoton	ND		390	300	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
~~Famphur~~	~~ND~~	~~*-~~	~~790~~	~~190~~	~~ug/Kg~~	~~☼~~	~~06/16/22 15:52~~	~~06/18/22 03:31~~	R 1

Client Sample ID: MW-2022-1 (0-2)
Lab Sample ID: 480-199073-2
Date Collected: 06/15/22 08:05
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 83.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		200	21	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Fluorene	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Hexachloroethane	ND		200	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Hexachloropropene	ND		390	100	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Isodrin	ND		390	69	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Isophorone	ND		200	43	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Isosafrole	ND		390	52	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Kepone	ND		3900	390	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Methapyrilene	ND		1800	390	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Naphthalene	ND		200	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Nitrobenzene	ND		200	23	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Methyl parathion	ND		390	68	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Phenacetin	ND		390	54	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Phenanthrene	ND		200	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Phenol	ND		200	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Phorate	ND		390	110	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
p-Phenylene diamine	ND	*	950	390	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	R 1
Pronamide	ND		390	77	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Pyrene	ND		200	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Pyridine	ND		390	29	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Safrole	ND		390	54	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Sulfotepp	ND		390	63	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1
Thionazin	ND		390	69	ug/Kg	☼	06/16/22 15:52	06/18/22 03:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*06/16/22 15:52*	*06/18/22 03:31*	*1*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*06/16/22 15:52*	*06/18/22 03:31*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*06/16/22 15:52*	*06/18/22 03:31*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*06/16/22 15:52*	*06/18/22 03:31*	*1*

Client Sample ID: MW-2022-1 (0-2)
Date Collected: 06/15/22 08:05
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-2
Matrix: Solid
Percent Solids: 83.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*77*		*54 - 120*	*06/16/22 15:52*	*06/18/22 03:31*	*1*
p-Terphenyl-d14 (Surr)	*112*		*79 - 130*	*06/16/22 15:52*	*06/18/22 03:31*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
cis-Chlordane	ND		2.0	0.99	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Endrin	ND		2.0	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
Toxaphene	ND		20	12	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	06/21/22 15:39	06/22/22 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*102*		*45 - 120*	*06/21/22 15:39*	*06/22/22 14:22*	*1*
DCB Decachlorobiphenyl	*117*		*45 - 120*	*06/21/22 15:39*	*06/22/22 14:22*	*1*
Tetrachloro-m-xylene	*103*		*30 - 124*	*06/21/22 15:39*	*06/22/22 14:22*	*1*
Tetrachloro-m-xylene	*75*		*30 - 124*	*06/21/22 15:39*	*06/22/22 14:22*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	06/16/22 16:09	06/20/22 00:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*104*		*65 - 174*	*06/16/22 16:09*	*06/20/22 00:42*	*1*
DCB Decachlorobiphenyl	*110*		*65 - 174*	*06/16/22 16:09*	*06/20/22 00:42*	*1*
Tetrachloro-m-xylene	*134*		*60 - 154*	*06/16/22 16:09*	*06/20/22 00:42*	*1*
Tetrachloro-m-xylene	*113*		*60 - 154*	*06/16/22 16:09*	*06/20/22 00:42*	*1*

Client Sample ID: MW-2022-1 (0-2)
Date Collected: 06/15/22 08:05
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-2
Matrix: Solid
Percent Solids: 83.4

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	06/22/22 09:44	06/27/22 17:55	1
2,4-D	ND		20	12	ug/Kg	☼	06/22/22 09:44	06/27/22 17:55	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	06/22/22 09:44	06/27/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*63*		*28 - 129*	*06/22/22 09:44*	*06/27/22 17:55*	*1*
2,4-Dichlorophenylacetic acid	*66*		*28 - 129*	*06/22/22 09:44*	*06/27/22 17:55*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	39	22	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1
Disulfoton	ND	H	39	26	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1
Famphur	ND	H	39	21	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1
Methyl parathion	ND	H UJ	39	22	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1
Ethyl Parathion	ND	H	39	22	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1
Phorate	ND	H	39	13	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1
Sulfotepp	ND	H	39	15	ug/Kg	☼	06/24/22 08:17	06/27/22 09:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*20 - 135*	*06/24/22 08:17*	*06/27/22 09:23*	*1*
Tributyl phosphate	*82*		*20 - 135*	*06/24/22 08:17*	*06/27/22 09:23*	*1*
Triphenylphosphate	*89*		*33 - 168*	*06/24/22 08:17*	*06/27/22 09:23*	*1*
Triphenylphosphate	*89*		*33 - 168*	*06/24/22 08:17*	*06/27/22 09:23*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**3.3**	**J**	6.0	0.10	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,4,6,7,8-HpCDF	**0.64**	**J**	6.0	0.015	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,4,7,8,9-HpCDF	ND		6.0	0.021	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,4,7,8-HxCDD	~~0.058~~	~~J I B~~	6.0 U	0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,4,7,8-HxCDF	~~0.18~~	~~J I B~~	6.0 U	0.041	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,6,7,8-HxCDD	**0.17**	~~J I~~ JNX	6.0	0.012	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,6,7,8-HxCDF	**0.16**	~~J I~~ JNX	6.0	0.040	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,7,8,9-HxCDD	~~0.17~~	~~J I B~~	6.0 U	0.012	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,7,8,9-HxCDF	ND		6.0	0.044	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,7,8-PeCDD	ND		6.0	0.031	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
1,2,3,7,8-PeCDF	**0.18**	**J I** JNX	6.0	0.046	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
2,3,4,6,7,8-HxCDF	**0.32**	**J I** JNX	6.0	0.033	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
2,3,4,7,8-PeCDF	**0.16**	**J I** JNX	6.0	0.027	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
2,3,7,8-TCDD	ND		1.2	0.033	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
2,3,7,8-TCDF	**0.13**	~~J I~~ JNX	1.2	0.021	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
OCDD	**24**	~~B~~	12	0.11	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
OCDF	~~1.7~~	~~J B~~	12 U	0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total HpCDD	**3.3**	~~J I~~ JNX	6.0	0.10	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total HpCDF	**0.64**	~~J I~~ JNX	6.0	0.018	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total HxCDD	~~0.40~~	~~J I B~~	6.0 U	0.012	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total HxCDF	~~0.66~~	~~J I B~~	6.0 U	0.040	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total PeCDD	ND		6.0	0.031	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total PeCDF	**0.34**	~~J I~~ JNX	6.0	0.037	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1
Total TCDD	ND		1.2	0.033	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1

Client Sample ID: MW-2022-1 (0-2)
Date Collected: 06/15/22 08:05
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-2
Matrix: Solid
Percent Solids: 83.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	**0.13**	**J I**	1.2	0.021	ng/Kg	☼	06/29/22 13:24	07/02/22 00:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*64*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*72*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,4,7,8-HxCDD	*59*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,4,7,8-HxCDF	*53*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,6,7,8-HxCDF	*60*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,7,8,9-HxCDD	*61*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,7,8,9-HxCDF	*66*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,7,8-PeCDD	*41*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-1,2,3,7,8-PeCDF	*39*	**5-*	*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-2,3,4,7,8-PeCDF	*48*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-2,3,7,8-TCDD	*37*	**5-*	*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-2,3,7,8-TCDF	*36*	**5-*	*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-OCDD	*70*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*
13C-OCDF	*74*		*40 - 135*	*06/29/22 13:24*	*07/02/22 00:36*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.6**	~~J F1~~ J	18.7	0.50	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Arsenic	**5.2**		2.5	0.50	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Barium	**46.4**	~~F1~~	0.62	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Beryllium	**0.52**		0.25	0.035	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Cadmium	ND		0.25	0.037	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Chromium	**13.4**		0.62	0.25	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Cobalt	**8.8**		0.62	0.062	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Copper	**8.4**		1.2	0.26	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Lead	**10.4**		1.2	0.30	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Nickel	**16.3**		6.2	0.29	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Selenium	**0.63**	**J**	5.0	0.50	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Silver	ND		0.75	0.25	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Thallium	ND		7.5	0.37	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Tin	**0.81**	**J**	2.3	0.49	mg/Kg	☼	06/23/22 11:00	06/24/22 19:54	1
Vanadium	**20.6**		0.62	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1
Zinc	**62.8**	~~F1~~	2.5	0.80	mg/Kg	☼	06/20/22 11:02	06/21/22 14:27	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.042**		0.024	0.0056	mg/Kg	☼	06/21/22 09:40	06/21/22 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.10	0.048	mg/Kg	☼	06/17/22 13:30	06/17/22 14:41	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.1	12.6	mg/Kg	☼		06/27/22 12:55	1

Client Sample ID: MW-2022-1 (15)
Date Collected: 06/15/22 10:15
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-3
Matrix: Solid
Percent Solids: 78.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.48	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,1,1-Trichloroethane	ND		4.8	0.35	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,1,2,2-Tetrachloroethane	ND		4.8	0.77	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,1,2-Trichloroethane	ND		4.8	0.62	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,1-Dichloroethane	ND		4.8	0.58	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,1-Dichloroethene	ND		4.8	0.58	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,2,3-Trichloropropane	ND		4.8	0.48	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,2-Dibromo-3-Chloropropane	ND		4.8	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,2-Dichloroethane	ND		4.8	0.24	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
2-Butanone (MEK)	ND		24	1.7	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
2-Chloro-1,3-butadiene	ND		4.8	3.0	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
2-Chloroethyl vinyl ether	ND		9.5	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
3-Chloro-1-propene	ND		4.8	2.3	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Acetone	**4.5**	**J**	24	4.0	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Acetonitrile	ND		48	5.8	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Acrolein	ND		24	7.5	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Acrylonitrile	ND		24	4.3	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Benzene	ND		4.8	0.23	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Bromomethane	ND		4.8	0.43	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Carbon tetrachloride	ND		4.8	0.46	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Chlorobenzene	ND		4.8	0.63	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Chlorodibromomethane	ND		4.8	0.61	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Chloroethane	ND		4.8	1.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Chloroform	ND		4.8	0.29	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Chloromethane	ND		4.8	0.29	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
cis-1,3-Dichloropropene	ND		4.8	0.69	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Dibromomethane	ND		4.8	0.49	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Dichlorobromomethane	ND		4.8	0.64	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Dichlorodifluoromethane	ND		4.8	0.39	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Ethyl methacrylate	ND		4.8	1.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Ethylbenzene	ND		4.8	0.33	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Ethylene Dibromide	ND		4.8	0.61	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Iodomethane	ND		4.8	0.23	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Methacrylonitrile	ND		24	5.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Methyl methacrylate	ND		4.8	1.0	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Methylene Chloride	ND		4.8	2.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
m-Xylene & p-Xylene	ND		9.5	0.80	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
o-Xylene	ND		4.8	0.62	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Propionitrile	ND		48	27	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Styrene	ND		4.8	0.24	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Tetrachloroethene	ND		4.8	0.64	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Toluene	ND		4.8	0.36	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
trans-1,2-Dichloroethene	ND		4.8	0.49	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
trans-1,3-Dichloropropene	ND		4.8	2.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1

Client Sample ID: MW-2022-1 (15)
Lab Sample ID: 480-199073-3

Date Collected: 06/15/22 10:15
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 78.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.8	1.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Trichloroethene	ND		4.8	1.0	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Trichlorofluoromethane	ND		4.8	0.45	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Vinyl acetate	ND		9.5	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1
Vinyl chloride	ND		4.8	0.58	ug/Kg	☼	06/16/22 13:30	06/17/22 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*06/16/22 13:30*	*06/17/22 01:00*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*06/16/22 13:30*	*06/17/22 01:00*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*	*06/16/22 13:30*	*06/17/22 01:00*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*06/16/22 13:30*	*06/17/22 01:00*	*1*

Client Sample ID: MW-2022-1 (15-19)
Lab Sample ID: 480-199073-4

Date Collected: 06/15/22 10:15
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 76.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,2,4-Trichlorobenzene	ND		420	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,2-Dichlorobenzene	ND		420	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,2-Diphenylhydrazine	ND		420	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,3,5-Trinitrobenzene	ND		420	18	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,3-Dichlorobenzene	ND		420	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,3-Dinitrobenzene	ND		420	51	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,4-Dichlorobenzene	ND		420	33	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,4-Dioxane	ND		130	71	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1,4-Naphthoquinone	ND		420	80	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
1-Naphthylamine	ND		420	150	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,3,4,6-Tetrachlorophenol	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,4,5-Trichlorophenol	ND		220	59	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,4,6-Trichlorophenol	ND		220	44	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,4-Dichlorophenol	ND		220	23	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,4-Dimethylphenol	ND		220	53	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,4-Dinitrophenol	ND		2100	1000	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,4-Dinitrotoluene	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,6-Dichlorophenol	ND		420	80	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2,6-Dinitrotoluene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Acetylaminofluorene	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Chloronaphthalene	ND		220	36	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Chlorophenol	ND		420	40	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Methylnaphthalene	ND		220	44	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Methylphenol	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Naphthylamine	ND		420	140	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Nitroaniline	ND		420	32	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Nitrophenol	ND		220	62	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Picoline	ND		420	49	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
2-Toluidine	ND		420	100	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
3 & 4 Methylphenol	ND		420	33	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
3,3'-Dichlorobenzidine	ND		420	260	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1

Client Sample ID: MW-2022-1 (15-19)
Lab Sample ID: 480-199073-4

Date Collected: 06/15/22 10:15
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 76.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		850	420	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
3-Methylcholanthrene	ND		420	71	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
3-Methylphenol	ND		420	33	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
3-Nitroaniline	ND		420	60	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4,6-Dinitro-2-methylphenol	ND		420	220	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Aminobiphenyl	ND		420	89	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Bromophenyl phenyl ether	ND		220	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Chloro-3-methylphenol	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Chloroaniline	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Chlorophenyl phenyl ether	ND		220	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Methylphenol	ND		420	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Nitroaniline	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Nitrophenol	ND		420	150	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
4-Nitroquinoline-1-oxide	ND		850	420	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
7,12-Dimethylbenz(a)anthracene	ND		420	63	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
a,a-Dimethylphenethylamine	ND		420	420	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Acenaphthene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Acenaphthylene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Acetophenone	ND		220	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Aniline	ND		420	53	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Anthracene	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Aramite, Total	ND		420	210	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzidine	ND		6400	2700	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzo[a]anthracene	ND		220	22	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzo[a]pyrene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzo[b]fluoranthene	ND		220	35	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzo[g,h,i]perylene	ND		220	23	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzo[k]fluoranthene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Benzyl alcohol	ND		420	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
bis (2-chloroisopropyl) ether	ND		220	44	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Bis(2-chloroethoxy)methane	ND		220	46	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Bis(2-chloroethyl)ether	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Bis(2-ethylhexyl) phthalate	ND		220	74	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Butyl benzyl phthalate	ND		220	36	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Chrysene	ND		220	49	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Diallate	ND		420	54	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Dibenz(a,h)anthracene	ND		220	38	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Dibenzofuran	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Diethyl phthalate	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Dimethoate	ND		420	53	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Dimethyl phthalate	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Di-n-butyl phthalate	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Di-n-octyl phthalate	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Dinoseb	ND		420	76	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Diphenylamine	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Disulfoton	ND		420	320	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Chlorobenzilate	ND		420	68	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Ethyl methanesulfonate	ND		420	94	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1
Famphur	ND	*	850	210	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	R 1

Client Sample ID: MW-2022-1 (15-19)
Lab Sample ID: 480-199073-4

Date Collected: 06/15/22 10:15
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 76.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Fluoranthene	ND		220	23	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Fluorene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Hexachlorobenzene	ND		220	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Hexachlorobutadiene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Hexachlorocyclopentadiene	ND		220	30	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Hexachloroethane	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Hexachloropropene	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Indeno[1,2,3-cd]pyrene	ND		220	27	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Isodrin	ND		420	74	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Isophorone	ND		220	46	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Isosafrole	ND		420	56	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Kepone	ND		4200	420	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Methapyrilene	ND		1900	420	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Methyl methanesulfonate	ND		420	97	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Naphthalene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Nitrobenzene	ND		220	24	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitro-o-toluidine	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosodiethylamine	ND		420	99	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosodimethylamine	ND		420	92	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosodi-n-butylamine	ND		420	120	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosodi-n-propylamine	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosodiphenylamine	ND		220	180	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosomethylethylamine	ND		420	97	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosomorpholine	ND		420	95	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosopiperidine	ND		420	86	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
N-Nitrosopyrrolidine	ND		420	64	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
o,o',o''-Triethylphosphorothioate	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Ethyl Parathion	ND		420	47	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Methyl parathion	ND		420	73	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
p-Dimethylamino azobenzene	ND		420	72	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Pentachlorobenzene	ND		420	89	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Pentachloronitrobenzene	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Pentachlorophenol	ND		420	220	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Phenacetin	ND		420	58	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Phenanthrene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Phenol	ND		220	33	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Phorate	ND		420	120	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
~~p-Phenylene diamine~~	~~ND~~	~~*~~	~~1000~~	~~420~~	~~ug/Kg~~	~~☼~~	~~06/16/22 15:52~~	~~06/18/22 03:55~~	R	1
Pronamide	ND		420	83	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Pyrene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Pyridine	ND		420	31	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Safrole	ND		420	58	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Sulfotepp	ND		420	68	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	
Thionazin	ND		420	74	ug/Kg	☼	06/16/22 15:52	06/18/22 03:55	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*54 - 120*	*06/16/22 15:52*	*06/18/22 03:55*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*06/16/22 15:52*	*06/18/22 03:55*	*1*
2-Fluorophenol (Surr)	*84*		*52 - 120*	*06/16/22 15:52*	*06/18/22 03:55*	*1*
Nitrobenzene-d5 (Surr)	*88*		*53 - 120*	*06/16/22 15:52*	*06/18/22 03:55*	*1*

Client Sample ID: MW-2022-1 (15-19)
Date Collected: 06/15/22 10:15
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-4
Matrix: Solid
Percent Solids: 76.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*85*		*54 - 120*	*06/16/22 15:52*	*06/18/22 03:55*	*1*
p-Terphenyl-d14 (Surr)	*118*		*79 - 130*	*06/16/22 15:52*	*06/18/22 03:55*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2	0.42	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
4,4'-DDE	ND		2.2	0.45	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
4,4'-DDT	ND		2.2	0.50	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Aldrin	ND		2.2	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
alpha-BHC	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
beta-BHC	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Chlordane (technical)	ND		22	4.8	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Chlorobenzilate	ND		22	7.2	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
cis-Chlordane	ND		2.2	1.1	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
delta-BHC	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Dieldrin	ND		2.2	0.52	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Endosulfan I	ND		2.2	0.41	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Endosulfan II	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Endosulfan sulfate	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Endrin	ND		2.2	0.43	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Endrin aldehyde	ND		2.2	0.55	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Endrin ketone	ND		2.2	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
gamma-BHC (Lindane)	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Heptachlor	ND		2.2	0.47	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Heptachlor epoxide	ND		2.2	0.55	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Methoxychlor	ND		2.2	0.44	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
Toxaphene	ND		22	13	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1
trans-Chlordane	ND		2.2	0.68	ug/Kg	☼	06/21/22 15:39	06/22/22 14:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*97*		*45 - 120*	*06/21/22 15:39*	*06/22/22 14:41*	*1*
DCB Decachlorobiphenyl	*108*		*45 - 120*	*06/21/22 15:39*	*06/22/22 14:41*	*1*
Tetrachloro-m-xylene	*119*		*30 - 124*	*06/21/22 15:39*	*06/22/22 14:41*	*1*
Tetrachloro-m-xylene	*88*		*30 - 124*	*06/21/22 15:39*	*06/22/22 14:41*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.050	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1
PCB-1221	ND		0.26	0.050	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1
PCB-1232	ND		0.26	0.050	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1
PCB-1242	ND		0.26	0.050	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1
PCB-1248	ND		0.26	0.050	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	06/16/22 16:09	06/20/22 00:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*98*		*65 - 174*	*06/16/22 16:09*	*06/20/22 00:55*	*1*
DCB Decachlorobiphenyl	*101*		*65 - 174*	*06/16/22 16:09*	*06/20/22 00:55*	*1*
Tetrachloro-m-xylene	*128*		*60 - 154*	*06/16/22 16:09*	*06/20/22 00:55*	*1*
Tetrachloro-m-xylene	*104*		*60 - 154*	*06/16/22 16:09*	*06/20/22 00:55*	*1*

Client Sample ID: MW-2022-1 (15-19)
Lab Sample ID: 480-199073-4

Date Collected: 06/15/22 10:15
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 76.8

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		22	6.9	ug/Kg	☼	06/22/22 09:44	06/27/22 18:14	1
2,4-D	ND		22	14	ug/Kg	☼	06/22/22 09:44	06/27/22 18:14	1
Silvex (2,4,5-TP)	ND		22	7.8	ug/Kg	☼	06/22/22 09:44	06/27/22 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*06/22/22 09:44*	*06/27/22 18:14*	*1*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*06/22/22 09:44*	*06/27/22 18:14*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	43	24	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1
Disulfoton	ND	H	43	28	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1
Famphur	ND	H	43	23	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1
Methyl parathion	ND	H	43	25	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1
Ethyl Parathion	ND	H	43	24	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1
Phorate	ND	H	43	14	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1
Sulfotepp	ND	H	43	17	ug/Kg	☼	06/24/22 08:17	06/27/22 10:57	1

UJ

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*69*		*20 - 135*	*06/24/22 08:17*	*06/27/22 10:57*	*1*
Tributyl phosphate	*66*		*20 - 135*	*06/24/22 08:17*	*06/27/22 10:57*	*1*
Triphenylphosphate	*77*		*33 - 168*	*06/24/22 08:17*	*06/27/22 10:57*	*1*
Triphenylphosphate	*78*		*33 - 168*	*06/24/22 08:17*	*06/27/22 10:57*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.54**	~~J+~~ JNX	6.4		0.080	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,4,6,7,8-HpCDF	ND		6.4		0.040	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,4,7,8,9-HpCDF	ND		6.4		0.050	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,4,7,8-HxCDD	ND		6.4		0.010	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,4,7,8-HxCDF	ND		6.4		0.033	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,6,7,8-HxCDD	ND		6.4		0.0096	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,6,7,8-HxCDF	ND		6.4		0.032	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,7,8,9-HxCDD	~~0.042~~ ~~J+B~~		6.4	U	0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,7,8,9-HxCDF	**0.11** ~~J+~~ JNX		6.4		0.043	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,7,8-PeCDD	ND		6.4		0.041	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
1,2,3,7,8-PeCDF	**0.11** **J**		6.4		0.024	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
2,3,4,6,7,8-HxCDF	ND		6.4		0.030	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
2,3,4,7,8-PeCDF	**0.12** ~~J+~~ JNX		6.4		0.017	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
2,3,7,8-TCDD	ND		1.3		0.024	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
2,3,7,8-TCDF	ND		1.3		0.014	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
OCDD	~~3.8~~ ~~J+B~~		13	U	0.040	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
OCDF	~~0.19~~ ~~J B~~		13	U	0.016	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total HpCDD	**0.54** ~~J+~~ JNX		6.4		0.080	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total HpCDF	ND		6.4		0.045	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total HxCDD	~~0.042~~ ~~J+B~~		6.4	U	0.010	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total HxCDF	~~0.11~~ ~~J+B~~		6.4	U	0.035	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total PeCDD	ND		6.4		0.041	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total PeCDF	**0.23** ~~J+~~ JNX		6.4		0.021	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1
Total TCDD	ND		1.3		0.024	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1

Client Sample ID: MW-2022-1 (15-19)
Lab Sample ID: 480-199073-4

Date Collected: 06/15/22 10:15
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 76.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		1.3	0.014	ng/Kg	☼	06/29/22 13:24	07/02/22 01:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*83*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*88*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,4,7,8-HxCDD	*74*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,4,7,8-HxCDF	*72*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,6,7,8-HxCDD	*87*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,7,8,9-HxCDD	*81*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-2,3,7,8-TCDF	*71*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-OCDD	*79*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*
13C-OCDF	*88*		*40 - 135*	*06/29/22 13:24*	*07/02/22 01:25*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.82**	**J**	19.5	0.52	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Arsenic	**3.0**		2.6	0.52	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Barium	**15.6**		0.65	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Beryllium	**0.23**	**J**	0.26	0.036	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Cadmium	**0.045**	**J**	0.26	0.039	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Chromium	**4.4**		0.65	0.26	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Cobalt	**4.6**		0.65	0.065	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Copper	**5.4**		1.3	0.27	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Lead	**5.4**		1.3	0.31	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Nickel	**8.2**		6.5	0.30	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Selenium	ND		5.2	0.52	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Silver	ND		0.78	0.26	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Thallium	ND		7.8	0.39	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Tin	ND		2.6	0.55	mg/Kg	☼	06/23/22 11:00	06/24/22 20:25	1
Vanadium	**5.6**		0.65	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1
Zinc	**25.7**		2.6	0.83	mg/Kg	☼	06/20/22 11:02	06/21/22 14:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.026	0.0060	mg/Kg	☼	06/21/22 09:40	06/21/22 13:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.11	0.052	mg/Kg	☼	06/17/22 13:30	06/17/22 14:45	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		23.8	13.6	mg/Kg	☼		06/27/22 12:55	1

Client Sample ID: MW-2022-1 (29)
Date Collected: 06/15/22 11:10
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-5
Matrix: Solid
Percent Solids: 77.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.9	0.69	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,1,1-Trichloroethane	ND		6.9	0.50	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,1,2,2-Tetrachloroethane	ND		6.9	1.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,1,2-Trichloroethane	ND		6.9	0.90	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,1-Dichloroethane	ND		6.9	0.84	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,1-Dichloroethene	ND		6.9	0.84	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,2,3-Trichloropropane	ND		6.9	0.70	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,2-Dibromo-3-Chloropropane	ND		6.9	3.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,2-Dichloroethane	ND		6.9	0.35	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
1,2-Dichloropropane	ND		6.9	3.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
2-Butanone (MEK)	ND		34	2.5	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
2-Chloro-1,3-butadiene	ND	*+	6.9	4.3	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
2-Chloroethyl vinyl ether	ND		14	3.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
2-Hexanone	ND		34	3.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
3-Chloro-1-propene	ND		6.9	3.3	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
4-Methyl-2-pentanone (MIBK)	ND		34	2.3	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Acetone	ND		34	5.8	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Acetonitrile	ND		69	8.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Acrolein	ND	*+	34	11	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Acrylonitrile	ND		34	6.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Benzene	ND		6.9	0.34	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Bromoform	ND		6.9	3.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Bromomethane	ND		6.9	0.62	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Carbon disulfide	ND		6.9	3.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Carbon tetrachloride	ND		6.9	0.67	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Chlorobenzene	ND		6.9	0.91	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Chlorodibromomethane	ND		6.9	0.88	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Chloroethane	ND		6.9	1.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Chloroform	ND		6.9	0.43	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Chloromethane	ND		6.9	0.42	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
cis-1,3-Dichloropropene	ND		6.9	0.99	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Dibromomethane	ND		6.9	0.71	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Dichlorobromomethane	ND		6.9	0.92	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Dichlorodifluoromethane	ND		6.9	0.57	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Ethyl methacrylate	ND		6.9	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Ethylbenzene	ND		6.9	0.48	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Ethylene Dibromide	ND		6.9	0.89	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Iodomethane	ND		6.9	0.34	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Methacrylonitrile	ND		34	8.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Methyl methacrylate	ND		6.9	1.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Methylene Chloride	ND		6.9	3.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
m-Xylene & p-Xylene	ND		14	1.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
o-Xylene	ND		6.9	0.90	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Propionitrile	ND		69	39	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Styrene	ND		6.9	0.34	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Tetrachloroethene	ND		6.9	0.93	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Toluene	ND		6.9	0.52	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
trans-1,2-Dichloroethene	ND		6.9	0.71	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
trans-1,3-Dichloropropene	ND		6.9	3.0	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1

Client Sample ID: MW-2022-1 (29)
Lab Sample ID: 480-199073-5

Date Collected: 06/15/22 11:10
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 77.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		6.9	1.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Trichloroethene	ND		6.9	1.5	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Trichlorofluoromethane	ND		6.9	0.65	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Vinyl acetate	ND		14	3.5	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1
Vinyl chloride	ND		6.9	0.84	ug/Kg	☼	06/16/22 13:30	06/17/22 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*06/16/22 13:30*	*06/17/22 01:24*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*06/16/22 13:30*	*06/17/22 01:24*	*1*
Dibromofluoromethane (Surr)	*100*		*60 - 140*	*06/16/22 13:30*	*06/17/22 01:24*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*06/16/22 13:30*	*06/17/22 01:24*	*1*

Client Sample ID: MW-2022-1 (28-32)
Lab Sample ID: 480-199073-6

Date Collected: 06/15/22 11:10
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 75.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		220	38	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,2,4-Trichlorobenzene	ND		440	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,2-Dichlorobenzene	ND		440	30	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,2-Diphenylhydrazine	ND		440	25	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,3,5-Trinitrobenzene	ND		440	18	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,3-Dichlorobenzene	ND		440	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,3-Dinitrobenzene	ND		440	53	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,4-Dichlorobenzene	ND		440	34	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,4-Dioxane	ND		130	73	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1,4-Naphthoquinone	ND		440	82	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
1-Naphthylamine	ND		440	150	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,3,4,6-Tetrachlorophenol	ND		220	46	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,4,5-Trichlorophenol	ND		220	61	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,4,6-Trichlorophenol	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,4-Dichlorophenol	ND		220	24	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,4-Dimethylphenol	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,4-Dinitrophenol	ND		2200	1000	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,4-Dinitrotoluene	ND		220	46	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,6-Dichlorophenol	ND		440	82	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2,6-Dinitrotoluene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Acetylaminofluorene	ND		440	57	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Chloronaphthalene	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Chlorophenol	ND		440	41	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Methylnaphthalene	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Methylphenol	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Naphthylamine	ND		440	150	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Nitroaniline	ND		440	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Nitrophenol	ND		220	63	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Picoline	ND		440	50	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
2-Toluidine	ND		440	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
3 & 4 Methylphenol	ND		440	34	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
3,3'-Dichlorobenzidine	ND		440	260	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1

Client Sample ID: MW-2022-1 (28-32)
Lab Sample ID: 480-199073-6

Date Collected: 06/15/22 11:10
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 75.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		870	440	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
3-Methylcholanthrene	ND		440	73	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
3-Methylphenol	ND		440	34	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
3-Nitroaniline	ND		440	62	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4,6-Dinitro-2-methylphenol	ND		440	220	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Aminobiphenyl	ND		440	91	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Bromophenyl phenyl ether	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Chloro-3-methylphenol	ND		220	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Chloroaniline	ND		220	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Chlorophenyl phenyl ether	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Methylphenol	ND		440	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Nitroaniline	ND		440	120	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Nitrophenol	ND		440	160	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
4-Nitroquinoline-1-oxide	ND		870	440	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
7,12-Dimethylbenz(a)anthracene	ND		440	65	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
a,a-Dimethylphenethylamine	ND		440	440	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Acenaphthene	ND		220	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Acenaphthylene	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Acetophenone	ND		220	30	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Aniline	ND		440	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Anthracene	ND		220	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Aramite, Total	ND		440	210	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzidine	ND		6600	2800	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzo[a]anthracene	ND		220	22	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzo[a]pyrene	ND		220	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzo[b]fluoranthene	ND		220	36	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzo[g,h,i]perylene	ND		220	24	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzo[k]fluoranthene	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Benzyl alcohol	ND		440	30	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
bis (2-chloroisopropyl) ether	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Bis(2-chloroethoxy)methane	ND		220	48	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Bis(2-chloroethyl)ether	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Bis(2-ethylhexyl) phthalate	ND		220	77	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Butyl benzyl phthalate	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Chrysene	ND		220	50	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Diallate	ND		440	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Dibenz(a,h)anthracene	ND		220	40	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Dibenzofuran	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Diethyl phthalate	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Dimethoate	ND		440	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Dimethyl phthalate	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Di-n-butyl phthalate	ND		220	38	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Di-n-octyl phthalate	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Dinoseb	ND		440	78	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Diphenylamine	ND		440	57	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Disulfoton	ND		440	330	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Chlorobenzilate	ND		440	70	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Ethyl methanesulfonate	ND		440	96	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
~~Famphur~~	~~ND~~	~~*-~~	~~870~~	~~210~~	~~ug/Kg~~	~~☼~~	~~06/16/22 15:52~~	~~06/18/22 04:20~~	R 1

Client Sample ID: MW-2022-1 (28-32)
Date Collected: 06/15/22 11:10
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-6
Matrix: Solid
Percent Solids: 75.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		220	24	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Fluorene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Hexachlorobenzene	ND		220	30	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Hexachlorobutadiene	ND		220	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Hexachlorocyclopentadiene	ND		220	30	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Hexachloroethane	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Hexachloropropene	ND		440	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Indeno[1,2,3-cd]pyrene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Isodrin	ND		440	77	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Isophorone	ND		220	48	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Isosafrole	ND		440	58	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Kepone	ND		4400	440	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Methapyrilene	ND		2000	440	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Methyl methanesulfonate	ND		440	100	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Naphthalene	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Nitrobenzene	ND		220	25	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitro-o-toluidine	ND		440	57	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosodiethylamine	ND		440	100	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosodimethylamine	ND		440	95	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosodi-n-butylamine	ND		440	120	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosodi-n-propylamine	ND		220	38	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosodiphenylamine	ND		220	180	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosomethylethylamine	ND		440	100	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosomorpholine	ND		440	98	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosopiperidine	ND		440	88	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
N-Nitrosopyrrolidine	ND		440	66	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
o,o',o''-Triethylphosphorothioate	ND		440	57	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Ethyl Parathion	ND		440	49	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Methyl parathion	ND		440	75	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
p-Dimethylamino azobenzene	ND		440	74	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Pentachlorobenzene	ND		440	91	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Pentachloronitrobenzene	ND		440	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Pentachlorophenol	ND		440	220	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Phenacetin	ND		440	59	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Phenanthrene	ND		220	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Phenol	ND		220	34	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Phorate	ND		440	120	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
p-Phenylene diamine	ND	*-	1100	440	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20 R	1
Pronamide	ND		440	86	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Pyrene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Pyridine	ND		440	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Safrole	ND		440	59	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Sulfotepp	ND		440	70	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1
Thionazin	ND		440	77	ug/Kg	☼	06/16/22 15:52	06/18/22 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*	*06/16/22 15:52*	*06/18/22 04:20*	*1*
2-Fluorobiphenyl (Surr)	*95*		*60 - 120*	*06/16/22 15:52*	*06/18/22 04:20*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*06/16/22 15:52*	*06/18/22 04:20*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 120*	*06/16/22 15:52*	*06/18/22 04:20*	*1*

Client Sample ID: MW-2022-1 (28-32)
Date Collected: 06/15/22 11:10
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-6
Matrix: Solid
Percent Solids: 75.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*90*		*54 - 120*	*06/16/22 15:52*	*06/18/22 04:20*	*1*
p-Terphenyl-d14 (Surr)	*131*	*S1+*	*79 - 130*	*06/16/22 15:52*	*06/18/22 04:20*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2	0.43	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
4,4'-DDE	ND		2.2	0.46	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
4,4'-DDT	ND		2.2	0.51	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Aldrin	ND		2.2	0.54	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
alpha-BHC	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
beta-BHC	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Chlordane (technical)	ND		22	4.9	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Chlorobenzilate	ND		22	7.4	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
cis-Chlordane	ND		2.2	1.1	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
delta-BHC	ND		2.2	0.41	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Dieldrin	ND		2.2	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Endosulfan I	ND		2.2	0.42	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Endosulfan II	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Endosulfan sulfate	ND		2.2	0.41	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Endrin	ND		2.2	0.43	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Endrin aldehyde	ND		2.2	0.56	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Endrin ketone	ND		2.2	0.54	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
gamma-BHC (Lindane)	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Heptachlor	ND		2.2	0.48	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Heptachlor epoxide	ND		2.2	0.57	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Methoxychlor	ND		2.2	0.45	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
Toxaphene	ND		22	13	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1
trans-Chlordane	ND		2.2	0.70	ug/Kg	☼	06/21/22 15:39	06/22/22 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*100*		*45 - 120*	*06/21/22 15:39*	*06/22/22 15:01*	*1*
DCB Decachlorobiphenyl	*112*		*45 - 120*	*06/21/22 15:39*	*06/22/22 15:01*	*1*
Tetrachloro-m-xylene	*129*	*S1+*	*30 - 124*	*06/21/22 15:39*	*06/22/22 15:01*	*1*
Tetrachloro-m-xylene	*89*		*30 - 124*	*06/21/22 15:39*	*06/22/22 15:01*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	06/16/22 16:09	06/20/22 01:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*125*		*65 - 174*	*06/16/22 16:09*	*06/20/22 01:09*	*1*
DCB Decachlorobiphenyl	*132*		*65 - 174*	*06/16/22 16:09*	*06/20/22 01:09*	*1*
Tetrachloro-m-xylene	*154*		*60 - 154*	*06/16/22 16:09*	*06/20/22 01:09*	*1*
Tetrachloro-m-xylene	*133*		*60 - 154*	*06/16/22 16:09*	*06/20/22 01:09*	*1*

Client Sample ID: MW-2022-1 (28-32)
Date Collected: 06/15/22 11:10
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-6
Matrix: Solid
Percent Solids: 75.5

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		22	7.0	ug/Kg	☼	06/22/22 09:44	06/27/22 18:32	1
2,4-D	ND		22	14	ug/Kg	☼	06/22/22 09:44	06/27/22 18:32	1
Silvex (2,4,5-TP)	ND		22	7.9	ug/Kg	☼	06/22/22 09:44	06/27/22 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*79*		*28 - 129*	*06/22/22 09:44*	*06/27/22 18:32*	*1*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*06/22/22 09:44*	*06/27/22 18:32*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	44	25	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1
Disulfoton	ND	H	44	29	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1
Famphur	ND	H	44	23	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1
Methyl parathion	ND	H UJ	44	25	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1
Ethyl Parathion	ND	H	44	24	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1
Phorate	ND	H	44	15	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1
Sulfotepp	ND	H	44	17	ug/Kg	☼	06/24/22 08:17	06/27/22 11:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*77*		*20 - 135*	*06/24/22 08:17*	*06/27/22 11:29*	*1*
Tributyl phosphate	*74*		*20 - 135*	*06/24/22 08:17*	*06/27/22 11:29*	*1*
Triphenylphosphate	*89*		*33 - 168*	*06/24/22 08:17*	*06/27/22 11:29*	*1*
Triphenylphosphate	*90*		*33 - 168*	*06/24/22 08:17*	*06/27/22 11:29*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.74**	**J**	6.4		0.084	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,4,6,7,8-HpCDF	**0.097**	**J I** JNX	6.4		0.064	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,4,7,8,9-HpCDF	**0.55**	**J I** JNX	6.4		0.079	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,4,7,8-HxCDD	ND		6.4		0.024	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,4,7,8-HxCDF	ND		6.4		0.079	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,6,7,8-HxCDD	ND		6.4		0.024	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,6,7,8-HxCDF	ND		6.4		0.079	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,7,8,9-HxCDD	**0.054** **J B**		6.4	U	0.028	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,7,8,9-HxCDF	ND		6.4		0.088	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,7,8-PeCDD	ND		6.4		0.032	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
1,2,3,7,8-PeCDF	**0.10** **J I** JNX		6.4		0.020	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
2,3,4,6,7,8-HxCDF	ND		6.4		0.068	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
2,3,4,7,8-PeCDF	ND		6.4		0.012	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
2,3,7,8-TCDD	ND		1.3		0.020	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
2,3,7,8-TCDF	ND		1.3		0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
OCDD	**6.0** **J I B**		13	U	0.062	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
OCDF	**0.31** **J I B**		13	U	0.019	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total HpCDD	**0.74** **J I** JNX		6.4		0.084	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total HpCDF	**0.65** **J I** JNX		6.4		0.071	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total HxCDD	**0.054** **J B**		6.4	U	0.025	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total HxCDF	ND		6.4		0.088	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total PeCDD	ND		6.4		0.032	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total PeCDF	**0.10** **J I** JNX		6.4		0.016	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1
Total TCDD	ND		1.3		0.020	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1

Client Sample ID: MW-2022-1 (28-32)
Date Collected: 06/15/22 11:10
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-6
Matrix: Solid
Percent Solids: 75.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		1.3	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 02:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*51*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*46*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*58*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,4,7,8-HxCDD	*54*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,6,7,8-HxCDF	*59*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,7,8,9-HxCDD	*56*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,7,8,9-HxCDF	*67*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-2,3,4,6,7,8-HxCDF	*57*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-2,3,4,7,8-PeCDF	*61*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-2,3,7,8-TCDD	*63*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-2,3,7,8-TCDF	*69*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-OCDD	*48*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*
13C-OCDF	*53*		*40 - 135*	*06/29/22 13:24*	*07/02/22 02:14*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.7**	**J**	19.1	0.51	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Arsenic	**5.5**		2.5	0.51	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Barium	**46.7**		0.64	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Beryllium	**0.48**		0.25	0.036	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Cadmium	**0.070**	**J**	0.25	0.038	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Chromium	**12.2**		0.64	0.25	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Cobalt	**11.0**		0.64	0.064	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Copper	**15.6**		1.3	0.27	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Lead	**10.5**		1.3	0.30	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Nickel	**20.8**		6.4	0.29	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Selenium	ND		5.1	0.51	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Silver	ND		0.76	0.25	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Thallium	ND		7.6	0.38	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Tin	ND		2.7	0.58	mg/Kg	☼	06/23/22 11:00	06/24/22 20:29	1
Vanadium	**13.8**		0.64	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1
Zinc	**54.6**		2.5	0.81	mg/Kg	☼	06/20/22 11:02	06/21/22 15:01	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.027	0.0063	mg/Kg	☼	06/21/22 09:40	06/21/22 13:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.11	0.053	mg/Kg	☼	06/17/22 13:30	06/17/22 14:44	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		25.3	14.4	mg/Kg	☼		06/27/22 12:55	1

Client Sample ID: MW-2022-1 (43)
Date Collected: 06/15/22 11:45
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-7
Matrix: Solid
Percent Solids: 76.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,1,1-Trichloroethane	ND		5.2	0.38	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.84	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,1,2-Trichloroethane	ND		5.2	0.68	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,1-Dichloroethane	ND		5.2	0.64	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,1-Dichloroethene	ND		5.2	0.64	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,2,3-Trichloropropane	ND		5.2	0.53	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
2-Chloro-1,3-butadiene	ND		5.2	3.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
2-Chloroethyl vinyl ether	ND		10	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Acetone	ND		26	4.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Acetonitrile	ND		52	6.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Acrolein	ND		26	8.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Acrylonitrile	ND		26	4.7	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Benzene	ND		5.2	0.26	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Bromomethane	ND		5.2	0.47	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Carbon tetrachloride	ND		5.2	0.50	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Chlorobenzene	ND		5.2	0.69	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Chlorodibromomethane	ND		5.2	0.67	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Chloroform	**0.53**	**J**	5.2	0.32	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Chloromethane	ND		5.2	0.31	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
cis-1,3-Dichloropropene	ND		5.2	0.75	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Dibromomethane	ND		5.2	0.54	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Dichlorobromomethane	ND		5.2	0.70	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Ethylene Dibromide	ND		5.2	0.67	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Methacrylonitrile	ND		26	6.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Methyl methacrylate	ND		5.2	1.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
m-Xylene & p-Xylene	ND		10	0.87	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
o-Xylene	ND		5.2	0.68	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Propionitrile	ND		52	29	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Styrene	ND		5.2	0.26	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Tetrachloroethene	ND		5.2	0.70	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Toluene	ND		5.2	0.39	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
trans-1,2-Dichloroethene	ND		5.2	0.54	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1

Client Sample ID: MW-2022-1 (43)
Lab Sample ID: 480-199073-7

Date Collected: 06/15/22 11:45
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 76.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1
Vinyl chloride	ND		5.2	0.64	ug/Kg	☼	06/16/22 13:30	06/17/22 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*06/16/22 13:30*	*06/17/22 01:48*	*1*
4-Bromofluorobenzene (Surr)	*93*		*72 - 126*	*06/16/22 13:30*	*06/17/22 01:48*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*06/16/22 13:30*	*06/17/22 01:48*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*06/16/22 13:30*	*06/17/22 01:48*	*1*

Client Sample ID: MW-2022-1 (40-44)
Lab Sample ID: 480-199073-8

Date Collected: 06/15/22 11:45
Matrix: Solid
Date Received: 06/16/22 10:00
Percent Solids: 76.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,2,4-Trichlorobenzene	ND		420	31	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,2-Dichlorobenzene	ND		420	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,2-Diphenylhydrazine	ND		420	24	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,3,5-Trinitrobenzene	ND		420	17	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,3-Dichlorobenzene	ND		420	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,3-Dinitrobenzene	ND		420	51	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,4-Dichlorobenzene	ND		420	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,4-Dioxane	ND		130	70	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1,4-Naphthoquinone	ND		420	79	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
1-Naphthylamine	ND		420	150	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,3,4,6-Tetrachlorophenol	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,4,5-Trichlorophenol	ND		220	59	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,4,6-Trichlorophenol	ND		220	43	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,4-Dichlorophenol	ND		220	23	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,4-Dimethylphenol	ND		220	52	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,4-Dinitrophenol	ND		2100	1000	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,4-Dinitrotoluene	ND		220	45	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,6-Dichlorophenol	ND		420	79	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2,6-Dinitrotoluene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Acetylaminofluorene	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Chloronaphthalene	ND		220	36	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Chlorophenol	ND		420	40	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Methylnaphthalene	ND		220	43	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Methylphenol	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Naphthylamine	ND		420	140	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Nitroaniline	ND		420	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Nitrophenol	ND		220	61	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Picoline	ND		420	48	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
2-Toluidine	ND		420	100	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
3 & 4 Methylphenol	ND		420	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
3,3'-Dichlorobenzidine	ND		420	260	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1

Client Sample ID: MW-2022-1 (40-44)
Lab Sample ID: 480-199073-8

Date Collected: 06/15/22 11:45
Matrix: Solid

Date Received: 06/16/22 10:00
Percent Solids: 76.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		840	420	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
3-Methylcholanthrene	ND		420	70	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
3-Methylphenol	ND		420	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
3-Nitroaniline	ND		420	60	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4,6-Dinitro-2-methylphenol	ND		420	220	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Aminobiphenyl	ND		420	88	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Bromophenyl phenyl ether	ND		220	31	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Chloro-3-methylphenol	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Chloroaniline	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Chlorophenyl phenyl ether	ND		220	27	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Methylphenol	ND		420	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Nitroaniline	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Nitrophenol	ND		420	150	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
4-Nitroquinoline-1-oxide	ND		840	420	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
7,12-Dimethylbenz(a)anthracene	ND		420	62	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
a,a-Dimethylphenethylamine	ND		420	420	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Acenaphthene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Acenaphthylene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Acetophenone	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Aniline	ND		420	52	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Anthracene	ND		220	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Aramite, Total	ND		420	200	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzidine	ND		6400	2700	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzo[a]anthracene	ND		220	22	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzo[a]pyrene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzo[b]fluoranthene	ND		220	34	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzo[g,h,i]perylene	ND		220	23	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzo[k]fluoranthene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Benzyl alcohol	ND		420	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
bis (2-chloroisopropyl) ether	ND		220	43	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Bis(2-chloroethoxy)methane	ND		220	46	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Bis(2-chloroethyl)ether	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Bis(2-ethylhexyl) phthalate	ND		220	74	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Butyl benzyl phthalate	ND		220	36	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Chrysene	ND		220	48	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Diallate	ND		420	54	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Dibenz(a,h)anthracene	ND		220	38	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Dibenzofuran	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Diethyl phthalate	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Dimethoate	ND		420	52	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Dimethyl phthalate	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Di-n-butyl phthalate	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Di-n-octyl phthalate	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Dinoseb	ND		420	75	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Diphenylamine	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Disulfoton	ND		420	320	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Chlorobenzilate	ND		420	68	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Ethyl methanesulfonate	ND		420	93	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1
Famphur	ND	*	840	200	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	R 1

Client Sample ID: MW-2022-1 (40-44)
Date Collected: 06/15/22 11:45
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-8
Matrix: Solid
Percent Solids: 76.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Fluoranthene	ND		220	23	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Fluorene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Hexachlorobenzene	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Hexachlorobutadiene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Hexachlorocyclopentadiene	ND		220	29	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Hexachloroethane	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Hexachloropropene	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Indeno[1,2,3-cd]pyrene	ND		220	27	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Isodrin	ND		420	74	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Isophorone	ND		220	46	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Isosafrole	ND		420	56	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Kepone	ND		4200	420	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Methapyrilene	ND		1900	420	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Methyl methanesulfonate	ND		420	97	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Naphthalene	ND		220	28	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Nitrobenzene	ND		220	24	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitro-o-toluidine	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosodiethylamine	ND		420	98	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosodimethylamine	ND		420	92	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosodi-n-butylamine	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosodi-n-propylamine	ND		220	37	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosodiphenylamine	ND		220	180	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosomethylethylamine	ND		420	97	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosomorpholine	ND		420	94	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosopiperidine	ND		420	85	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
N-Nitrosopyrrolidine	ND		420	64	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
o,o',o''-Triethylphosphorothioate	ND		420	55	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Ethyl Parathion	ND		420	47	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Methyl parathion	ND		420	73	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
p-Dimethylamino azobenzene	ND		420	71	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Pentachlorobenzene	ND		420	88	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Pentachloronitrobenzene	ND		420	110	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Pentachlorophenol	ND		420	220	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Phenacetin	ND		420	57	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Phenanthrene	ND		220	32	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Phenol	ND		220	33	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Phorate	ND		420	120	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
p-Phenylene diamine	ND	*	1000	420	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	R	1
Pronamide	ND		420	83	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Pyrene	ND		220	26	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Pyridine	ND		420	31	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Safrole	ND		420	57	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Sulfotepp	ND		420	68	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	
Thionazin	ND		420	74	ug/Kg	☼	06/16/22 15:52	06/18/22 04:44	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*06/16/22 15:52*	*06/18/22 04:44*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*06/16/22 15:52*	*06/18/22 04:44*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*06/16/22 15:52*	*06/18/22 04:44*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*06/16/22 15:52*	*06/18/22 04:44*	*1*

Client Sample ID: MW-2022-1 (40-44)
Date Collected: 06/15/22 11:45
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-8
Matrix: Solid
Percent Solids: 76.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*81*		*54 - 120*	*06/16/22 15:52*	*06/18/22 04:44*	*1*
p-Terphenyl-d14 (Surr)	*113*		*79 - 130*	*06/16/22 15:52*	*06/18/22 04:44*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.1	0.42	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
4,4'-DDE	ND		2.1	0.45	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
4,4'-DDT	ND		2.1	0.50	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Aldrin	ND		2.1	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
alpha-BHC	ND		2.1	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
beta-BHC	ND		2.1	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Chlordane (technical)	ND		21	4.8	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Chlorobenzilate	ND		21	7.2	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
cis-Chlordane	ND		2.1	1.1	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
delta-BHC	ND		2.1	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Dieldrin	ND		2.1	0.51	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Endosulfan I	ND		2.1	0.41	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Endosulfan II	ND		2.1	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Endosulfan sulfate	ND		2.1	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Endrin	ND		2.1	0.42	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Endrin aldehyde	ND		2.1	0.55	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Endrin ketone	ND		2.1	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
gamma-BHC (Lindane)	ND		2.1	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Heptachlor	ND		2.1	0.46	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Heptachlor epoxide	ND		2.1	0.55	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Methoxychlor	ND		2.1	0.44	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
Toxaphene	ND		21	12	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1
trans-Chlordane	ND		2.1	0.68	ug/Kg	☼	06/21/22 15:39	06/22/22 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*97*		*45 - 120*	*06/21/22 15:39*	*06/22/22 15:20*	*1*
DCB Decachlorobiphenyl	*109*		*45 - 120*	*06/21/22 15:39*	*06/22/22 15:20*	*1*
Tetrachloro-m-xylene	*114*		*30 - 124*	*06/21/22 15:39*	*06/22/22 15:20*	*1*
Tetrachloro-m-xylene	*86*		*30 - 124*	*06/21/22 15:39*	*06/22/22 15:20*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	06/16/22 16:09	06/20/22 01:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*122*		*65 - 174*	*06/16/22 16:09*	*06/20/22 01:22*	*1*
DCB Decachlorobiphenyl	*129*		*65 - 174*	*06/16/22 16:09*	*06/20/22 01:22*	*1*
Tetrachloro-m-xylene	*150*		*60 - 154*	*06/16/22 16:09*	*06/20/22 01:22*	*1*
Tetrachloro-m-xylene	*128*		*60 - 154*	*06/16/22 16:09*	*06/20/22 01:22*	*1*

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199073-1

Client Sample ID: MW-2022-1 (40-44)

Date Collected: 06/15/22 11:45
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-8

Matrix: Solid
Percent Solids: 76.5

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		22	6.9	ug/Kg	☼	06/22/22 09:44	06/27/22 18:51	1
2,4-D	ND		22	14	ug/Kg	☼	06/22/22 09:44	06/27/22 18:51	1
Silvex (2,4,5-TP)	ND		22	7.8	ug/Kg	☼	06/22/22 09:44	06/27/22 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*06/22/22 09:44*	*06/27/22 18:51*	*1*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*06/22/22 09:44*	*06/27/22 18:51*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	43	24	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1
Disulfoton	ND	H	43	28	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1
Famphur	ND	H	43	23	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1
Methyl parathion	ND	H UJ	43	25	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1
Ethyl Parathion	ND	H	43	24	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1
Phorate	ND	H	43	15	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1
Sulfotepp	ND	H	43	17	ug/Kg	☼	06/24/22 08:17	06/27/22 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*68*		*20 - 135*	*06/24/22 08:17*	*06/27/22 12:00*	*1*
Tributyl phosphate	*64*		*20 - 135*	*06/24/22 08:17*	*06/27/22 12:00*	*1*
Triphenylphosphate	*74*		*33 - 168*	*06/24/22 08:17*	*06/27/22 12:00*	*1*
Triphenylphosphate	*77*		*33 - 168*	*06/24/22 08:17*	*06/27/22 12:00*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.43**	~~J+~~ JNX	6.5		0.052	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,4,6,7,8-HpCDF	ND		6.5		0.023	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,4,7,8,9-HpCDF	ND		6.5		0.029	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,4,7,8-HxCDD	ND		6.5		0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,4,7,8-HxCDF	~~0.076 J+B~~		6.5	U	0.025	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,6,7,8-HxCDD	ND		6.5		0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,6,7,8-HxCDF	ND		6.5		0.025	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,7,8,9-HxCDD	ND		6.5		0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,7,8,9-HxCDF	ND		6.5		0.031	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,7,8-PeCDD	ND		6.5		0.029	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
1,2,3,7,8-PeCDF	ND		6.5		0.017	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
2,3,4,6,7,8-HxCDF	**0.052**	~~J+~~ JNX	6.5		0.021	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
2,3,4,7,8-PeCDF	ND		6.5		0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
2,3,7,8-TCDD	ND		1.3		0.022	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
2,3,7,8-TCDF	**0.031**	~~J+~~ JNX	1.3		0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
OCDD	~~2.7 J B~~		13	U	0.035	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
OCDF	~~0.17 J+B~~		13	U	0.040	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total HpCDD	**0.43**	~~J+~~ JNX	6.5		0.052	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total HpCDF	ND		6.5		0.029	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total HxCDD	ND		6.5		0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total HxCDF	~~0.13 J+B~~		6.5	U	0.025	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total PeCDD	ND		6.5		0.029	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total PeCDF	ND		6.5		0.017	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1
Total TCDD	ND		1.3		0.022	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1

Client Sample ID: MW-2022-1 (40-44)
Date Collected: 06/15/22 11:45
Date Received: 06/16/22 10:00

Lab Sample ID: 480-199073-8
Matrix: Solid
Percent Solids: 76.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	**0.031**	~~J-~~ JNX	1.3	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,6,7,8-HxCDD	*90*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,7,8,9-HxCDD	*88*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,7,8,9-HxCDF	*91*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-2,3,4,6,7,8-HxCDF	*86*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-2,3,7,8-TCDD	*72*	*I*	*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-2,3,7,8-TCDF	*73*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-OCDD	*80*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*
13C-OCDF	*89*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:03*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.0**	**J**	19.5	0.52	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Arsenic	**2.7**		2.6	0.52	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Barium	**17.2**		0.65	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Beryllium	**0.23**	**J**	0.26	0.036	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Cadmium	**0.064**	**J**	0.26	0.039	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Chromium	**5.1**		0.65	0.26	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Cobalt	**4.4**		0.65	0.065	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Copper	**5.6**		1.3	0.27	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Lead	**5.3**		1.3	0.31	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Nickel	**8.1**		6.5	0.30	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Selenium	ND		5.2	0.52	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Silver	ND		0.78	0.26	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Thallium	ND		7.8	0.39	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Tin	ND		2.6	0.55	mg/Kg	☼	06/23/22 11:00	06/24/22 20:33	1
Vanadium	**6.2**		0.65	0.14	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1
Zinc	**25.6**		2.6	0.83	mg/Kg	☼	06/20/22 11:02	06/21/22 15:06	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0054	mg/Kg	☼	06/21/22 09:40	06/21/22 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.11	0.053	mg/Kg	☼	06/17/22 13:30	06/17/22 14:38	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		24.3	13.9	mg/Kg	☼		06/27/22 12:55	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-198548-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47595R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Laboratory Control Sample Analysis 10
3.3 System Performance and Overall Assessment 10
3.4 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 11
4.1 Holding Times 11
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 12
5.1 Holding Times 12
5.2 System Performance and Overall Assessment 13
5.3 Data Validation Checklist 13
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 14
6.1 Holding Times 14
6.2 Blank Contamination 15
6.3 Compound Identification 16
6.4 System Performance and Overall Assessment 16
6.5 Data Validation Checklist 16
7 Metals Analyses 17
7.1 Holding Times 17
7.2 System Performance and Overall Assessment 17
7.3 Data Validation Checklist 18
8 General Chemistry Analyses 18
8.1 Holding Times 18

8.2 System Performance and Overall Assessment 19
8.3 Data Validation Checklist for General Chemistry 19
9 Overall Data Usability 20

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 8
Table 6. Holding Time for Method SW-846 8270D 9
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 8. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications 10
Table 9. Holding Time for Method SW-846 8082A 11
Table 10. Holding Time for Method SW-846 8081B/8141B/8151A 12
Table 14. Holding Time for Method SW-846 8290A 14
Table 15. Summary of Blank Contamination Qualifications 15
Table 16. Holding Time for Method SW-846 6010C/7471B 17
Table 17. Specified Holding Times 18
Table 18. Overall Summary of Data Usability 20

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-198548-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample Location	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-3 (26-30)	480-198548-1	Soil	6/1/2022			X	X	X	X	X
MW-2022-3 (29)	480-198548-2	Soil	6/1/2022		X					
FB-060122	480-198548-3	Water	6/1/2022		X	X	X	X	X	X
TRIP BLANK	480-198548-4	Water	6/1/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and

- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence

audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	2	0	0	0	3
SVOCs	1	0	1	0	0	0	2
PCBs	1	0	1	0	0	0	2
PEST	1	0	1	0	0	0	2
HERB	1	0	1	0	0	0	2
PCDD/PCDF	1	0	1	0	0	0	2
Metals	1	0	1	0	0	0	2
MISC	1	0	1	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, sample FB-060122 and Trip blank results for 2-chloroethyl vinyl ether have been qualified as rejected.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds acetone and toluene were detected in field blank sample FB-060122 and method blank batch 628503 respectively. The associated sample results were non-detect. Hence, qualification was not required.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment / Field blanks		X		X	
C. Trip blanks		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds 4-Chloro-3-methylphenol and Isophorone were detected in field blank sample FB-060122. The associated sample results were non-detect. Hence, qualification was not required.

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The LCS analysis exhibited acceptable recoveries with the exceptions noted in the table below.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Location	Compounds	LCS Recovery
FB-060122	Kepone	< 10%
	p-Phenylene diamine	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment / Field blanks		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil / Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B / 8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8081B / 8151A	Water	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil / Water	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding times are presented in the following table.

Method	Sample Location	Holding Time	Criteria
SW-846 8141B	MW-2022-3 (26-30)	Samples were extracted 23rd day from collection	7 days from collection to extraction

Sample results associated with samples analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compound 4,4'-DDT was detected in preparation batch 629497. The associated sample results were non-detect. Hence, qualification was not required.

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I Validation					
Holding times		X	X		
Blanks					
A. Method blanks		X		X	
B. Equipment / Field blanks		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil / Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample Location	Compounds	Sample Result	Qualification
MW-2022-3 (26-30)	1,2,3,4,6,7,8-HpCDD	Detected sample results <RL and <BAL	"U" at the RL
	1,2,3,4,6,7,8-HpCDF		
	1,2,3,4,7,8-HxCDD		
	1,2,3,7,8,9-HxCDD		
	1,2,3,7,8-PeCDD		
	OCDD		
	Total HpCDD		
	Total HpCDF		
	Total HxCDD		
	Total PeCDD		

Note:
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment / Field blanks		X		X	
Compound identification and quantitation		X	X		
System performance and overall assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analyte zinc was detected in were detected in field blank sample FB-060122 and method blank batch 628578 respectively. However, the associated sample results were greater than the BAL. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment / Field blanks		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide, total was detected in method blank batch 629993; however, the associated sample is a QA sample (field blank); therefore, no qualification necessary.

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment / field blanks		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under Tier I data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 18. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.8%	2
SVOCs	99.2%	2
PCBs	100%	0
PEST	50%	7
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 21, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 21, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: R. McDermott	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 551-287-1409	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-3(26-30)	6-1-2022	1005	C	S			X	X	X	X										4	
MW-2022-3(29)	1	1005	G	S							X									4	
FB-060122	1	0930	G	W					X	X		X	X	X	X	X	X	X	X	18	

480-198548 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6-1-2022/1620	ANA	[signature]	6/2/22 1000	TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.5

Ver: 01/16/2019

Page 7300 of 7308

06/28/2022

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-3 (26-30)
Date Collected: 06/01/22 10:05
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-1
Matrix: Solid
Percent Solids: 93.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	30	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,2,4-Trichlorobenzene	ND		340	25	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,2-Dichlorobenzene	ND		340	24	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,2-Diphenylhydrazine	ND		340	20	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,3-Dichlorobenzene	ND		340	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,3-Dinitrobenzene	ND		340	42	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,4-Dichlorobenzene	ND		340	27	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,4-Dioxane	ND		100	57	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1,4-Naphthoquinone	ND		340	65	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
1-Naphthylamine	ND	*	340	120	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,4,5-Trichlorophenol	ND		180	48	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,4-Dinitrophenol	ND		1700	820	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,6-Dichlorophenol	ND		340	65	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Acetylaminofluorene	ND		340	45	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Chloronaphthalene	ND		180	29	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Methylphenol	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Naphthylamine	ND	*	340	120	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Nitroaniline	ND		340	26	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Nitrophenol	ND		180	50	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Picoline	ND		340	40	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
2-Toluidine	ND	*	340	85	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
3 & 4 Methylphenol	ND		340	27	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
3,3'-Dichlorobenzidine	ND		340	210	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
3,3'-Dimethylbenzidine	ND	*	690	340	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
3-Methylcholanthrene	ND		340	57	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
3-Methylphenol	ND		340	27	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
3-Nitroaniline	ND		340	49	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4,6-Dinitro-2-methylphenol	ND		340	180	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Aminobiphenyl	ND		340	72	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Chloroaniline	ND		180	44	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Methylphenol	ND		340	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Nitroaniline	ND		340	93	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
4-Nitroquinoline-1-oxide	ND		690	340	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
7,12-Dimethylbenz(a)anthracene	ND		340	51	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
a,a-Dimethylphenethylamine	ND		340	340	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Acenaphthene	ND		180	26	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1

Client Sample ID: MW-2022-3 (26-30)
Date Collected: 06/01/22 10:05
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-1
Matrix: Solid
Percent Solids: 93.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		180	23	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Acetophenone	ND		180	24	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Aniline	ND		340	43	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Anthracene	ND		180	44	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Aramite, Total	ND		340	170	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzidine	ND		5200	2200	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzo[b]fluoranthene	ND		180	28	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Benzyl alcohol	ND		340	24	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Bis(2-ethylhexyl) phthalate	**350**		180	61	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Butyl benzyl phthalate	ND		180	29	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Chrysene	ND		180	40	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Diallate	ND		340	44	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Dibenz(a,h)anthracene	ND		180	31	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Dibenzofuran	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Dimethoate	ND		340	43	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Di-n-butyl phthalate	ND		180	30	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Dinoseb	ND		340	62	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Diphenylamine	ND		340	45	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Disulfoton	ND		340	260	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Chlorobenzilate	ND		340	55	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Ethyl methanesulfonate	ND		340	76	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Famphur	ND		690	170	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Fluoranthene	ND		180	19	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Fluorene	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Hexachlorobenzene	ND		180	24	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Hexachloroethane	ND		180	23	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Hexachloropropene	ND		340	88	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Isodrin	ND		340	61	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Isophorone	ND		180	38	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Isosafrole	ND		340	46	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Kepone	ND		3400	340	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Methapyrilene	ND		1600	340	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Methyl methanesulfonate	ND		340	79	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Naphthalene	ND		180	23	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Nitrobenzene	ND		180	20	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitro-o-toluidine	ND		340	45	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1

Client Sample ID: MW-2022-3 (26-30)
Date Collected: 06/01/22 10:05
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-1
Matrix: Solid
Percent Solids: 93.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		340	80	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosodimethylamine	ND		340	75	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosodi-n-butylamine	ND		340	94	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosodi-n-propylamine	ND		180	30	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosodiphenylamine	ND		180	140	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosomethylethylamine	ND		340	79	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosomorpholine	ND		340	77	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosopiperidine	ND		340	70	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
N-Nitrosopyrrolidine	ND		340	52	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
o,o',o''-Triethylphosphorothioate	ND		340	45	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Ethyl Parathion	ND		340	39	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Methyl parathion	ND		340	60	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
p-Dimethylamino azobenzene	ND		340	59	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Pentachlorobenzene	ND		340	72	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Pentachloronitrobenzene	ND		340	88	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Pentachlorophenol	ND		340	180	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Phenacetin	ND		340	47	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Phenanthrene	ND		180	26	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Phenol	ND		180	27	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Phorate	ND		340	95	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
p-Phenylene diamine	ND		840	340	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Pronamide	ND		340	68	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Pyrene	ND		180	21	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Pyridine	ND		340	25	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Safrole	ND		340	47	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Sulfotepp	ND		340	55	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1
Thionazin	ND		340	61	ug/Kg	☼	06/13/22 15:35	06/14/22 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*72*		*54 - 120*	*06/13/22 15:35*	*06/14/22 14:35*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*06/13/22 15:35*	*06/14/22 14:35*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*06/13/22 15:35*	*06/14/22 14:35*	*1*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*06/13/22 15:35*	*06/14/22 14:35*	*1*
Phenol-d5 (Surr)	*72*		*54 - 120*	*06/13/22 15:35*	*06/14/22 14:35*	*1*
p-Terphenyl-d14 (Surr)	*103*		*79 - 130*	*06/13/22 15:35*	*06/14/22 14:35*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
4,4'-DDE	ND		1.7	0.37	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
4,4'-DDT	ND		1.7	0.41	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Aldrin	ND		1.7	0.43	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Chlordane (technical)	ND		17	3.9	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Chlorobenzilate	ND		17	5.9	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
cis-Chlordane	ND		1.7	0.87	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Dieldrin	ND		1.7	0.42	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Endosulfan I	ND		1.7	0.34	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1

Client Sample ID: MW-2022-3 (26-30)
Date Collected: 06/01/22 10:05
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-1
Matrix: Solid
Percent Solids: 93.7

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Endosulfan sulfate	ND		1.7	0.33	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Endrin	ND		1.7	0.35	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Endrin aldehyde	ND		1.7	0.45	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Endrin ketone	ND		1.7	0.43	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Heptachlor	ND		1.7	0.38	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Methoxychlor	ND		1.7	0.36	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
Toxaphene	ND		17	10	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1
trans-Chlordane	ND		1.7	0.56	ug/Kg	☼	06/09/22 15:50	06/10/22 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*69*		*45 - 120*	*06/09/22 15:50*	*06/10/22 13:03*	*1*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*06/09/22 15:50*	*06/10/22 13:03*	*1*
Tetrachloro-m-xylene	*90*		*30 - 124*	*06/09/22 15:50*	*06/10/22 13:03*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*06/09/22 15:50*	*06/10/22 13:03*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.20	0.040	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1
PCB-1221	ND		0.20	0.040	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1
PCB-1232	ND		0.20	0.040	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1
PCB-1242	ND		0.20	0.040	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1
PCB-1248	ND		0.20	0.040	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1
PCB-1254	ND		0.20	0.096	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1
PCB-1260	ND		0.20	0.096	mg/Kg	☼	06/02/22 15:40	06/07/22 00:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*145*		*65 - 174*	*06/02/22 15:40*	*06/07/22 00:38*	*1*
DCB Decachlorobiphenyl	*156*		*65 - 174*	*06/02/22 15:40*	*06/07/22 00:38*	*1*
Tetrachloro-m-xylene	*143*		*60 - 154*	*06/02/22 15:40*	*06/07/22 00:38*	*1*
Tetrachloro-m-xylene	*152*		*60 - 154*	*06/02/22 15:40*	*06/07/22 00:38*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.6	ug/Kg	☼	06/03/22 06:59	06/07/22 23:59	1
2,4-D	ND		18	11	ug/Kg	☼	06/03/22 06:59	06/07/22 23:59	1
Silvex (2,4,5-TP)	ND		18	6.3	ug/Kg	☼	06/03/22 06:59	06/07/22 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*77*		*28 - 129*	*06/03/22 06:59*	*06/07/22 23:59*	*1*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*06/03/22 06:59*	*06/07/22 23:59*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	34	19	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1
Disulfoton	ND	H	34	23	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1
Famphur	ND	H	34	18	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1
Methyl parathion	ND	H	34	20	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1
Ethyl Parathion	ND	H	34	19	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1

R

Client Sample ID: MW-2022-3 (26-30)
Date Collected: 06/01/22 10:05
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-1
Matrix: Solid
Percent Solids: 93.7

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND	H	34	12	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1
Sulfotepp	ND	H R	34	13	ug/Kg	☼	06/24/22 08:17	06/27/22 08:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*20 - 135*	*06/24/22 08:17*	*06/27/22 08:52*	*1*
Tributyl phosphate	*87*		*20 - 135*	*06/24/22 08:17*	*06/27/22 08:52*	*1*
Triphenylphosphate	*99*		*33 - 168*	*06/24/22 08:17*	*06/27/22 08:52*	*1*
Triphenylphosphate	*101*		*33 - 168*	*06/24/22 08:17*	*06/27/22 08:52*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.27~~	~~J B~~	5.3	U	0.050	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,4,6,7,8-HpCDF	~~0.066~~	~~J B~~	5.3	U	0.018	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,4,7,8,9-HpCDF	ND		5.3		0.022	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,4,7,8-HxCDD	~~0.12~~	~~J I B~~	5.3	U	0.015	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,4,7,8-HxCDF	ND		5.3		0.022	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,6,7,8-HxCDD	ND		5.3		0.015	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,6,7,8-HxCDF	ND		5.3		0.021	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,7,8,9-HxCDD	~~0.12~~	~~J I B~~	5.3	U	0.016	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,7,8,9-HxCDF	ND		5.3		0.025	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,7,8-PeCDD	~~0.025~~	~~J B~~	5.3	U	0.017	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
1,2,3,7,8-PeCDF	ND		5.3		0.019	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
2,3,4,6,7,8-HxCDF	ND		5.3		0.018	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
2,3,4,7,8-PeCDF	ND		5.3		0.014	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
2,3,7,8-TCDD	ND		1.1		0.011	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
2,3,7,8-TCDF	ND		1.1		0.0082	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
OCDD	~~1.4~~	~~J I B~~	11	U	0.058	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
OCDF	ND		11		0.036	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total HpCDD	~~0.27~~	~~J I B~~	5.3	U	0.050	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total HpCDF	~~0.066~~	~~J I B~~	5.3	U	0.020	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total HxCDD	~~0.24~~	~~J I B~~	5.3	U	0.015	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total HxCDF	ND		5.3		0.022	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total PeCDD	~~0.025~~	~~J I B~~	5.3	U	0.017	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total PeCDF	ND		5.3		0.016	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total TCDD	ND		1.1		0.011	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1
Total TCDF	ND		1.1		0.0082	ng/Kg	☼	06/14/22 15:00	06/17/22 02:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*60*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*72*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*67*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*73*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,7,8,9-HxCDD	*70*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,7,8-PeCDD	*60*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-1,2,3,7,8-PeCDF	*58*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*

Client Sample ID: MW-2022-3 (26-30)
Lab Sample ID: 480-198548-1

Date Collected: 06/01/22 10:05
Matrix: Solid
Date Received: 06/02/22 10:00
Percent Solids: 93.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*61*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-OCDD	*75*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*
13C-OCDF	*72*		*40 - 135*	*06/14/22 15:00*	*06/17/22 02:56*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		15.9	0.42	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Arsenic	**2.9**		2.1	0.42	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Barium	**14.8**	~~F1~~	0.53	0.12	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Beryllium	**0.22**		0.21	0.030	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Cadmium	ND		0.21	0.032	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Chromium	**4.6**		0.53	0.21	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Cobalt	**4.6**		0.53	0.053	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Copper	**7.8**		1.1	0.22	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Lead	**6.0**		1.1	0.25	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Nickel	**8.6**		5.3	0.24	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Selenium	ND		4.2	0.42	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Silver	ND		0.64	0.21	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Thallium	ND		6.4	0.32	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Tin	**1.4**	~~J F1~~ J	2.1	0.46	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Vanadium	**4.9**		0.53	0.12	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1
Zinc	**26.9**		2.1	0.68	mg/Kg	☼	06/09/22 15:48	06/10/22 21:13	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	06/03/22 12:01	06/03/22 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.62**	~~J *~~ J	0.92	0.44	mg/Kg	☼	06/10/22 13:35	06/13/22 09:46	1

General Chemistry - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~H~~	~~0.080~~	~~0.043~~	~~mg/Kg~~	~~☼~~	~~06/17/22 13:30~~	~~06/17/22 14:53~~	~~1~~

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.0	11.4	mg/Kg	☼		06/10/22 11:08	1

Client Sample ID: MW-2022-3 (29)
Lab Sample ID: 480-198548-2

Date Collected: 06/01/22 10:05
Matrix: Solid
Date Received: 06/02/22 10:00
Percent Solids: 91.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		3.9	0.39	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,1,1-Trichloroethane	ND		3.9	0.28	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,1,2,2-Tetrachloroethane	ND		3.9	0.63	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,1,2-Trichloroethane	ND		3.9	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1

Client Sample ID: MW-2022-3 (29)
Date Collected: 06/01/22 10:05
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-2
Matrix: Solid
Percent Solids: 91.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		3.9	0.48	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,1-Dichloroethene	ND		3.9	0.48	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,2,3-Trichloropropane	ND		3.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,2-Dibromo-3-Chloropropane	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,2-Dichloroethane	ND		3.9	0.20	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
1,2-Dichloropropane	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
2-Butanone (MEK)	ND		19	1.4	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
2-Chloro-1,3-butadiene	ND		3.9	2.4	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
2-Chloroethyl vinyl ether	ND	*+	7.8	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
2-Hexanone	ND		19	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
3-Chloro-1-propene	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
4-Methyl-2-pentanone (MIBK)	ND		19	1.3	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Acetone	ND		19	3.3	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Acetonitrile	ND		39	4.8	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Acrolein	ND		19	6.2	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Acrylonitrile	ND		19	3.5	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Benzene	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Bromoform	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Bromomethane	ND		3.9	0.35	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Carbon disulfide	ND		3.9	1.9	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Carbon tetrachloride	ND		3.9	0.38	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Chlorobenzene	ND		3.9	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Chlorodibromomethane	ND		3.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Chloroethane	ND		3.9	0.88	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Chloroform	**0.28**	**J**	3.9	0.24	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Chloromethane	ND		3.9	0.24	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
cis-1,3-Dichloropropene	ND		3.9	0.56	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Dibromomethane	ND		3.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Dichlorobromomethane	ND		3.9	0.52	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Dichlorodifluoromethane	ND		3.9	0.32	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Ethyl methacrylate	ND		3.9	1.3	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Ethylbenzene	ND		3.9	0.27	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Ethylene Dibromide	ND		3.9	0.50	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Iodomethane	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Methacrylonitrile	ND		19	4.6	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Methyl methacrylate	ND		3.9	0.82	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Methylene Chloride	ND		3.9	1.8	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
m-Xylene & p-Xylene	ND		7.8	0.65	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
o-Xylene	ND		3.9	0.51	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Propionitrile	ND		39	22	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Styrene	ND		3.9	0.19	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Tetrachloroethene	ND		3.9	0.52	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Toluene	ND		3.9	0.29	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
trans-1,2-Dichloroethene	ND		3.9	0.40	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
trans-1,3-Dichloropropene	ND		3.9	1.7	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
trans-1,4-Dichloro-2-butene	ND		3.9	0.88	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Trichloroethene	ND		3.9	0.86	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Trichlorofluoromethane	ND		3.9	0.37	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1
Vinyl acetate	ND		7.8	2.0	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1

Client Sample ID: MW-2022-3 (29)
Lab Sample ID: 480-198548-2

Date Collected: 06/01/22 10:05
Matrix: Solid
Date Received: 06/02/22 10:00
Percent Solids: 91.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		3.9	0.48	ug/Kg	☼	06/02/22 10:22	06/02/22 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*06/02/22 10:22*	*06/02/22 19:39*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*06/02/22 10:22*	*06/02/22 19:39*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*	*06/02/22 10:22*	*06/02/22 19:39*	*1*
Toluene-d8 (Surr)	*90*		*71 - 125*	*06/02/22 10:22*	*06/02/22 19:39*	*1*

Client Sample ID: FB-060122
Lab Sample ID: 480-198548-3

Date Collected: 06/01/22 09:30
Matrix: Water
Date Received: 06/02/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/08/22 20:19	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/22 20:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/22 20:19	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/22 20:19	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/22 20:19	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/08/22 20:19	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/08/22 20:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/22 20:19	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/22 20:19	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/22 20:19	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/22 20:19	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			06/08/22 20:19	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			06/08/22 20:19	R 1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/22 20:19	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/08/22 20:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/22 20:19	1
Acetone	**25**		10	3.0	ug/L			06/08/22 20:19	1
Acetonitrile	ND		15	4.9	ug/L			06/08/22 20:19	1
Acrolein	ND		20	0.91	ug/L			06/08/22 20:19	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/08/22 20:19	1
Benzene	ND		1.0	0.41	ug/L			06/08/22 20:19	1
Bromoform	ND		1.0	0.26	ug/L			06/08/22 20:19	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/22 20:19	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/22 20:19	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/22 20:19	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/22 20:19	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/08/22 20:19	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/22 20:19	1
Chloroform	ND		1.0	0.34	ug/L			06/08/22 20:19	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/22 20:19	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/22 20:19	1
Dibromomethane	ND		1.0	0.41	ug/L			06/08/22 20:19	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/08/22 20:19	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/22 20:19	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/08/22 20:19	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/22 20:19	1

Client Sample ID: FB-060122
Lab Sample ID: 480-198548-3

Date Collected: 06/01/22 09:30
Matrix: Water
Date Received: 06/02/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/08/22 20:19	1
Iodomethane	ND		1.0	0.30	ug/L			06/08/22 20:19	1
Methacrylonitrile	ND		5.0	0.69	ug/L			06/08/22 20:19	1
Methyl methacrylate	ND		1.0	0.61	ug/L			06/08/22 20:19	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/22 20:19	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/08/22 20:19	1
o-Xylene	ND		1.0	0.76	ug/L			06/08/22 20:19	1
Propionitrile	ND		10	5.8	ug/L			06/08/22 20:19	1
Styrene	ND		1.0	0.73	ug/L			06/08/22 20:19	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/08/22 20:19	1
Toluene	ND		1.0	0.51	ug/L			06/08/22 20:19	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/08/22 20:19	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/22 20:19	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			06/08/22 20:19	1
Trichloroethene	ND		1.0	0.46	ug/L			06/08/22 20:19	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/22 20:19	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/08/22 20:19	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/22 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*06/08/22 20:19*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*06/08/22 20:19*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*06/08/22 20:19*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/08/22 20:19*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,4-Dioxane	ND		10	1.1	ug/L		06/07/22 08:17	06/08/22 17:35	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		06/07/22 08:17	06/08/22 17:35	1
1-Naphthylamine	ND		10	1.3	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		06/07/22 08:17	06/08/22 17:35	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Chlorophenol	ND		5.0	0.53	ug/L		06/07/22 08:17	06/08/22 17:35	1

Client Sample ID: FB-060122
Lab Sample ID: 480-198548-3

Date Collected: 06/01/22 09:30
Matrix: Water
Date Received: 06/02/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		5.0	0.60	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Methylphenol	ND		5.0	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Naphthylamine	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Nitroaniline	ND		10	0.42	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Nitrophenol	ND		5.0	0.48	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Picoline	ND		80	1.4	ug/L		06/07/22 08:17	06/08/22 17:35	1
2-Toluidine	ND		10	1.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		06/07/22 08:17	06/08/22 17:35	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
3-Methylcholanthrene	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
3-Methylphenol	ND		10	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
3-Nitroaniline	ND		10	0.48	ug/L		06/07/22 08:17	06/08/22 17:35	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Aminobiphenyl	ND		10	0.81	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Chloro-3-methylphenol	**10**		5.0	0.45	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Chloroaniline	ND		5.0	0.59	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Methylphenol	ND		10	0.36	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Nitroaniline	ND		10	0.25	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Nitrophenol	ND		10	1.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		06/07/22 08:17	06/08/22 17:35	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		06/07/22 08:17	06/08/22 17:35	1
Acenaphthene	ND		5.0	0.41	ug/L		06/07/22 08:17	06/08/22 17:35	1
Acenaphthylene	ND		5.0	0.38	ug/L		06/07/22 08:17	06/08/22 17:35	1
Acetophenone	ND		5.0	0.54	ug/L		06/07/22 08:17	06/08/22 17:35	1
Aniline	ND		10	0.61	ug/L		06/07/22 08:17	06/08/22 17:35	1
Anthracene	ND		5.0	0.28	ug/L		06/07/22 08:17	06/08/22 17:35	1
Aramite, Total	ND		20	1.6	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzidine	ND		80	2.2	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		06/07/22 08:17	06/08/22 17:35	1
Benzyl alcohol	ND		20	2.0	ug/L		06/07/22 08:17	06/08/22 17:35	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		06/07/22 08:17	06/08/22 17:35	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		06/07/22 08:17	06/08/22 17:35	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/07/22 08:17	06/08/22 17:35	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		06/07/22 08:17	06/08/22 17:35	1
Chrysene	ND		5.0	0.33	ug/L		06/07/22 08:17	06/08/22 17:35	1
Diallate	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		06/07/22 08:17	06/08/22 17:35	1
Dibenzofuran	ND		10	0.51	ug/L		06/07/22 08:17	06/08/22 17:35	1
Diethyl phthalate	ND		5.0	0.22	ug/L		06/07/22 08:17	06/08/22 17:35	1
Dimethoate	ND		10	0.54	ug/L		06/07/22 08:17	06/08/22 17:35	1

Client Sample ID: FB-060122
Date Collected: 06/01/22 09:30
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		5.0	0.36	ug/L		06/07/22 08:17	06/08/22 17:35	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		06/07/22 08:17	06/08/22 17:35	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		06/07/22 08:17	06/08/22 17:35	1
Dinoseb	ND		10	2.9	ug/L		06/07/22 08:17	06/08/22 17:35	1
Diphenylamine	ND		10	0.82	ug/L		06/07/22 08:17	06/08/22 17:35	1
Disulfoton	ND		10	0.42	ug/L		06/07/22 08:17	06/08/22 17:35	1
Chlorobenzilate	ND		20	0.67	ug/L		06/07/22 08:17	06/08/22 17:35	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		06/07/22 08:17	06/08/22 17:35	1
Famphur	ND	*	40	1.9	ug/L		06/07/22 08:17	06/08/22 17:35	1
Fluoranthene	ND		5.0	0.40	ug/L		06/07/22 08:17	06/08/22 17:35	1
Fluorene	ND		5.0	0.36	ug/L		06/07/22 08:17	06/08/22 17:35	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		06/07/22 08:17	06/08/22 17:35	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		06/07/22 08:17	06/08/22 17:35	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		06/07/22 08:17	06/08/22 17:35	1
Hexachloroethane	ND		5.0	0.59	ug/L		06/07/22 08:17	06/08/22 17:35	1
Hexachloropropene	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		06/07/22 08:17	06/08/22 17:35	1
Isodrin	ND		10	0.18	ug/L		06/07/22 08:17	06/08/22 17:35	1
Isophorone	**1.3**	**J**	5.0	0.43	ug/L		06/07/22 08:17	06/08/22 17:35	1
Isosafrole	ND		10	0.58	ug/L		06/07/22 08:17	06/08/22 17:35	1
~~Kepone~~	~~ND~~	~~*~~	~~50~~	~~1.8~~	~~ug/L~~		~~06/07/22 08:17~~	~~06/08/22 17:35~~	R 1
Methapyrilene	ND		50	1.8	ug/L		06/07/22 08:17	06/08/22 17:35	1
Methyl methanesulfonate	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
Naphthalene	ND		5.0	0.76	ug/L		06/07/22 08:17	06/08/22 17:35	1
Nitrobenzene	ND		5.0	0.29	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		06/07/22 08:17	06/08/22 17:35	1
Ethyl Parathion	ND		10	0.64	ug/L		06/07/22 08:17	06/08/22 17:35	1
Methyl parathion	ND		10	0.37	ug/L		06/07/22 08:17	06/08/22 17:35	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		06/07/22 08:17	06/08/22 17:35	1
Pentachlorobenzene	ND		10	0.53	ug/L		06/07/22 08:17	06/08/22 17:35	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
Pentachlorophenol	ND		10	2.2	ug/L		06/07/22 08:17	06/08/22 17:35	1
Phenacetin	ND		10	0.61	ug/L		06/07/22 08:17	06/08/22 17:35	1
Phenanthrene	ND		5.0	0.44	ug/L		06/07/22 08:17	06/08/22 17:35	1
Phenol	ND		5.0	0.39	ug/L		06/07/22 08:17	06/08/22 17:35	1
Phorate	ND		10	0.50	ug/L		06/07/22 08:17	06/08/22 17:35	1
~~p-Phenylene diamine~~	~~ND~~	~~*~~	~~800~~	~~200~~	~~ug/L~~		~~06/07/22 08:17~~	~~06/08/22 17:35~~	R 1
Pronamide	ND		10	2.5	ug/L		06/07/22 08:17	06/08/22 17:35	1
Pyrene	ND		5.0	0.34	ug/L		06/07/22 08:17	06/08/22 17:35	1

Client Sample ID: FB-060122
Date Collected: 06/01/22 09:30
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		25	0.41	ug/L		06/07/22 08:17	06/08/22 17:35	1
Safrole	ND		10	0.46	ug/L		06/07/22 08:17	06/08/22 17:35	1
Sulfotepp	ND		10	0.64	ug/L		06/07/22 08:17	06/08/22 17:35	1
Thionazin	ND		10	0.38	ug/L		06/07/22 08:17	06/08/22 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*67*		*41 - 120*	*06/07/22 08:17*	*06/08/22 17:35*	*1*
2-Fluorobiphenyl (Surr)	*83*		*48 - 120*	*06/07/22 08:17*	*06/08/22 17:35*	*1*
2-Fluorophenol (Surr)	*60*		*35 - 120*	*06/07/22 08:17*	*06/08/22 17:35*	*1*
Nitrobenzene-d5 (Surr)	*74*		*46 - 120*	*06/07/22 08:17*	*06/08/22 17:35*	*1*
Phenol-d5 (Surr)	*44*		*22 - 120*	*06/07/22 08:17*	*06/08/22 17:35*	*1*
p-Terphenyl-d14 (Surr)	*94*		*60 - 148*	*06/07/22 08:17*	*06/08/22 17:35*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		06/06/22 09:23	06/07/22 14:15	1
4,4'-DDE	ND		0.050	0.012	ug/L		06/06/22 09:23	06/07/22 14:15	1
4,4'-DDT	ND		0.050	0.011	ug/L		06/06/22 09:23	06/07/22 14:15	1
Aldrin	ND		0.050	0.0081	ug/L		06/06/22 09:23	06/07/22 14:15	1
alpha-BHC	ND		0.050	0.0077	ug/L		06/06/22 09:23	06/07/22 14:15	1
beta-BHC	ND		0.050	0.025	ug/L		06/06/22 09:23	06/07/22 14:15	1
Chlordane (technical)	ND		0.50	0.29	ug/L		06/06/22 09:23	06/07/22 14:15	1
Chlorobenzilate	ND		5.0	0.090	ug/L		06/06/22 09:23	06/07/22 14:15	1
cis-Chlordane	ND		0.050	0.015	ug/L		06/06/22 09:23	06/07/22 14:15	1
delta-BHC	ND		0.050	0.010	ug/L		06/06/22 09:23	06/07/22 14:15	1
Dieldrin	ND		0.050	0.0098	ug/L		06/06/22 09:23	06/07/22 14:15	1
Endosulfan I	ND		0.050	0.011	ug/L		06/06/22 09:23	06/07/22 14:15	1
Endosulfan II	ND		0.050	0.012	ug/L		06/06/22 09:23	06/07/22 14:15	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		06/06/22 09:23	06/07/22 14:15	1
Endrin	ND		0.050	0.014	ug/L		06/06/22 09:23	06/07/22 14:15	1
Endrin aldehyde	ND		0.050	0.016	ug/L		06/06/22 09:23	06/07/22 14:15	1
Endrin ketone	ND		0.050	0.012	ug/L		06/06/22 09:23	06/07/22 14:15	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		06/06/22 09:23	06/07/22 14:15	1
Heptachlor	ND		0.050	0.0085	ug/L		06/06/22 09:23	06/07/22 14:15	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		06/06/22 09:23	06/07/22 14:15	1
Methoxychlor	ND		0.050	0.014	ug/L		06/06/22 09:23	06/07/22 14:15	1
Toxaphene	ND		0.50	0.12	ug/L		06/06/22 09:23	06/07/22 14:15	1
trans-Chlordane	ND		0.050	0.011	ug/L		06/06/22 09:23	06/07/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*18*	*S1-*	*20 - 120*	*06/06/22 09:23*	*06/07/22 14:15*	*1*
DCB Decachlorobiphenyl	*23*		*20 - 120*	*06/06/22 09:23*	*06/07/22 14:15*	*1*
Tetrachloro-m-xylene	*127*	*S1+*	*44 - 120*	*06/06/22 09:23*	*06/07/22 14:15*	*1*
Tetrachloro-m-xylene	*90*		*44 - 120*	*06/06/22 09:23*	*06/07/22 14:15*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		06/03/22 15:16	06/06/22 19:57	1
PCB-1221	ND		0.50	0.18	ug/L		06/03/22 15:16	06/06/22 19:57	1
PCB-1232	ND		0.50	0.18	ug/L		06/03/22 15:16	06/06/22 19:57	1

Client Sample ID: FB-060122
Lab Sample ID: 480-198548-3

Date Collected: 06/01/22 09:30
Matrix: Water
Date Received: 06/02/22 10:00

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1242	ND		0.50	0.18	ug/L		06/03/22 15:16	06/06/22 19:57	1
PCB-1248	ND		0.50	0.18	ug/L		06/03/22 15:16	06/06/22 19:57	1
PCB-1254	ND		0.50	0.25	ug/L		06/03/22 15:16	06/06/22 19:57	1
PCB-1260	ND		0.50	0.25	ug/L		06/03/22 15:16	06/06/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*39 - 121*	*06/03/22 15:16*	*06/06/22 19:57*	*1*
Tetrachloro-m-xylene	*94*		*39 - 121*	*06/03/22 15:16*	*06/06/22 19:57*	*1*
DCB Decachlorobiphenyl	*46*		*19 - 120*	*06/03/22 15:16*	*06/06/22 19:57*	*1*
DCB Decachlorobiphenyl	*47*		*19 - 120*	*06/03/22 15:16*	*06/06/22 19:57*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.50	0.068	ug/L		06/08/22 10:15	06/10/22 10:14	1
2,4-D	ND		0.50	0.17	ug/L		06/08/22 10:15	06/10/22 10:14	1
Silvex (2,4,5-TP)	ND		0.50	0.050	ug/L		06/08/22 10:15	06/10/22 10:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*113*		*48 - 132*	*06/08/22 10:15*	*06/10/22 10:14*	*1*
2,4-Dichlorophenylacetic acid	*80*		*48 - 132*	*06/08/22 10:15*	*06/10/22 10:14*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.95	0.25	ug/L		06/07/22 03:15	06/08/22 20:12	1
Disulfoton	ND		0.95	0.39	ug/L		06/07/22 03:15	06/08/22 20:12	1
Famphur	ND		0.95	0.31	ug/L		06/07/22 03:15	06/08/22 20:12	1
Methyl parathion	ND		0.95	0.33	ug/L		06/07/22 03:15	06/08/22 20:12	1
Ethyl Parathion	ND		0.95	0.35	ug/L		06/07/22 03:15	06/08/22 20:12	1
Phorate	ND		0.95	0.36	ug/L		06/07/22 03:15	06/08/22 20:12	1
Sulfotepp	ND		0.95	0.38	ug/L		06/07/22 03:15	06/08/22 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*25 - 127*	*06/07/22 03:15*	*06/08/22 20:12*	*1*
Tributyl phosphate	*87*		*25 - 127*	*06/07/22 03:15*	*06/08/22 20:12*	*1*
Triphenylphosphate	*97*		*70 - 155*	*06/07/22 03:15*	*06/08/22 20:12*	*1*
Triphenylphosphate	*99*		*70 - 155*	*06/07/22 03:15*	*06/08/22 20:12*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.4~~ ~~J I B~~ JNX		24	0.27	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,4,6,7,8-HpCDF	~~0.35~~ ~~J I B~~ JNX		24	0.044	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,4,7,8,9-HpCDF	ND		24	0.055	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,4,7,8-HxCDD	ND		24	0.080	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,4,7,8-HxCDF	ND		24	0.12	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,6,7,8-HxCDD	ND		24	0.075	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,6,7,8-HxCDF	~~0.45~~ ~~J I B~~ JNX		24	0.12	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,7,8,9-HxCDD	~~0.27~~ ~~J B~~ J		24	0.083	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,7,8,9-HxCDF	~~0.64~~ ~~J I B~~ JNX		24	0.15	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,7,8-PeCDD	ND		24	0.14	pg/L		06/14/22 09:58	06/15/22 07:48	1
1,2,3,7,8-PeCDF	~~0.47~~ ~~J B~~ J		24	0.11	pg/L		06/14/22 09:58	06/15/22 07:48	1
2,3,4,6,7,8-HxCDF	~~0.72~~ ~~J I B~~ JNX		24	0.12	pg/L		06/14/22 09:58	06/15/22 07:48	1

Client Sample ID: FB-060122
Date Collected: 06/01/22 09:30
Date Received: 06/02/22 10:00

Lab Sample ID: 480-198548-3
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	ND		24	0.086	pg/L		06/14/22 09:58	06/15/22 07:48	1
2,3,7,8-TCDD	ND		4.9	0.15	pg/L		06/14/22 09:58	06/15/22 07:48	1
2,3,7,8-TCDF	ND		4.9	0.12	pg/L		06/14/22 09:58	06/15/22 07:48	1
OCDD	~~3.6 J I B~~	JNX	110	0.20	pg/L		06/14/22 09:58	06/15/22 07:48	1
OCDF	~~0.39 J B~~	J	49	0.11	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total HpCDD	~~1.4 J I B~~	JNX	24	0.27	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total HpCDF	~~0.35 J I B~~	JNX	24	0.050	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total HxCDD	~~0.27 J I B~~	JNX	24	0.079	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total HxCDF	~~1.8 J I B~~	JNX	24	0.12	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total PeCDD	ND		24	0.14	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total PeCDF	~~0.47 J B~~	J	24	0.098	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total TCDD	ND		4.9	0.15	pg/L		06/14/22 09:58	06/15/22 07:48	1
Total TCDF	ND		4.9	0.12	pg/L		06/14/22 09:58	06/15/22 07:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*95*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,4,7,8-HxCDD	*72*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,6,7,8-HxCDF	*93*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,7,8,9-HxCDD	*73*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,7,8,9-HxCDF	*86*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-2,3,7,8-TCDD	*83*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-OCDD	*104*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*
13C-OCDF	*102*		*40 - 135*	*06/14/22 09:58*	*06/15/22 07:48*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/07/22 11:29	06/07/22 19:27	1
Arsenic	ND		0.015	0.0056	mg/L		06/07/22 11:29	06/07/22 19:27	1
Barium	ND		0.0020	0.00070	mg/L		06/07/22 11:29	06/07/22 19:27	1
Beryllium	ND		0.0020	0.00030	mg/L		06/07/22 11:29	06/07/22 19:27	1
Cadmium	ND		0.0020	0.00050	mg/L		06/07/22 11:29	06/07/22 19:27	1
Chromium	ND		0.0040	0.0010	mg/L		06/07/22 11:29	06/07/22 19:27	1
Cobalt	ND		0.0040	0.00063	mg/L		06/07/22 11:29	06/07/22 19:27	1
Copper	ND		0.010	0.0016	mg/L		06/07/22 11:29	06/07/22 19:27	1
Lead	ND		0.010	0.0030	mg/L		06/07/22 11:29	06/07/22 19:27	1
Nickel	ND		0.010	0.0013	mg/L		06/07/22 11:29	06/07/22 19:27	1
Selenium	ND		0.025	0.0087	mg/L		06/07/22 11:29	06/07/22 19:27	1
Silver	ND		0.0060	0.0017	mg/L		06/07/22 11:29	06/07/22 19:27	1
Thallium	ND		0.020	0.010	mg/L		06/07/22 11:29	06/07/22 19:27	1
Tin	ND		0.010	0.0051	mg/L		06/07/22 11:29	06/07/22 19:27	1
Vanadium	ND		0.0050	0.0015	mg/L		06/07/22 11:29	06/07/22 19:27	1

Client Sample ID: FB-060122
Lab Sample ID: 480-198548-3

Date Collected: 06/01/22 09:30
Matrix: Water
Date Received: 06/02/22 10:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.0015	~~J B~~ J	0.010	0.0015	mg/L		06/07/22 11:29	06/07/22 19:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/10/22 12:25	06/10/22 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0051	~~J B F1~~ J	0.010	0.0050	mg/L		06/14/22 13:20	06/14/22 15:40	1
Sulfide	ND		1.0	0.67	mg/L			06/07/22 11:30	1

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-198548-4

Date Collected: 06/01/22 00:00
Matrix: Water
Date Received: 06/02/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/08/22 20:42	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/08/22 20:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/08/22 20:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/08/22 20:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/08/22 20:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/08/22 20:42	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/08/22 20:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/08/22 20:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/08/22 20:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/08/22 20:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/08/22 20:42	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			06/08/22 20:42	1
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~06/08/22 20:42~~	R 1
2-Hexanone	ND		5.0	1.2	ug/L			06/08/22 20:42	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/08/22 20:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/08/22 20:42	1
Acetone	ND		10	3.0	ug/L			06/08/22 20:42	1
Acetonitrile	ND		15	4.9	ug/L			06/08/22 20:42	1
Acrolein	ND		20	0.91	ug/L			06/08/22 20:42	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/08/22 20:42	1
Benzene	ND		1.0	0.41	ug/L			06/08/22 20:42	1
Bromoform	ND		1.0	0.26	ug/L			06/08/22 20:42	1
Bromomethane	ND		1.0	0.69	ug/L			06/08/22 20:42	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/08/22 20:42	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/08/22 20:42	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/08/22 20:42	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/08/22 20:42	1
Chloroethane	ND		1.0	0.32	ug/L			06/08/22 20:42	1
Chloroform	ND		1.0	0.34	ug/L			06/08/22 20:42	1
Chloromethane	ND		1.0	0.35	ug/L			06/08/22 20:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/08/22 20:42	1
Dibromomethane	ND		1.0	0.41	ug/L			06/08/22 20:42	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/08/22 20:42	1

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-198548-4

Date Collected: 06/01/22 00:00
Matrix: Water

Date Received: 06/02/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/08/22 20:42	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/08/22 20:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/08/22 20:42	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/08/22 20:42	1
Iodomethane	ND		1.0	0.30	ug/L			06/08/22 20:42	1
Methacrylonitrile	ND		5.0	0.69	ug/L			06/08/22 20:42	1
Methyl methacrylate	ND		1.0	0.61	ug/L			06/08/22 20:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/08/22 20:42	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/08/22 20:42	1
o-Xylene	ND		1.0	0.76	ug/L			06/08/22 20:42	1
Propionitrile	ND		10	5.8	ug/L			06/08/22 20:42	1
Styrene	ND		1.0	0.73	ug/L			06/08/22 20:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/08/22 20:42	1
Toluene	ND		1.0	0.51	ug/L			06/08/22 20:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/08/22 20:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/08/22 20:42	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			06/08/22 20:42	1
Trichloroethene	ND		1.0	0.46	ug/L			06/08/22 20:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/08/22 20:42	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/08/22 20:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/22 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*06/08/22 20:42*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*06/08/22 20:42*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*06/08/22 20:42*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*06/08/22 20:42*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-199125-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47596R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Laboratory Control Sample Analysis 9
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 10
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 11
4.3 Data Validation Checklist 11
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 System Performance and Overall Assessment 12
5.3 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 13
6.3 Compound Identification 14
6.4 System Performance and Overall Assessment 14
6.5 Data Validation Checklist 14
7 Metals Analyses 15
7.1 Holding Times 15
All samples were analyzed within the specified holding times 15
7.2 System Performance and Overall Assessment 15
7.3 Data Validation Checklist 15
8 General Chemistry Analyses 16

8.1 Holding Times 16
8.2 System Performance and Overall Assessment 17
8.3 Data Validation Checklist for General Chemistry 17
9 Overall Data Usability 17

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 4
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 6. Holding Time for Method SW-846 8270D 9
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 8. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications 9
Table 9. Holding Time for Method SW-846 8082A 10
Table 10. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 14. Holding Time for Method SW-846 8290A 13
Table 15. Summary of Blank Contamination Qualifications 13
Table 16. Holding Time for Method SW-846 6010C/7471B 15
Table 17. Specified Holding Times 16
Table 18. Overall Summary of Data Usability 17

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199125-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample Location	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-1 (60)	480-199125-1	Soil	6/16/2022		X					
MW-2022-1 (60-64)	480-199125-2	Soil	6/16/2022			X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations

and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	0	0	0	0	1
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 Hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

The analysis that exceeded the holding time are presented in the following table.

Sample Location	Holding Time	Criteria
MW-2022-1 (60)	Sample was extracted 6th day from collection	48 Hours from collection to analysis, if samples are not frozen

Sample results associated with sample locations analyzed by analytical method SW-846 8260C were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The LCS analysis exhibited acceptable recoveries with the exceptions noted in the table below.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Location	Compounds	LCS Recovery
MW-2022-1 (60-64)	Famphur	< 10%
	Kepone	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review,

the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B / 8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding times are presented in the following table.

Method	Sample Location	Holding Time	Criteria
SW-846 8141B	MW-2022-1 (60-64)	Samples were extracted 8th day from collection	7 days from collection to extraction

Sample results associated with samples analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample Location	Compounds	Sample Result	Qualification
MW-2022-1 (60-64)	OCDD	Detected sample results <RL and <BAL	“U” at the RL
	Total HxCDD		

Sample Location	Compounds	Sample Result	Qualification
	Total HxCDF		

Note:
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
System performance and overall assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Holding Times		X		X	
Reporting limits (units)		X		X	

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times. Sample MW-2022-1 (60-64) for cyanide analysis was re-extracted (run#2) past hold time due to LCS recovery outside control limits. Hence, the run#1 analysis is considered as not reportable.

The analysis that exceeded the holding times are presented in the following table.

Method	Sample Location	Holding Time	Criteria
SW-846 9012B	MW-2022-1 (60-64)	Samples were analyzed 16th day from collection	14 days from collection to extraction

Sample results associated with samples analyzed by analytical method SW-846 9012B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X	X		
Reporting limits (units)		X		X	

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under Tier I data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

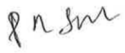
Table 18. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	2
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0

Parameter	Percent Usability	Rejected Data
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 22, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 25, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: MAT	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: (772) 579-1202	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: MA	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: GE Lee	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-1 (60)	6/16/22	1025	G	S							X									4	
MW-2022-1 (60-64)	6/16/22	1025	G	S			X	X	X	X										4	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

480-199125 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Marc [signature]	6/16/22, 1630	ANA	[signature]	6/17/22 1000	TAB

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.1

Ver: 01/16/2019

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-1 (60)
Date Collected: 06/16/22 10:25
Date Received: 06/17/22 10:00

Lab Sample ID: 480-199125-1
Matrix: Solid
Percent Solids: 85.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.2	0.42	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,1,1-Trichloroethane	ND		4.2	0.30	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,1,2,2-Tetrachloroethane	ND		4.2	0.68	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,1,2-Trichloroethane	ND		4.2	0.54	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,1-Dichloroethane	ND		4.2	0.51	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,1-Dichloroethene	ND		4.2	0.51	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,2,3-Trichloropropane	ND		4.2	0.42	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,2-Dibromo-3-Chloropropane	ND		4.2	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,2-Dichloroethane	ND		4.2	0.21	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
1,2-Dichloropropane	ND		4.2	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
2-Butanone (MEK)	ND		21	1.5	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
2-Chloro-1,3-butadiene	ND		4.2	2.6	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
2-Chloroethyl vinyl ether	ND		8.3	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
2-Hexanone	ND		21	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
3-Chloro-1-propene	ND		4.2	2.0	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
4-Methyl-2-pentanone (MIBK)	ND	UJ	21	1.4	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Acetone	ND		21	3.5	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Acetonitrile	ND		42	5.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Acrolein	ND		21	6.6	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Acrylonitrile	ND		21	3.7	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Benzene	ND		4.2	0.20	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Bromoform	ND		4.2	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Bromomethane	ND		4.2	0.38	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Carbon disulfide	ND		4.2	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Carbon tetrachloride	ND		4.2	0.40	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Chlorobenzene	ND		4.2	0.55	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Chlorodibromomethane	ND		4.2	0.53	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Chloroethane	ND		4.2	0.94	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Chloroform	**0.80**	**J**	4.2	0.26	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Chloromethane	ND		4.2	0.25	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
cis-1,3-Dichloropropene	ND		4.2	0.60	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Dibromomethane	ND		4.2	0.43	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Dichlorobromomethane	ND		4.2	0.56	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Dichlorodifluoromethane	ND		4.2	0.34	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Ethyl methacrylate	ND		4.2	1.4	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Ethylbenzene	ND		4.2	0.29	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Ethylene Dibromide	ND		4.2	0.54	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Iodomethane	ND	UJ	4.2	0.20	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Methacrylonitrile	ND		21	4.9	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Methyl methacrylate	ND		4.2	0.88	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Methylene Chloride	ND		4.2	1.9	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
m-Xylene & p-Xylene	ND		8.3	0.70	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
o-Xylene	ND		4.2	0.54	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Propionitrile	ND		42	23	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Styrene	ND		4.2	0.21	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Tetrachloroethene	ND		4.2	0.56	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Toluene	ND		4.2	0.32	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
trans-1,2-Dichloroethene	ND		4.2	0.43	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
trans-1,3-Dichloropropene	ND		4.2	1.8	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1

Client Sample ID: MW-2022-1 (60)
Lab Sample ID: 480-199125-1

Date Collected: 06/16/22 10:25
Matrix: Solid
Date Received: 06/17/22 10:00
Percent Solids: 85.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.2	0.94	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Trichloroethene	ND		4.2	0.92	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Trichlorofluoromethane	ND	UJ	4.2	0.39	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Vinyl acetate	ND		8.3	2.1	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1
Vinyl chloride	ND		4.2	0.51	ug/Kg	☼	06/22/22 10:28	06/22/22 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*06/22/22 10:28*	*06/22/22 17:12*	*1*
4-Bromofluorobenzene (Surr)	*92*		*72 - 126*	*06/22/22 10:28*	*06/22/22 17:12*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 140*	*06/22/22 10:28*	*06/22/22 17:12*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*06/22/22 10:28*	*06/22/22 17:12*	*1*

Client Sample ID: MW-2022-1 (60-64)
Lab Sample ID: 480-199125-2

Date Collected: 06/16/22 10:25
Matrix: Solid
Date Received: 06/17/22 10:00
Percent Solids: 77.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		220	37	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,2,4-Trichlorobenzene	ND		420	31	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,2-Dichlorobenzene	ND		420	30	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,2-Diphenylhydrazine	ND		420	24	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,3,5-Trinitrobenzene	ND		420	18	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,3-Dichlorobenzene	ND		420	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,3-Dinitrobenzene	ND		420	51	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,4-Dichlorobenzene	ND		420	33	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,4-Dioxane	ND		130	71	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1,4-Naphthoquinone	ND		420	80	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
1-Naphthylamine	ND		420	150	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,3,4,6-Tetrachlorophenol	ND		220	45	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,4,5-Trichlorophenol	ND		220	59	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,4,6-Trichlorophenol	ND		220	44	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,4-Dichlorophenol	ND		220	23	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,4-Dimethylphenol	ND		220	53	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,4-Dinitrophenol	ND		2100	1000	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,4-Dinitrotoluene	ND		220	45	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,6-Dichlorophenol	ND		420	80	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2,6-Dinitrotoluene	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Acetylaminofluorene	ND		420	55	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Chloronaphthalene	ND		220	36	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Chlorophenol	ND		420	40	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Methylnaphthalene	ND		220	44	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Methylphenol	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Naphthylamine	ND		420	140	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Nitroaniline	ND		420	32	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Nitrophenol	ND		220	62	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Picoline	ND		420	49	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
2-Toluidine	ND		420	100	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
3 & 4 Methylphenol	ND		420	33	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
3,3'-Dichlorobenzidine	ND		420	260	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1

Client Sample ID: MW-2022-1 (60-64)
Lab Sample ID: 480-199125-2

Date Collected: 06/16/22 10:25
Matrix: Solid

Date Received: 06/17/22 10:00
Percent Solids: 77.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		850	420	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
3-Methylcholanthrene	ND		420	71	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
3-Methylphenol	ND		420	33	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
3-Nitroaniline	ND		420	60	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4,6-Dinitro-2-methylphenol	ND		420	220	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Aminobiphenyl	ND		420	89	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Bromophenyl phenyl ether	ND		220	31	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Chloro-3-methylphenol	ND		220	54	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Chloroaniline	ND		220	54	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Chlorophenyl phenyl ether	ND		220	27	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Methylphenol	ND		420	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Nitroaniline	ND		420	110	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Nitrophenol	ND		420	150	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
4-Nitroquinoline-1-oxide	ND		850	420	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
7,12-Dimethylbenz(a)anthracene	ND		420	63	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
a,a-Dimethylphenethylamine	ND		420	420	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Acenaphthene	ND		220	32	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Acenaphthylene	ND		220	28	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Acetophenone	ND		220	30	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Aniline	ND		420	53	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Anthracene	ND		220	54	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Aramite, Total	ND		420	210	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzidine	ND		6400	2700	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzo[a]anthracene	ND		220	22	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzo[a]pyrene	ND		220	32	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzo[b]fluoranthene	ND		220	35	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzo[g,h,i]perylene	ND		220	23	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzo[k]fluoranthene	ND		220	28	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Benzyl alcohol	ND		420	30	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
bis (2-chloroisopropyl) ether	ND		220	44	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Bis(2-chloroethoxy)methane	ND		220	46	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Bis(2-chloroethyl)ether	ND		220	28	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Bis(2-ethylhexyl) phthalate	ND		220	74	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Butyl benzyl phthalate	ND		220	36	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Chrysene	ND		220	49	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Diallate	ND		420	54	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Dibenz(a,h)anthracene	ND		220	38	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Dibenzofuran	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Diethyl phthalate	ND		220	28	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Dimethoate	ND		420	53	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Dimethyl phthalate	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Di-n-butyl phthalate	ND		220	37	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Di-n-octyl phthalate	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Dinoseb	ND		420	76	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Diphenylamine	ND		420	55	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Disulfoton	ND		420	320	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Chlorobenzilate	ND		420	68	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Ethyl methanesulfonate	ND		420	94	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Famphur	ND	*-	850	210	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	R 1

Client Sample ID: MW-2022-1 (60-64)
Date Collected: 06/16/22 10:25
Date Received: 06/17/22 10:00

Lab Sample ID: 480-199125-2
Matrix: Solid
Percent Solids: 77.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		220	23	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Fluorene	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Hexachlorobenzene	ND		220	30	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Hexachlorobutadiene	ND		220	32	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Hexachlorocyclopentadiene	ND		220	30	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Hexachloroethane	ND		220	28	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Hexachloropropene	ND		420	110	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Indeno[1,2,3-cd]pyrene	ND		220	27	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Isodrin	ND		420	74	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Isophorone	ND		220	46	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Isosafrole	ND		420	56	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Kepone	ND	*-	4200	420	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	R 1
Methapyrilene	ND		1900	420	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Methyl methanesulfonate	ND		420	98	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Naphthalene	ND		220	28	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Nitrobenzene	ND		220	24	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitro-o-toluidine	ND		420	55	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosodiethylamine	ND		420	99	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosodimethylamine	ND		420	92	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosodi-n-butylamine	ND		420	120	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosodi-n-propylamine	ND		220	37	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosodiphenylamine	ND		220	180	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosomethylethylamine	ND		420	98	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosomorpholine	ND	*	420	95	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosopiperidine	ND		420	86	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
N-Nitrosopyrrolidine	ND		420	64	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
o,o',o''-Triethylphosphorothioate	ND		420	55	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Ethyl Parathion	ND		420	47	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Methyl parathion	ND		420	73	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
p-Dimethylamino azobenzene	ND		420	72	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Pentachlorobenzene	ND		420	89	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Pentachloronitrobenzene	ND		420	110	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Pentachlorophenol	ND		420	220	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Phenacetin	ND		420	58	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Phenanthrene	ND		220	32	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Phenol	ND		220	33	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Phorate	ND		420	120	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
p-Phenylene diamine	ND		1000	420	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Pronamide	ND		420	83	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Pyrene	ND		220	26	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Pyridine	ND		420	31	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Safrole	ND		420	58	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Sulfotepp	ND		420	68	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1
Thionazin	ND		420	74	ug/Kg	☼	06/20/22 15:40	06/21/22 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*06/20/22 15:40*	*06/21/22 21:35*	*1*
2-Fluorobiphenyl (Surr)	*79*		*60 - 120*	*06/20/22 15:40*	*06/21/22 21:35*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*06/20/22 15:40*	*06/21/22 21:35*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*06/20/22 15:40*	*06/21/22 21:35*	*1*

Client Sample ID: MW-2022-1 (60-64)
Date Collected: 06/16/22 10:25
Date Received: 06/17/22 10:00

Lab Sample ID: 480-199125-2
Matrix: Solid
Percent Solids: 77.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*77*		*54 - 120*	*06/20/22 15:40*	*06/21/22 21:35*	*1*
p-Terphenyl-d14 (Surr)	*93*		*79 - 130*	*06/20/22 15:40*	*06/21/22 21:35*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2	0.42	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
4,4'-DDE	ND		2.2	0.45	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
4,4'-DDT	ND		2.2	0.50	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Aldrin	ND		2.2	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
alpha-BHC	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
beta-BHC	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Chlordane (technical)	ND		22	4.8	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Chlorobenzilate	ND		22	7.2	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
cis-Chlordane	ND		2.2	1.1	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
delta-BHC	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Dieldrin	ND		2.2	0.52	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Endosulfan I	ND		2.2	0.41	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Endosulfan II	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Endosulfan sulfate	ND		2.2	0.40	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Endrin	ND		2.2	0.43	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Endrin aldehyde	ND		2.2	0.55	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Endrin ketone	ND		2.2	0.53	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
gamma-BHC (Lindane)	ND		2.2	0.39	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Heptachlor	ND		2.2	0.47	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Heptachlor epoxide	ND		2.2	0.55	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Methoxychlor	ND		2.2	0.44	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
Toxaphene	ND		22	13	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1
trans-Chlordane	ND		2.2	0.68	ug/Kg	☼	06/21/22 15:39	06/22/22 15:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*102*		*45 - 120*	*06/21/22 15:39*	*06/22/22 15:40*	*1*
DCB Decachlorobiphenyl	*116*		*45 - 120*	*06/21/22 15:39*	*06/22/22 15:40*	*1*
Tetrachloro-m-xylene	*127*	*S1+*	*30 - 124*	*06/21/22 15:39*	*06/22/22 15:40*	*1*
Tetrachloro-m-xylene	*88*		*30 - 124*	*06/21/22 15:39*	*06/22/22 15:40*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.046	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1
PCB-1221	ND		0.23	0.046	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1
PCB-1232	ND		0.23	0.046	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1
PCB-1242	ND		0.23	0.046	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1
PCB-1248	ND		0.23	0.046	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	06/24/22 16:01	06/27/22 00:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*100*		*65 - 174*	*06/24/22 16:01*	*06/27/22 00:15*	*1*
DCB Decachlorobiphenyl	*105*		*65 - 174*	*06/24/22 16:01*	*06/27/22 00:15*	*1*
Tetrachloro-m-xylene	*97*		*60 - 154*	*06/24/22 16:01*	*06/27/22 00:15*	*1*
Tetrachloro-m-xylene	*102*		*60 - 154*	*06/24/22 16:01*	*06/27/22 00:15*	*1*

Client Sample ID: MW-2022-1 (60-64)
Date Collected: 06/16/22 10:25
Date Received: 06/17/22 10:00

Lab Sample ID: 480-199125-2
Matrix: Solid
Percent Solids: 77.1

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		21	6.8	ug/Kg	☼	06/22/22 09:44	06/27/22 19:09	1
2,4-D	ND		21	13	ug/Kg	☼	06/22/22 09:44	06/27/22 19:09	1
Silvex (2,4,5-TP)	ND		21	7.7	ug/Kg	☼	06/22/22 09:44	06/27/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*06/22/22 09:44*	*06/27/22 19:09*	*1*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*06/22/22 09:44*	*06/27/22 19:09*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	42	24	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1
Disulfoton	ND	H	42	28	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1
Famphur	ND	H	42	22	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1
Methyl parathion	ND	H UJ	42	24	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1
Ethyl Parathion	ND	H	42	23	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1
Phorate	ND	H	42	14	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1
Sulfotepp	ND	H	42	16	ug/Kg	☼	06/24/22 08:17	06/27/22 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*72*		*20 - 135*	*06/24/22 08:17*	*06/27/22 12:32*	*1*
Tributyl phosphate	*68*		*20 - 135*	*06/24/22 08:17*	*06/27/22 12:32*	*1*
Triphenylphosphate	*100*		*33 - 168*	*06/24/22 08:17*	*06/27/22 12:32*	*1*
Triphenylphosphate	*101*		*33 - 168*	*06/24/22 08:17*	*06/27/22 12:32*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.44**	J+ JNX	6.3	0.053	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,4,6,7,8-HpCDF	ND		6.3	0.026	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,4,7,8,9-HpCDF	ND		6.3	0.035	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,4,7,8-HxCDD	ND		6.3	0.0098	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,4,7,8-HxCDF	ND		6.3	0.017	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,6,7,8-HxCDD	**0.039**	J+ JNX	6.3	0.0098	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,6,7,8-HxCDF	**0.063**	J+ JNX	6.3	0.017	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,7,8,9-HxCDD	ND		6.3	0.011	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,7,8,9-HxCDF	**0.073**	J+ JNX	6.3	0.020	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,7,8-PeCDD	ND		6.3	0.027	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
1,2,3,7,8-PeCDF	**0.077**	J+ JNX	6.3	0.016	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
2,3,4,6,7,8-HxCDF	ND		6.3	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
2,3,4,7,8-PeCDF	ND		6.3	0.010	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
2,3,7,8-TCDD	ND		1.3	0.022	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
2,3,7,8-TCDF	ND		1.3	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
OCDD	**2.2**	J+B	13 U	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
OCDF	ND		13	0.012	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total HpCDD	**0.44**	J+ JNX	6.3	0.053	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total HpCDF	ND		6.3	0.035	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total HxCDD	**0.039**	J+B	6.3 U	0.010	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total HxCDF	**0.14**	J+B	6.3 U	0.017	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total PeCDD	ND		6.3	0.027	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total PeCDF	**0.077**	J+ JNX	6.3	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1
Total TCDD	ND		1.3	0.022	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1

Client Sample ID: MW-2022-1 (60-64)
Date Collected: 06/16/22 10:25
Date Received: 06/17/22 10:00

Lab Sample ID: 480-199125-2
Matrix: Solid
Percent Solids: 77.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		1.3	0.013	ng/Kg	☼	06/29/22 13:24	07/02/22 03:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*84*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,4,7,8-HxCDF	*74*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,7,8,9-HxCDD	*83*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,7,8,9-HxCDF	*90*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-2,3,4,7,8-PeCDF	*74*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-2,3,7,8-TCDD	*68*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-2,3,7,8-TCDF	*75*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-OCDD	*80*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*
13C-OCDF	*87*		*40 - 135*	*06/29/22 13:24*	*07/02/22 03:51*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		19.7	0.52	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Arsenic	**5.8**		2.6	0.52	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Barium	**20.0**		0.66	0.14	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Beryllium	**0.44**		0.26	0.037	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Cadmium	**0.13**	**J**	0.26	0.039	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Chromium	**9.0**		0.66	0.26	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Cobalt	**6.6**		0.66	0.066	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Copper	**10.9**		1.3	0.28	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Lead	**10.1**		1.3	0.31	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Nickel	**12.8**		6.6	0.30	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Selenium	ND		5.2	0.52	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Silver	ND		0.79	0.26	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Thallium	ND		7.9	0.39	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Tin	**0.65**	**J**	2.6	0.56	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Vanadium	**11.6**		0.66	0.14	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1
Zinc	**36.0**		2.6	0.84	mg/Kg	☼	06/28/22 15:08	06/30/22 04:07	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0056	mg/Kg	☼	06/21/22 09:40	06/21/22 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~*- F1~~	~~1.1~~	~~0.53~~	~~mg/Kg~~	~~☼~~	~~06/30/22 09:23~~	~~06/30/22 10:00~~	~~1~~
Cyanide, Total	ND	~~H *-~~ UJ	1.1	0.53	mg/Kg	☼	07/01/22 14:08	07/02/22 13:38	1

Client Sample ID: MW-2022-1 (60-64)
Lab Sample ID: 480-199125-2
Date Collected: 06/16/22 10:25
Matrix: Solid
Date Received: 06/17/22 10:00
Percent Solids: 77.1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		24.1	13.7	mg/Kg	☼		06/27/22 12:55	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-197966-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47630R
Review Level: Tier I
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Laboratory Control Sample Analysis 8
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 9
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 10
5 Pesticide/Herbicide Analyses 10
5.1 Holding Times 10
5.2 System Performance and Overall Assessment 11
5.3 Data Validation Checklist 11
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 11
6.1 Holding Times 11
6.2 Blank Contamination 12
6.3 Compound Identification 13
6.4 System Performance and Overall Assessment 13
6.5 Data Validation Checklist 13
7 Metals Analyses 14
7.1 Holding Times 14
7.2 System Performance and Overall Assessment 14
7.3 Data Validation Checklist 15
8 General Chemistry Analyses 15
8.1 Holding Times 15

8.2 System Performance and Overall Assessment 15
8.3 Data Validation Checklist for General Chemistry 16
9 Overall Data Usability 16

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 4
Table 2. Evaluation of Data Package Completeness 4
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 7. Laboratory Control Sample Recovery Criteria and Qualifications 9
Table 8. Holding Time for Method SW-846 8082A 10
Table 9. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 10. Holding Time for Method SW-846 8290A 12
Table 11. Summary of Blank Contamination Qualifications 12
Table 12. Holding Time for Method SW-846 6010C/7471B 14
Table 13. Specified Holding Times 15
Table 14. Overall Summary of Data Usability 16

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197966-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	MET	MISC
B2022-2 (77-81)	480-197966-1	Soil	05/13/2022			X	X	X	X	X
B-2022-2 (79)	480-197966-2	Soil	05/13/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC- Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations

and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	0	0	0	0	1
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
OPC	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
B2022-2 (77-81)	Prep Batch: 626297	Famphur	<10%
		Kepone	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 7. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 10. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 11. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
B2022-2 (77-81)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	OCDD (MB)		
	OCDF (MB)		
	Total HpCDD (MB)		
	Total HpCDF (MB)		
	Total HxCDD (MB)		
	Total HxCDF (MB)		
	Total PeCDD (MB)		
	Total PeCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 14. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	2
PCBs	100%	0
PEST	100%	0
OPC	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: November 18, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 18, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Lab PM: Schwab, John R
Carrier: Syracuse Mc #225
Page: Page 1 of 1
Job #:

Client Information
Client Contact: Mr. Daniel Meador
Company: ARCADIS U.S. Inc
Address: One Lincoln Center 110 West Fayette St Suite 300
City: Syracuse
State, Zip: NY, 13202
Phone: 315-671-9374(Tel)
Email: daniel.meador@arcadis.com
Project Name: GE Woods Pond Fence
Site: GE Lee

Sampler:
Phone: 551-234-1987
PO #:
Due Date Requested:
TAT Requested (days):
Compliance Project: Yes No
PWSID:
Purchase Order #:
WO #: WA-EUROFINS-3818AM/22C2
Project #: ABQS1870
SSOW#:

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S2O3
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

SHORT HOLD

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B/6020A - Appendix IV Metals, 7470A - Mercury, 7471B - Mercury, 9056A - Appendix IV Organic Inorganic Anions	6020A - Dissolved Metals, 7470A - Dissolved Mercury, 7471B - Dissolved Mercury, 9056A - Appendix IV Dissolved Anions	6010C - Appendix IV Dissolved Metals	8260C - Appendix III Dissolved Volatiles	8270D - Appendix III Semi-Volatiles	8270D - Appendix III Semi-Volatiles	9056A - Chloride, Fluoride, Sulfate	6010C - Appendix III Metals	8082A - Appendix III Pesticides	8151A - Appendix III Herbicides	Total Number of Containers	Special Instructions/Note
[illegible]	5/16/2022	0745	C	S			X	X									6	
[illegible]	5/16/2022	0945	G	S						X							5	

480-197886 Chain of Custody

Possible Hazard Identification
Non-Hazard, Flammable, Skin Irritant, Poison B, Unknown, Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client, Disposal By Lab, Archive For, Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/17/22 1000	ARCADIS	[signature]	5/17/22 1000	ARCADIS
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Yes No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 4.1 3.7

Ver: 06/08/2017

Page 44 of 44

05/31/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record



Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com
Company: Eurofins Environment Testing Northeast		Accreditations Required (See note): State - Massachusetts
Address: 1691 Kisling Drive, 2000 Fwy	Due Date Requested: 5/26/2022	Analysis Requested
City: Pittsburgh	TAT Requested (days):	
State, Zip: PA, 15205	PO #:	
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	WO #:	
Email:	Project #: 48021977	
Project Name: 218 Woods Pond Palace	SSOW#:	
Site:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
			Preservation Code:					
320252 (TT-61) (480-187466-1)	5/17/22	09:45 Eastern		Solid		5	5	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being requested, this status should be brought to Eurofins Environment Testing Northeast, LLC's attention immediately. All results are reported relative to the accreditation status as supported in Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client / Disposal By Lab / Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2
Special Instructions/QC Requirements:	

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 5/17/22 1600	Company: FHK	Received by:	Date/Time: 5-18-22	Company: ESTNTH
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: 9:00	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Yes / No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			

05/24/2022
Ver 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schmiggel, John R	Carrier Tracking No(s):	COC No: 480-72260-1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schmiggel@eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-137366-1
Address: 2425 New Holland Pike,	Due Date Requested: 5/23/2023	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:
City: Lancaster	PO #:			
State, Zip: PA, 17601	WO #:			
Phone: 717-656-2300(Tel)	Project #: 48025475			
Email:	SSOW#:			
Project Name: GE Woods Pond Parcel				
Site:				

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B/MOD_TCL_Soil_Done_Future_11_Isomers_Xylene	Total Number of Containers	Special Instructions/Note:
			Preservation Code:						
B2C-2 (17-01) (480-137366-1)	5/15/23	10:45 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client / Disposal By Lab / Archive For ___ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2
Empty Kit Relinquished by:	Date: Time: Method of Shipment:
Relinquished by:	Date/Time: 5/17/22 1600 Company: ERS
Relinquished by:	Date/Time: Company:
Relinquished by:	Date/Time: Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:
Received by:	Date/Time: 5/18/22 1024 Company: Eurofins
Received by:	Date/Time: Company:
Received by:	Date/Time: Company:
Cooler Temperature(s) °C and Other Remarks: 4.2	

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: B2022-2 (77-81)
Date Collected: 05/13/22 09:45
Date Received: 05/14/22 10:00

Lab Sample ID: 480-197966-1
Matrix: Solid
Percent Solids: 79.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	36	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,2,4-Trichlorobenzene	ND		410	30	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,2-Dichlorobenzene	ND		410	29	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,2-Diphenylhydrazine	ND		410	24	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,3,5-Trinitrobenzene	ND		410	17	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,3-Dichlorobenzene	ND		410	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,3-Dinitrobenzene	ND		410	50	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,4-Dichlorobenzene	ND		410	33	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,4-Dioxane	ND		130	69	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1,4-Naphthoquinone	ND		410	78	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
1-Naphthylamine	ND		410	140	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,3,4,6-Tetrachlorophenol	ND		210	44	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,4,5-Trichlorophenol	ND		210	58	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,4,6-Trichlorophenol	ND		210	43	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,4-Dichlorophenol	ND		210	23	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,4-Dimethylphenol	ND		210	51	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,4-Dinitrophenol	ND		2100	980	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,4-Dinitrotoluene	ND		210	44	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,6-Dichlorophenol	ND		410	78	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2,6-Dinitrotoluene	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Acetylaminofluorene	ND		410	54	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Chloronaphthalene	ND		210	35	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Chlorophenol	ND		410	39	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Methylnaphthalene	ND		210	43	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Methylphenol	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Naphthylamine	ND		410	140	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Nitroaniline	ND		410	31	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Nitrophenol	ND		210	60	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Picoline	ND		410	48	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
2-Toluidine	ND		410	100	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
3 & 4 Methylphenol	ND		410	33	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
3,3'-Dichlorobenzidine	ND		410	250	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
3,3'-Dimethylbenzidine	ND		830	410	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
3-Methylcholanthrene	ND		410	69	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
3-Methylphenol	ND		410	33	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
3-Nitroaniline	ND		410	59	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4,6-Dinitro-2-methylphenol	ND		410	210	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Aminobiphenyl	ND		410	86	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Bromophenyl phenyl ether	ND		210	30	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Chloro-3-methylphenol	ND		210	53	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Chloroaniline	ND		210	53	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Chlorophenyl phenyl ether	ND		210	26	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Methylphenol	ND		410	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Nitroaniline	ND		410	110	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Nitrophenol	ND		410	150	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
4-Nitroquinoline-1-oxide	ND		830	410	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
7,12-Dimethylbenz(a)anthracene	ND		410	61	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
a,a-Dimethylphenethylamine	ND		410	410	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Acenaphthene	ND		210	31	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1

Client Sample ID: B2022-2 (77-81)
Date Collected: 05/13/22 09:45
Date Received: 05/14/22 10:00

Lab Sample ID: 480-197966-1
Matrix: Solid
Percent Solids: 79.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		210	28	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Acetophenone	ND		210	29	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Aniline	ND		410	51	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Anthracene	ND		210	53	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Aramite, Total	ND		410	200	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzidine	ND		6300	2700	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzo[a]pyrene	ND		210	31	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzo[b]fluoranthene	ND		210	34	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzo[g,h,i]perylene	ND		210	23	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzo[k]fluoranthene	ND		210	28	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Benzyl alcohol	ND		410	29	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
bis (2-chloroisopropyl) ether	ND		210	43	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Bis(2-chloroethoxy)methane	ND		210	45	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Bis(2-chloroethyl)ether	ND		210	28	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Bis(2-ethylhexyl) phthalate	ND		210	73	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Butyl benzyl phthalate	ND		210	35	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Chrysene	ND		210	48	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Diallate	ND		410	53	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Dibenz(a,h)anthracene	ND		210	38	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Dibenzofuran	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Diethyl phthalate	ND		210	28	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Dimethoate	ND		410	51	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Dimethyl phthalate	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Di-n-butyl phthalate	ND		210	36	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Di-n-octyl phthalate	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Dinoseb	ND		410	74	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Diphenylamine	ND		410	54	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Disulfoton	ND		410	310	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Chlorobenzilate	ND		410	66	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Ethyl methanesulfonate	ND		410	91	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
~~Famphur~~	~~ND~~	~~*-~~	~~830~~	~~200~~	~~ug/Kg~~	~~☼~~	~~05/16/22 15:21~~	~~05/17/22 22:18~~	~~1~~	R
Fluoranthene	ND		210	23	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Fluorene	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Hexachlorobenzene	ND		210	29	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Hexachlorobutadiene	ND		210	31	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Hexachlorocyclopentadiene	ND		210	29	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Hexachloroethane	ND		210	28	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Hexachloropropene	ND		410	110	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Indeno[1,2,3-cd]pyrene	ND		210	26	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Isodrin	ND		410	73	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Isophorone	ND		210	45	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Isosafrole	ND		410	55	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
~~Kepone~~	~~ND~~	~~*~~	~~830~~	~~410~~	~~ug/Kg~~	~~☼~~	~~05/16/22 15:21~~	~~05/17/22 22:18~~	~~1~~	R
Methapyrilene	ND		1900	410	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Methyl methanesulfonate	ND		410	95	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Naphthalene	ND		210	28	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
Nitrobenzene	ND		210	24	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	
N-Nitro-o-toluidine	ND		410	54	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1	

Client Sample ID: B2022-2 (77-81)
Date Collected: 05/13/22 09:45
Date Received: 05/14/22 10:00

Lab Sample ID: 480-197966-1
Matrix: Solid
Percent Solids: 79.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		410	96	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosodimethylamine	ND		410	90	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosodi-n-butylamine	ND		410	110	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosodi-n-propylamine	ND		210	36	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosomethylethylamine	ND		410	95	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosomorpholine	ND		410	93	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosopiperidine	ND		410	84	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
N-Nitrosopyrrolidine	ND		410	63	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
o,o',o''-Triethylphosphorothioate	ND		410	54	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Ethyl Parathion	ND		410	46	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Methyl parathion	ND		410	71	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
p-Dimethylamino azobenzene	ND		410	70	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Pentachlorobenzene	ND		410	86	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Pentachloronitrobenzene	ND		410	110	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Pentachlorophenol	ND		410	210	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Phenacetin	ND		410	56	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Phenanthrene	ND		210	31	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Phenol	ND		210	33	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Phorate	ND		410	110	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
p-Phenylene diamine	ND		1000	410	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Pronamide	ND		410	81	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Pyrene	ND		210	25	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Pyridine	ND		410	30	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Safrole	ND		410	56	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Sulfotepp	ND		410	66	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1
Thionazin	ND		410	73	ug/Kg	☼	05/16/22 15:21	05/17/22 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*	*05/16/22 15:21*	*05/17/22 22:18*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*05/16/22 15:21*	*05/17/22 22:18*	*1*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*05/16/22 15:21*	*05/17/22 22:18*	*1*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*	*05/16/22 15:21*	*05/17/22 22:18*	*1*
Phenol-d5 (Surr)	*78*		*54 - 120*	*05/16/22 15:21*	*05/17/22 22:18*	*1*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*05/16/22 15:21*	*05/17/22 22:18*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
4,4'-DDE	ND		2.0	0.43	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
4,4'-DDT	ND		2.0	0.48	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Aldrin	ND		2.0	0.50	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
alpha-BHC	ND		2.0	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
beta-BHC	ND		2.0	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Chlordane (technical)	ND		20	4.5	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Chlorobenzilate	ND		20	6.9	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
delta-BHC	ND		2.0	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Dieldrin	ND		2.0	0.49	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Endosulfan I	ND		2.0	0.39	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1

Client Sample ID: B2022-2 (77-81)
Date Collected: 05/13/22 09:45
Date Received: 05/14/22 10:00

Lab Sample ID: 480-197966-1
Matrix: Solid
Percent Solids: 79.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Endosulfan sulfate	ND		2.0	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Endrin	ND		2.0	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Endrin aldehyde	**0.99**	**J**	2.0	0.52	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Endrin ketone	ND		2.0	0.50	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
gamma-BHC (Lindane)	ND		2.0	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Heptachlor	ND		2.0	0.44	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Heptachlor epoxide	ND		2.0	0.53	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Methoxychlor	ND		2.0	0.42	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
Toxaphene	ND		20	12	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1
trans-Chlordane	ND		2.0	0.65	ug/Kg	☼	05/16/22 15:30	05/17/22 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*74*		*45 - 120*	*05/16/22 15:30*	*05/17/22 18:31*	*1*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*05/16/22 15:30*	*05/17/22 18:31*	*1*
Tetrachloro-m-xylene	*92*		*30 - 124*	*05/16/22 15:30*	*05/17/22 18:31*	*1*
Tetrachloro-m-xylene	*71*		*30 - 124*	*05/16/22 15:30*	*05/17/22 18:31*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.31	0.060	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1
PCB-1221	ND		0.31	0.060	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1
PCB-1232	ND		0.31	0.060	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1
PCB-1242	ND		0.31	0.060	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1
PCB-1248	ND		0.31	0.060	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1
PCB-1254	ND		0.31	0.14	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1
PCB-1260	ND		0.31	0.14	mg/Kg	☼	05/24/22 09:18	05/24/22 19:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*100*		*65 - 174*	*05/24/22 09:18*	*05/24/22 19:23*	*1*
DCB Decachlorobiphenyl	*109*		*65 - 174*	*05/24/22 09:18*	*05/24/22 19:23*	*1*
Tetrachloro-m-xylene	*99*		*60 - 154*	*05/24/22 09:18*	*05/24/22 19:23*	*1*
Tetrachloro-m-xylene	*106*		*60 - 154*	*05/24/22 09:18*	*05/24/22 19:23*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.5	ug/Kg	☼	05/18/22 07:09	05/24/22 02:21	1
2,4-D	ND		20	13	ug/Kg	☼	05/18/22 07:09	05/24/22 02:21	1
Silvex (2,4,5-TP)	ND		20	7.3	ug/Kg	☼	05/18/22 07:09	05/24/22 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*05/18/22 07:09*	*05/24/22 02:21*	*1*
2,4-Dichlorophenylacetic acid	*84*		*28 - 129*	*05/18/22 07:09*	*05/24/22 02:21*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		41	23	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1
Disulfoton	ND		41	27	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1
Famphur	ND		41	22	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1
Methyl parathion	ND		41	24	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1
Ethyl Parathion	ND		41	23	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1

Client Sample ID: B2022-2 (77-81)
Date Collected: 05/13/22 09:45
Date Received: 05/14/22 10:00

Lab Sample ID: 480-197966-1
Matrix: Solid
Percent Solids: 79.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		41	14	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1
Sulfotepp	ND		41	16	ug/Kg	☼	05/19/22 11:46	05/23/22 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*20 - 135*	*05/19/22 11:46*	*05/23/22 12:24*	*1*
Tributyl phosphate	*89*		*20 - 135*	*05/19/22 11:46*	*05/23/22 12:24*	*1*
Triphenylphosphate	*96*		*33 - 168*	*05/19/22 11:46*	*05/23/22 12:24*	*1*
Triphenylphosphate	*97*		*33 - 168*	*05/19/22 11:46*	*05/23/22 12:24*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.72~~	~~J B~~ 6.2	6.2 U	0.022	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,4,6,7,8-HpCDF	~~0.36~~	~~J B~~	6.2	0.0057	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,4,7,8,9-HpCDF	~~0.065~~	~~J I B~~	6.2	0.0076	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,4,7,8-HxCDD	~~0.045~~	~~J I B~~	6.2	0.0025	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,4,7,8-HxCDF	0.078	J	6.2	0.0068	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,6,7,8-HxCDD	~~0.086~~	~~J I B~~ 6.2	6.2 U	0.0026	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,6,7,8-HxCDF	~~0.053~~	~~J I B~~ 6.2	6.2 U	0.0068	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,7,8,9-HxCDD	0.067	~~J I~~ JNX	6.2	0.0027	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,7,8,9-HxCDF	~~0.041~~	~~J B~~ 6.2	6.2 U	0.0085	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,7,8-PeCDD	~~0.034~~	~~J I B~~	6.2	0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
1,2,3,7,8-PeCDF	~~0.047~~	~~J I B~~	6.2	0.0056	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
2,3,4,6,7,8-HxCDF	0.045	J	6.2	0.0065	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
2,3,4,7,8-PeCDF	~~0.048~~	~~J B~~ 6.2	6.2 U	0.0039	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
2,3,7,8-TCDD	ND		1.2	0.0037	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
2,3,7,8-TCDF	ND		1.2	0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
OCDD	~~1.8~~	~~J B~~ 12	12 U	0.012	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
OCDF	~~0.24~~	~~J I B~~ 12	12	0.0083	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total HpCDD	~~0.72~~	~~J B~~ 6.2	6.2	0.022	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total HpCDF	~~0.43~~	~~J I B~~	6.2	0.0067	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total HxCDD	~~0.20~~	~~J I B~~	6.2	0.0026	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total HxCDF	~~0.22~~	~~J I B~~	6.2	0.0071	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total PeCDD	~~0.034~~	~~J I B~~	6.2	0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total PeCDF	~~0.095~~	~~J I B~~	6.2	0.0048	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total TCDD	ND		1.2	0.0037	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1
Total TCDF	ND		1.2	0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 16:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,7,8,9-HxCDD	*85*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*

Client Sample ID: B2022-2 (77-81)
Lab Sample ID: 480-197966-1

Date Collected: 05/13/22 09:45
Matrix: Solid

Date Received: 05/14/22 10:00
Percent Solids: 79.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*76*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-OCDD	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*
13C-OCDF	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 16:19*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.3**	**J**	19.3	0.52	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Arsenic	**3.9**		2.6	0.52	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Barium	**21.8**		0.64	0.14	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Beryllium	**0.26**		0.26	0.036	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Cadmium	**0.11**	**J**	0.26	0.039	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Chromium	**5.8**		0.64	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Cobalt	**5.8**		0.64	0.064	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Copper	**8.1**		1.3	0.27	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Lead	**6.2**		1.3	0.31	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Nickel	**10.3**		6.4	0.30	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Selenium	**0.76**	**J**	5.2	0.52	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Silver	ND		0.77	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Thallium	ND		7.7	0.39	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Tin	ND		2.6	0.55	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Vanadium	**6.9**		0.64	0.14	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1
Zinc	**32.7**		2.6	0.83	mg/Kg	☼	05/19/22 12:46	05/24/22 14:05	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.025	0.0058	mg/Kg	☼	05/18/22 11:48	05/18/22 13:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.11	0.051	mg/Kg	☼	05/25/22 14:40	05/25/22 16:03	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		23.1	13.2	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-2 (79)
Lab Sample ID: 480-197966-2

Date Collected: 05/13/22 09:45
Matrix: Solid

Date Received: 05/14/22 10:00
Percent Solids: 85.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,1,1-Trichloroethane	ND		5.2	0.37	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.84	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,1,2-Trichloroethane	ND		5.2	0.67	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,1-Dichloroethane	ND		5.2	0.63	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,1-Dichloroethene	ND		5.2	0.63	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,2,3-Trichloropropane	ND		5.2	0.52	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1

Client Sample ID: B-2022-2 (79)
Date Collected: 05/13/22 09:45
Date Received: 05/14/22 10:00

Lab Sample ID: 480-197966-2
Matrix: Solid
Percent Solids: 85.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
2-Chloro-1,3-butadiene	ND		5.2	3.2	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
2-Chloroethyl vinyl ether	ND		10	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Acetone	ND		26	4.3	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Acetonitrile	ND		52	6.3	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Acrolein	ND		26	8.1	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Benzene	ND		5.2	0.25	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Bromomethane	ND		5.2	0.46	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Carbon tetrachloride	ND		5.2	0.50	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Chlorobenzene	ND		5.2	0.68	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Chlorodibromomethane	ND		5.2	0.66	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Chloroform	ND		5.2	0.32	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Chloromethane	ND		5.2	0.31	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
cis-1,3-Dichloropropene	ND		5.2	0.74	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Dibromomethane	ND		5.2	0.53	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Dichlorobromomethane	ND		5.2	0.69	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Ethylene Dibromide	ND		5.2	0.66	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Methacrylonitrile	ND		26	6.1	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Methyl methacrylate	ND		5.2	1.1	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
m-Xylene & p-Xylene	ND		10	0.87	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
o-Xylene	ND		5.2	0.67	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Propionitrile	ND		52	29	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Styrene	ND		5.2	0.26	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Tetrachloroethene	ND		5.2	0.69	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Toluene	ND		5.2	0.39	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
trans-1,2-Dichloroethene	ND		5.2	0.53	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1
Vinyl chloride	ND		5.2	0.63	ug/Kg	☼	05/14/22 11:00	05/16/22 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*64 - 126*	*05/14/22 11:00*	*05/16/22 21:44*	*1*
4-Bromofluorobenzene (Surr)	*95*		*72 - 126*	*05/14/22 11:00*	*05/16/22 21:44*	*1*

Client: ARCADIS U.S. Inc
Job ID: 480-197966-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: B-2022-2 (79)
Lab Sample ID: 480-197966-2
Date Collected: 05/13/22 09:45
Matrix: Solid
Date Received: 05/14/22 10:00
Percent Solids: 85.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		60 - 140	05/14/22 11:00	05/16/22 21:44	1
Toluene-d8 (Surr)	96		71 - 125	05/14/22 11:00	05/16/22 21:44	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-198018-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47631R
Review Level: Tier I
Project: 30150026.3000

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 6
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 Matrix Spike/Matrix Spike Duplicate Analysis 9
2.3 System Performance and Overall Assessment 9
2.4 Data Validation Checklist 10
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 10
3.3 Laboratory Control Sample Analysis 11
3.4 System Performance and Overall Assessment 12
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 14
5.1 Holding Times 14
5.2 System Performance and Overall Assessment 14
5.3 Data Validation Checklist 14
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 15
6.2 Blank Contamination 15
6.3 Compound Identification 18
6.4 System Performance and Overall Assessment 18
6.5 Data Validation Checklist 18
7 Metals Analyses 19
7.1 Holding Times 19
7.2 System Performance and Overall Assessment 19
7.3 Data Validation Checklist 20

8 General Chemistry Analyses 20
8.1 Holding Times 20
8.2 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 20
8.2.1 Matrix Spike/Matrix Spike Duplicate Analysis 21
8.3 System Performance and Overall Assessment 21
8.4 Data Validation Checklist for General Chemistry 21
9 Overall Data Usability 22

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 9
Table 6. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 9
Table 7. Holding Time for Method SW-846 8270D 10
Table 8. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 11
Table 9. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 11
Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 11. Laboratory Control Sample Recovery Criteria and Qualifications 12
Table 12. Holding Time for Method SW-846 8082A 13
Table 13. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 14. Holding Time for Method SW-846 8290A 15
Table 15. Summary of Blank Contamination Qualifications 16
Table 16. Holding Time for Method SW-846 6010C/7471B 19
Table 17. Specified Holding Times 20
Table 18. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 21
Table 19. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 21
Table 20. Overall Summary of Data Usability 22

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-198018-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	MET	MISC
B-2022-1 (0-1)	480-198018-1	Soil	05/16/2022			X	X	X	X	X
B-2022-1 (0.5)	480-198018-2	Soil	05/16/2022		X					
B-2022-1 (12-16)	480-198018-3	Soil	05/16/2022			X	X	X	X	X
B-2022-1 (14)	480-198018-4	Soil	05/16/2022		X					
B-2022-1 (28-32)	480-198018-5	Soil	05/16/2022			X	X	X	X	X
B-2022-1 (29)	480-198018-6	Soil	05/16/2022		X					
B-2022-1 (43-47)	480-198018-7	Soil	05/16/2022			X	X	X	X	X
B-2022-1 (44)	480-198018-8	Soil	05/16/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and

- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence

audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	4	0	0	0	0	0	4
SVOCs	4	0	0	0	0	0	4
PCBs	4	0	0	0	0	0	4
PEST	4	0	0	0	0	0	4
OPC	4	0	0	0	0	0	4
HERB	4	0	0	0	0	0	4
PCDD/PCDF	4	0	0	0	0	0	4
Metals	4	0	0	0	0	0	4
MISC	4	0	0	0	0	0	4

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2.2 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample B-2022-1 (0.5) exhibiting recoveries outside of the control limits are presented in the following table.

Table 5. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compound	MS Recovery	MSD Recovery
B-2022-1 (0.5)	Vinyl acetate	<10%	10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 6. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
System performance and Overall Assessment		X		X	

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 7. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample B-2022-1 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 8. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
B-2022-1 (0-1)	a,a-Dimethylphenethylamine	<10%	<10%
	Benzidine	<10%	<10%
	Kepone	<10%	<10%
	p-Phenylene diamine	<10%	<10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 9. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
B-2022-1 (0-1)	Prep Batch: 626542	Famphur	<10%

Sample ID	Batch	Compounds	LCS Recovery
B-2022-1 (12-16) B-2022-1 (28-32) B-2022-1 (43-47)		Kepone	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 11. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X	X		
Reporting limits (units)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
Laboratory Control Sample (LCS) %R		X	X		

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
System performance and Overall Assessment		X		X	

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to

method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
B-2022-1 (0-1)	1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
B-2022-1 (12-16)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
B-2022-1 (28-32)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
B-2022-1 (43-47)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)		

Notes:
MB = Method blank
RL = Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.2.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample B-2022-1 (0-1) exhibiting recoveries outside of the control limits are presented in the following table.

Table 18. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery	MSD Recovery
B-2022-1 (0-1)	Cyanide	9%	12%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte cyanide associated with this SDG.

Table 19. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
System performance and Overall Assessment		X		X	

Note:

%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 20. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	99.54%	1
SVOCs	97.80%	11
PCBs	100%	0
PEST	100%	0
OPC	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	87.50%	1

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: November 21, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 21, 2022

Appendix A

Chain of Custody

Eurofins Buffalo

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Client Information	Sampler: D McDevitt	Lab PM: Schmidt, John P	Carrier Tracking No(s):	COC No: 480-177180-27164.1
Client Contact: Mr. Daniel Mazella	Phone: 585-232-1905	E-Mail: John.Schmidt@Eurofinset.com	State of Origin: New York	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St Suite 300	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Syracuse	TAT Requested (days): 5 Days			
State, Zip: NY, 13202	Compliance Project: Yes No			
Phone: 315-671-9874(Tel)	PO #: 30-30472001			
Email: daniel.mazella@arcadis.com	WO #: WA-BWP0FIN3407T180620-2022			
Project Name: GE Velocity Front Forest	Project #: 48034970			
Site: GE Lee	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C_7N1B_30125_SM4500_S2F	6010C_7N1B_30125_SM4500_S2F Dissolved - Appendix IV Organometallics - Filtered	6020A - Appendix IV Dissolved - Filtered - Antimony + Selenium	6020A - Appendix IV Dissolved - Filtered - Thallium	6020A - Appendix IV Total/NA	6020A - Appendix IV Semi-Volatiles	6020A - Appendix IV Volatiles	6020A - Appendix IV Dissolved - Filtered	6020A - Appendix IV Total/NA	6020A - Appendix IV Total/NA	9056A - Appendix IV Perchlorate	9056A - Appendix IV Perchlorate - Filtered	SM4500_S2_Sulfide_Total	Total Number of containers	Special Instructions/Note:
B-2022-1 (0-1)	5/6/2022	0935	C	S			X	X	X	X										4	
B-2022-1 (0-1)		0935	G								X									1	
B-2022-1 (0-1) MS		0935	C				X	X	X	X										4	
B-2022-1 (0-1) MS		0935	G								X									1	
B-2022-1 (0-1) MSD		0935	C				X	X	X	X										4	
B-2022-1 (0-1) MSD		0935	G								X									1	
B-2022-1 (12-16)		1100	C				X	X	X	X										4	
B-2022-1 (14)		1100	G								X									1	
B-2022-1 (28-32)		1256	C				X	X	X	X										4	
B-2022-1 (29)		1256	G								X									1	
B-2022-1 (43-47)		1337	C				X	X	X	X										4	

SHORT HOLD

480-180618 Chain of Custody

Possible Hazard Identification: Non-Hazard, Flammable, Skin Irritant, Poison B, Unknown, Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal: Return To Client, Disposal By Lab, Archive For, Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	5/6/2022 1530	ARCADIS			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Yes No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.3 #1 ICE

Ver: 06/08/2021

Eurofins Buffalo

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Eurofins Syracuse

Client Information	Sampler: B McGrath	Lab PM:	Carrier Tracking No(s):
Client Contact: Mr. Daniel Messore	Phone: 585-237-1409	E-Mail:	State of Origin:
Company: ARCADIS U.S. Inc	PWSID:		Page: Page 1 of 1
Address: One Lincoln Center 110 West Fayette St Suite 300	Due Date Requested:		Job #:
City: Syracuse	TAT Requested (days): Standard		
State, Zip: NY, 13202	Compliance Project: Yes No		
Phone: 315-671-9574(Tel)	PO #: 30043000001		
Email: daniel.messore@arcadis.com	WO #: WA-EUROFINS SYRACUSE		
Project Name: CR Wilcox Plant Puerto	Project #: 48024470		
Site: GE Lee	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_BTEX_MTBE_Naphthalene_	8260C_Chlorinated Hydrocarbons_	8260C_Ketones_1,4-Dioxane	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	8270D - Appendix IX Semi-Volatiles	8270D_SIM_1,4-Dioxane	8270D_SIM_PAH	8082A - Appendix B PCBs	8015C - Appendix D Pesticides	8015C - Appendix D Herbicides	8015C - Appendix D PCBs	Ethanol_EC_E - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	N	N	A	B	N	N	N	B	B	N	N	CB	S	
B-2022-1 (44)	5-16-22	1337	G	S						X										1	SHORT HOLD

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (Specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ___ Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 5-16-2022 1530	Company:	Received by:		Date/Time:		Company
Relinquished by:	Date/Time:	Company:	Received by:		Date/Time:		Company
Relinquished by:	Date/Time:	Company:	Received by:		Date/Time:		Company
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:				

Ver: 06/08/2021

Page 4886 of 4893

06/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record



480-198018 Chain of Custody

Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sabuda, John K	
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Sabuda@eurofinsus.com	
Company: Eurofins Environment Testing Northeast		Accreditations Required (See note): State - Massachusetts	Job #: 480-198018-1
Address: 301 Alpha Drive, SOC Park	Due Date Requested: 5/31/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Panel	Project #: 48026[illegible]		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; X - Trizma; Z - Other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Soil, Oil, Sediment, Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total number of containers	Special Instructions/Notes
			Preservation Code						
B-2022-1 (0-1) (480-198018-1)	5/16/22	12:35 Eastern		Solid			X	1	
B-2022-1 (0-1) (480-198018-1MS)	5/16/22	12:35 Eastern	MS	Solid			X	1	
B-2022-1 (0-1) (480-198018-1MSD)	5/16/22	12:35 Eastern	MSD	Solid			X	1	
B-2022-1 (12-18) (480-198018-3)	5/16/22	11:30 Eastern		Solid			X	1	
B-2022-1 (28-32) (480-198018-5)	5/16/22	12:56 Eastern		Solid			X	1	
B-2022-1 (45-47) (480-198018-7)	5/16/22	12:37 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC cannot be responsible for accreditation of the sample or the accreditation requirements. This sample shipment is forwarded under the chain of custody. If the laboratory does not currently maintain accreditation in the State of Origin, the analysis may be subject to the laboratory accreditation requirements of the Eurofins Environment Testing Northeast, LLC laboratory or other accreditation and compliance. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC's attention. If all requested accreditations are current to date, return the signed Chain of Custody Record to the Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank:	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Added to Receiver:

Relinquished by: [signature]	Date/Time: 5/18/22 1800	Company: THB	Received by:	Date/Time: [illegible]	Company: [illegible]
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: [illegible]	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(°C) and Other Remarks:	

06/01/2022

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: John Schoveiger, auroreus.com	Carrier Tracking No(s):	COC No: 480-[illegible] -
Client Contact: Shipping/Receiving	Phone:	E-Mail:	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-198[illegible]-1
Address: 2425 New Holland Pike,	Due Date Requested: 5/31/2022	Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Wades Point Partial	Project #: 48030270			
Site:	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260_Soil_Bench_5_Euro_List_TAL_Totals_+	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
B-2022-1 (0-1) (480-198[illegible]-1)	5/16/22	09:15 Eastern		Solid			X	1	
B-2022-1 (0-1) (480-198[illegible]-MS)	5/16/22	09:15 Eastern	MS	Solid			X	1	
B-2022-1 (0-1) (480-198[illegible]-MSD)	5/16/22	09:15 Eastern	MSD	Solid			X	1	
B-2022-1 (12-16) (480-198[illegible]-3)	5/16/22	11:07 Eastern		Solid			X	1	
B-2022-2 (0-1) (480-198[illegible]-4)	5/16/22	13:35 Eastern		Solid			X	1	
B-2022-2 (12-16) (480-198[illegible]-5)	5/16/22	13:37 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out-subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being requested, this shipment may be rejected for analysis. The client will be responsible for all costs associated with this shipment. Please contact Eurofins Environment Testing Northeast, LLC if there are any questions regarding this chain-of-custody. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed COC indicating the laboratory will be compliant with all requested accreditations.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	Return to Client / Disposal By Lab / Archive For Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2
Special Instructions/QC Requirements:	

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: [signature]	Date/Time: 5/18/22 1800	Received by:	Company: FHB
Relinquished by:	Date/Time:	Received by:	Company:
Relinquished by:	Date/Time:	Received by: [signature]	Company: ELET
Custody Seals Intact: Yes No	Custody Seal No.: 218484	Cooler Temperature(s) °C and Other Remarks: 1.8°C	

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
V	Serial Dilution exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: B-2022-1 (0-1)
Date Collected: 05/16/22 09:35
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-1
Matrix: Solid
Percent Solids: 92.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,2-Dichlorobenzene	ND	F2	360	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,3,5-Trinitrobenzene	ND	F2	360	15	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,3-Dinitrobenzene	ND		360	43	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
1-Naphthylamine	ND	F2	360	120	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,4,5-Trichlorophenol	ND	F2	180	50	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Acetylaminofluorene	ND	F2	360	46	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Chlorophenol	ND	F2	360	33	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Methylnaphthalene	ND	F2	180	37	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Methylphenol	ND	F2	180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Nitroaniline	ND	*+	360	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Picoline	ND		360	41	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
2-Toluidine	ND	F1 F2	360	88	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
3 & 4 Methylphenol	ND	F2	360	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
3,3'-Dimethylbenzidine	ND		710	360	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
3-Methylcholanthrene	ND		360	59	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
3-Methylphenol	ND	F2	360	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
3-Nitroaniline	ND	F2	360	51	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Aminobiphenyl	ND	*-	360	75	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Bromophenyl phenyl ether	ND	F2	180	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Chloroaniline	ND	F2	180	45	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Chlorophenyl phenyl ether	ND	F2	180	23	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Methylphenol	ND	F2	360	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Nitroaniline	ND		360	96	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Nitrophenol	ND	*+	360	130	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
4-Nitroquinoline-1-oxide	ND	F2	710	360	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
7,12-Dimethylbenz(a)anthracene	ND	F2	360	53	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
a,a-Dimethylphenethylamine	ND	F1	360	360	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1 R
Acenaphthene	ND		180	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1

Client Sample ID: B-2022-1 (0-1)
Date Collected: 05/16/22 09:35
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-1
Matrix: Solid
Percent Solids: 92.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND	F2	180	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Acetophenone	ND	F2	180	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Aniline	ND	F2	360	44	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Anthracene	ND		180	45	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Aramite, Total	ND	F2	360	170	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
~~Benzidine~~	~~ND~~	~~F1~~	~~5400~~	~~2300~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 19:30~~	~~1~~	R
Benzo[a]anthracene	ND	F2	180	18	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Benzo[a]pyrene	ND	F2	180	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Benzo[b]fluoranthene	ND	F2	180	29	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Benzo[g,h,i]perylene	ND	F2	180	19	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Benzo[k]fluoranthene	ND	F2	180	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Benzyl alcohol	ND		360	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
bis (2-chloroisopropyl) ether	ND	F2	180	37	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Bis(2-chloroethoxy)methane	ND	F2	180	39	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Bis(2-chloroethyl)ether	ND	F2	180	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Bis(2-ethylhexyl) phthalate	ND	F2	180	63	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Butyl benzyl phthalate	ND	*+ F1 F2	180	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Chrysene	ND	F2	180	41	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Diallate	ND		360	45	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Dibenz(a,h)anthracene	ND	F2	180	32	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Dibenzofuran	ND	F2	180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Diethyl phthalate	ND	F2	180	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Dimethoate	ND		360	44	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Dimethyl phthalate	ND		180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Di-n-butyl phthalate	ND	F1 F2	180	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Di-n-octyl phthalate	ND	F2	180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Dinoseb	ND	F2	360	64	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Diphenylamine	ND		360	46	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Disulfoton	ND		360	270	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Chlorobenzilate	ND	F2	360	57	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Ethyl methanesulfonate	ND	F2	360	79	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
~~Famphur~~	~~ND~~	~~*~~	~~710~~	~~170~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 19:30~~	~~1~~	R
Fluoranthene	ND	F2	180	19	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Fluorene	ND	F2	180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Hexachlorobenzene	ND		180	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Hexachloroethane	ND		180	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Hexachloropropene	ND		360	91	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Indeno[1,2,3-cd]pyrene	ND	F2	180	23	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Isodrin	ND	F2	360	63	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Isophorone	ND	F2	180	39	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Isosafrole	ND		360	48	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
~~Kepone~~	~~ND~~	~~* F1~~	~~710~~	~~360~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 19:30~~	~~1~~	R
Methapyrilene	ND		1600	360	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Methyl methanesulfonate	ND		360	82	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Naphthalene	ND		180	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
Nitrobenzene	ND		180	21	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	
N-Nitro-o-toluidine	ND		360	46	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1	

Client Sample ID: B-2022-1 (0-1)
Date Collected: 05/16/22 09:35
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-1
Matrix: Solid
Percent Solids: 92.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	F2	360	83	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosodi-n-butylamine	ND		360	97	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosomethylethylamine	ND		360	82	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosomorpholine	ND	F2	360	80	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosopiperidine	ND		360	72	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
N-Nitrosopyrrolidine	ND	F2	360	54	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
o,o',o''-Triethylphosphorothioate	ND		360	46	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Ethyl Parathion	ND	F1 F2	360	40	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Methyl parathion	ND	F2	360	62	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
p-Dimethylamino azobenzene	ND	F2	360	61	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Pentachlorophenol	ND		360	180	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Phenacetin	ND		360	49	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Phenanthrene	ND		180	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Phenol	ND		180	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Phorate	ND	*1	360	98	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
p-Phenylene diamine	ND	F1	860	360	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1 R
Pronamide	ND		360	70	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Pyrene	ND		180	22	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Pyridine	ND		360	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Safrole	ND	F2	360	49	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Sulfotepp	ND	F2	360	57	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1
Thionazin	ND		360	63	ug/Kg	☼	05/18/22 08:58	05/24/22 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*05/18/22 08:58*	*05/24/22 19:30*	*1*
2-Fluorobiphenyl (Surr)	*70*		*60 - 120*	*05/18/22 08:58*	*05/24/22 19:30*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*05/18/22 08:58*	*05/24/22 19:30*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*	*05/18/22 08:58*	*05/24/22 19:30*	*1*
Phenol-d5 (Surr)	*67*		*54 - 120*	*05/18/22 08:58*	*05/24/22 19:30*	*1*
p-Terphenyl-d14 (Surr)	*87*		*79 - 130*	*05/18/22 08:58*	*05/24/22 19:30*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
4,4'-DDT	ND		1.8	0.42	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
cis-Chlordane	ND		1.8	0.90	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1

Client Sample ID: B-2022-1 (0-1)
Date Collected: 05/16/22 09:35
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-1
Matrix: Solid
Percent Solids: 92.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Endrin	ND		1.8	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
Toxaphene	ND		18	10	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	05/24/22 09:00	05/25/22 10:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*45 - 120*	*05/24/22 09:00*	*05/25/22 10:13*	*1*
DCB Decachlorobiphenyl	*95*		*45 - 120*	*05/24/22 09:00*	*05/25/22 10:13*	*1*
Tetrachloro-m-xylene	*93*		*30 - 124*	*05/24/22 09:00*	*05/25/22 10:13*	*1*
Tetrachloro-m-xylene	*62*		*30 - 124*	*05/24/22 09:00*	*05/25/22 10:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.050	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1
PCB-1221	ND		0.26	0.050	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1
PCB-1232	ND		0.26	0.050	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1
PCB-1242	ND		0.26	0.050	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1
PCB-1248	ND		0.26	0.050	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	05/24/22 09:18	05/24/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*80*		*65 - 174*	*05/24/22 09:18*	*05/24/22 19:09*	*1*
DCB Decachlorobiphenyl	*88*		*65 - 174*	*05/24/22 09:18*	*05/24/22 19:09*	*1*
Tetrachloro-m-xylene	*78*		*60 - 154*	*05/24/22 09:18*	*05/24/22 19:09*	*1*
Tetrachloro-m-xylene	*84*		*60 - 154*	*05/24/22 09:18*	*05/24/22 19:09*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	05/18/22 07:09	05/23/22 21:55	1
2,4-D	ND		18	11	ug/Kg	☼	05/18/22 07:09	05/23/22 21:55	1
Silvex (2,4,5-TP)	ND		18	6.5	ug/Kg	☼	05/18/22 07:09	05/23/22 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*28 - 129*	*05/18/22 07:09*	*05/23/22 21:55*	*1*
2,4-Dichlorophenylacetic acid	*82*		*28 - 129*	*05/18/22 07:09*	*05/23/22 21:55*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	~~F1~~	36	20	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1
Disulfoton	ND		36	24	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1
Famphur	ND		36	19	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1
Methyl parathion	ND		36	21	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1

Client Sample ID: B-2022-1 (0-1)
Date Collected: 05/16/22 09:35
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-1
Matrix: Solid
Percent Solids: 92.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		36	12	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/20/22 07:45	05/23/22 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*99*		*20 - 135*	*05/20/22 07:45*	*05/23/22 13:27*	*1*
Tributyl phosphate	*96*		*20 - 135*	*05/20/22 07:45*	*05/23/22 13:27*	*1*
Triphenylphosphate	*105*		*33 - 168*	*05/20/22 07:45*	*05/23/22 13:27*	*1*
Triphenylphosphate	*108*		*33 - 168*	*05/20/22 07:45*	*05/23/22 13:27*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**11**	~~B~~	5.3	0.049	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,4,6,7,8-HpCDF	**4.4**	J ~~B~~	5.3	0.023	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,4,7,8,9-HpCDF	**0.36**	J ~~B~~	5.3	0.036	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,4,7,8-HxCDD	**0.21**	J ~~B~~	5.3	0.0065	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,4,7,8-HxCDF	**0.68**	J ~~B~~	5.3	0.016	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,6,7,8-HxCDD	**0.35**	J ~~B~~	5.3	0.0066	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,6,7,8-HxCDF	~~0.25~~	~~J I B~~ 5.3 U	5.3	0.016	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,7,8,9-HxCDD	**0.34**	~~J I B~~ JNX	5.3	0.0068	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,7,8,9-HxCDF	~~0.090~~	~~J B~~ 5.3 U	5.3	0.022	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,7,8-PeCDD	**0.12**	~~J I~~ JNX	5.3	0.0070	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
1,2,3,7,8-PeCDF	~~0.24~~	~~J B~~ 5.3 U	5.3	0.014	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
2,3,4,6,7,8-HxCDF	~~0.20~~	~~J I B~~ 5.3 U	5.3	0.014	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
2,3,4,7,8-PeCDF	**0.25**	J ~~B~~	5.3	0.010	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
2,3,7,8-TCDD	ND		1.1	0.0040	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
2,3,7,8-TCDF	**0.064**	~~J I~~ JNX	1.1	0.0064	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
OCDD	**220**	~~F1 B~~	11	0.066	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
OCDF	**17**	~~B~~	11	0.023	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total HpCDD	**11**	~~B~~	5.3	0.049	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total HpCDF	**4.8**	J ~~B~~	5.3	0.030	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total HxCDD	~~0.90~~	~~J I B~~ 5.3 U	5.3	0.0066	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total HxCDF	~~1.2~~	~~J I B~~ 5.3 U	5.3	0.017	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total PeCDD	**0.12**	~~J I~~ JNX	5.3	0.0070	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total PeCDF	~~0.49~~	~~J I B~~ 5.3 U	5.3	0.012	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total TCDD	ND		1.1	0.0040	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1
Total TCDF	**0.064**	~~J I~~ JNX	1.1	0.0064	ng/Kg	☼	05/27/22 12:22	06/01/22 01:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*76*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,7,8,9-HxCDD	*85*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,7,8,9-HxCDF	*78*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*

Client Sample ID: B-2022-1 (0-1)
Lab Sample ID: 480-198018-1

Date Collected: 05/16/22 09:35
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 92.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-OCDD	*74*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*
13C-OCDF	*72*		*40 - 135*	*05/27/22 12:22*	*06/01/22 01:36*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**4.4**	**J**	16.4	0.44	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Arsenic	**6.0**		2.2	0.44	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Barium	**21.0**		0.55	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Beryllium	**0.44**		0.22	0.031	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Cadmium	**0.054**	**J**	0.22	0.033	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Chromium	**6.2**		0.55	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Cobalt	**8.6**		0.55	0.055	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Copper	**9.0**		1.1	0.23	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Lead	**9.4**		1.1	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Nickel	**14.4**		5.5	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Selenium	**2.2**	**J**	4.4	0.44	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Silver	ND		0.66	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Thallium	ND		6.6	0.33	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Tin	ND	~~F1~~	2.2	0.47	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Vanadium	**9.3**		0.55	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1
Zinc	**54.1**	~~F1~~	2.2	0.70	mg/Kg	☼	05/19/22 12:46	05/24/22 13:23	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**	**J**	0.022	0.0051	mg/Kg	☼	05/18/22 11:48	05/18/22 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
~~Cyanide, Total~~	~~ND~~	~~F1 F2~~	~~0.091~~	~~0.044~~	~~mg/Kg~~	☼	~~05/25/22 14:40~~	~~05/25/22 16:05~~	~~1~~	R

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.2	11.5	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-1 (0.5)
Lab Sample ID: 480-198018-2

Date Collected: 05/16/22 09:35
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.44	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,1,1-Trichloroethane	ND		4.4	0.32	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,1,2,2-Tetrachloroethane	ND		4.4	0.72	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,1,2-Trichloroethane	ND		4.4	0.57	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,1-Dichloroethane	ND		4.4	0.54	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,1-Dichloroethene	ND		4.4	0.54	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,2,3-Trichloropropane	ND		4.4	0.45	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,2-Dibromo-3-Chloropropane	ND		4.4	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1

Client Sample ID: B-2022-1 (0.5)
Lab Sample ID: 480-198018-2
Date Collected: 05/16/22 09:35
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		4.4	0.22	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
1,2-Dichloropropane	ND		4.4	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
2-Butanone (MEK)	ND	F1	22	1.6	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
2-Chloro-1,3-butadiene	ND		4.4	2.7	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
2-Chloroethyl vinyl ether	ND		8.8	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
2-Hexanone	ND		22	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
3-Chloro-1-propene	ND		4.4	2.1	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
4-Methyl-2-pentanone (MIBK)	ND		22	1.4	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Acetone	ND		22	3.7	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Acetonitrile	ND		44	5.4	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Acrolein	ND	F1 F2	22	7.0	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Acrylonitrile	ND		22	4.0	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Benzene	ND		4.4	0.22	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Bromoform	ND		4.4	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Bromomethane	ND		4.4	0.40	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Carbon disulfide	ND		4.4	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Carbon tetrachloride	ND		4.4	0.43	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Chlorobenzene	ND		4.4	0.58	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Chlorodibromomethane	ND		4.4	0.57	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Chloroethane	ND		4.4	1.0	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Chloroform	ND		4.4	0.27	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Chloromethane	ND		4.4	0.27	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
cis-1,3-Dichloropropene	ND		4.4	0.64	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Dibromomethane	ND		4.4	0.45	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Dichlorobromomethane	ND		4.4	0.59	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Dichlorodifluoromethane	ND		4.4	0.36	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Ethyl methacrylate	ND	F1	4.4	1.5	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Ethylbenzene	ND		4.4	0.30	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Ethylene Dibromide	ND		4.4	0.57	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Iodomethane	ND		4.4	0.21	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Methacrylonitrile	ND		22	5.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Methyl methacrylate	ND		4.4	0.93	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Methylene Chloride	ND		4.4	2.0	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
m-Xylene & p-Xylene	ND		8.8	0.74	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
o-Xylene	ND		4.4	0.58	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Propionitrile	ND		44	25	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Styrene	ND		4.4	0.22	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Tetrachloroethene	ND		4.4	0.59	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Toluene	ND		4.4	0.33	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
trans-1,2-Dichloroethene	ND		4.4	0.46	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
trans-1,3-Dichloropropene	ND		4.4	1.9	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
trans-1,4-Dichloro-2-butene	ND		4.4	1.0	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Trichloroethene	ND		4.4	0.97	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Trichlorofluoromethane	ND		4.4	0.42	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1
Vinyl acetate	ND	F1 F2	8.8	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1 R
Vinyl chloride	ND		4.4	0.54	ug/Kg	☼	05/17/22 12:15	05/17/22 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*05/17/22 12:15*	*05/17/22 21:59*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*05/17/22 12:15*	*05/17/22 21:59*	*1*

Client Sample ID: B-2022-1 (0.5)
Lab Sample ID: 480-198018-2
Date Collected: 05/16/22 09:35
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*99*		*60 - 140*	*05/17/22 12:15*	*05/17/22 21:59*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*05/17/22 12:15*	*05/17/22 21:59*	*1*

Client Sample ID: B-2022-1 (12-16)
Lab Sample ID: 480-198018-3
Date Collected: 05/16/22 11:00
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Nitroaniline	ND	*+	390	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Picoline	ND		390	45	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
2-Toluidine	ND		390	96	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Aminobiphenyl	ND	*+	390	82	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1

Client Sample ID: B-2022-1 (12-16)
Date Collected: 05/16/22 11:00
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-3
Matrix: Solid
Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Nitrophenol	ND	*+	390	140	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Acenaphthylene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Acetophenone	ND		200	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Aniline	ND		390	49	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Anthracene	ND		200	50	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzidine	ND		5900	2500	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Bis(2-ethylhexyl) phthalate	**230**		200	69	ug/Kg	☼	05/18/22 08:58	05/20/22 18:53	1
Butyl benzyl phthalate	ND	*+	200	33	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Chrysene	ND		200	45	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Diallate	ND		390	50	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Dimethoate	ND		390	49	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Dinoseb	ND		390	70	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Disulfoton	ND		390	300	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Famphur	ND	*-	780	190	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1 R
Fluoranthene	ND		200	21	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Fluorene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Hexachloropropene	ND		390	100	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1

Client Sample ID: B-2022-1 (12-16)
Date Collected: 05/16/22 11:00
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-3
Matrix: Solid
Percent Solids: 83.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		390	69	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Isophorone	ND		200	43	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Isosafrole	ND		390	52	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
~~Kepone~~	~~ND~~	~~*-~~	~~780~~	~~390~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 19:54~~	~~1~~ R
Methapyrilene	ND		1800	390	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Methyl methanesulfonate	ND		390	90	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Naphthalene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Nitrobenzene	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosodiethylamine	ND		390	91	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosomethylethylamine	ND		390	90	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Methyl parathion	ND		390	68	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Phenacetin	ND		390	53	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Phenol	ND		200	31	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Phorate	ND	~~*+~~	390	110	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Pronamide	ND		390	77	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Pyrene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Pyridine	ND		390	28	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Safrole	ND		390	53	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1
Thionazin	ND		390	69	ug/Kg	☼	05/18/22 08:58	05/24/22 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*05/18/22 08:58*	*05/24/22 19:54*	*1*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*05/18/22 08:58*	*05/24/22 19:54*	*1*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*05/18/22 08:58*	*05/24/22 19:54*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 120*	*05/18/22 08:58*	*05/24/22 19:54*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*05/18/22 08:58*	*05/24/22 19:54*	*1*
p-Terphenyl-d14 (Surr)	*107*		*79 - 130*	*05/18/22 08:58*	*05/24/22 19:54*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1

Client Sample ID: B-2022-1 (12-16)
Date Collected: 05/16/22 11:00
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-3
Matrix: Solid
Percent Solids: 83.8

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
alpha-BHC	ND		2.0	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
beta-BHC	ND		2.0	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
cis-Chlordane	ND		2.0	0.98	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Endosulfan II	ND		2.0	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Endrin	ND		2.0	0.39	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Endrin aldehyde	ND		2.0	0.50	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
Toxaphene	ND		20	11	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	05/24/22 09:00	05/25/22 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*45 - 120*	*05/24/22 09:00*	*05/25/22 13:49*	*1*
DCB Decachlorobiphenyl	*95*		*45 - 120*	*05/24/22 09:00*	*05/25/22 13:49*	*1*
Tetrachloro-m-xylene	*169*	*S1+*	*30 - 124*	*05/24/22 09:00*	*05/25/22 13:49*	*1*
Tetrachloro-m-xylene	*81*		*30 - 124*	*05/24/22 09:00*	*05/25/22 13:49*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.29	0.057	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1
PCB-1221	ND		0.29	0.057	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1
PCB-1232	ND		0.29	0.057	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1
PCB-1242	ND		0.29	0.057	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1
PCB-1248	ND		0.29	0.057	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1
PCB-1254	ND		0.29	0.14	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1
PCB-1260	ND		0.29	0.14	mg/Kg	☼	05/24/22 09:18	05/24/22 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*84*		*65 - 174*	*05/24/22 09:18*	*05/24/22 19:50*	*1*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*05/24/22 09:18*	*05/24/22 19:50*	*1*
Tetrachloro-m-xylene	*82*		*60 - 154*	*05/24/22 09:18*	*05/24/22 19:50*	*1*
Tetrachloro-m-xylene	*89*		*60 - 154*	*05/24/22 09:18*	*05/24/22 19:50*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/18/22 07:09	05/24/22 02:51	1
2,4-D	ND		20	12	ug/Kg	☼	05/18/22 07:09	05/24/22 02:51	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/18/22 07:09	05/24/22 02:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*67*		*28 - 129*	*05/18/22 07:09*	*05/24/22 02:51*	*1*

Client Sample ID: B-2022-1 (12-16)
Date Collected: 05/16/22 11:00
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-3
Matrix: Solid
Percent Solids: 83.8

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	*67*		*28 - 129*	*05/18/22 07:09*	*05/24/22 02:51*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	22	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1
Disulfoton	ND		38	25	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1
Famphur	ND		38	20	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1
Methyl parathion	ND		38	22	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1
Phorate	ND		38	13	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1
Sulfotepp	ND		38	15	ug/Kg	☼	05/20/22 07:45	05/23/22 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*47*		*20 - 135*	*05/20/22 07:45*	*05/23/22 15:02*	*1*
Tributyl phosphate	*46*		*20 - 135*	*05/20/22 07:45*	*05/23/22 15:02*	*1*
Triphenylphosphate	*86*		*33 - 168*	*05/20/22 07:45*	*05/23/22 15:02*	*1*
Triphenylphosphate	*88*		*33 - 168*	*05/20/22 07:45*	*05/23/22 15:02*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.18~~	~~J I B~~ 5.9 U	5.9	0.017	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,4,6,7,8-HpCDF	~~0.12~~	~~J I B~~	5.9	0.0027	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,4,7,8,9-HpCDF	~~0.039~~	~~J B~~	5.9	0.0042	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,4,7,8-HxCDD	~~0.051~~	~~J I B~~	5.9	0.0034	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,4,7,8-HxCDF	~~0.11~~	~~J I B~~	5.9	0.0071	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,6,7,8-HxCDD	~~0.056~~	~~J I B~~	5.9	0.0034	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,6,7,8-HxCDF	~~0.064~~	~~J I B~~	5.9	0.0069	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,7,8,9-HxCDD	~~0.056~~	~~J I B~~	5.9	0.0034	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,7,8,9-HxCDF	~~0.065~~	~~J B~~	5.9	0.0089	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,7,8-PeCDD	0.038	~~J I~~ JNX	5.9	0.0044	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
1,2,3,7,8-PeCDF	~~0.085~~	~~J I B~~ 5.9 U	5.9	0.0034	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
2,3,4,6,7,8-HxCDF	~~0.079~~	~~J B~~	5.9	0.0059	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
2,3,4,7,8-PeCDF	~~0.056~~	~~J B~~	5.9	0.0024	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
2,3,7,8-TCDD	ND		1.2	0.0040	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
2,3,7,8-TCDF	0.033	~~J I~~ JNX	1.2	0.0031	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
OCDD	~~1.8~~	~~J B~~ 12 U	12	0.024	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
OCDF	~~0.18~~	~~J I B~~ 12 U	12	0.0066	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total HpCDD	~~0.18~~	~~J I B~~ 5.9 U	5.9	0.017	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total HpCDF	~~0.16~~	~~J I B~~	5.9	0.0034	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total HxCDD	~~0.16~~	~~J I B~~	5.9	0.0034	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total HxCDF	~~0.32~~	~~J I B~~	5.9	0.0072	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total PeCDD	0.038	~~J I~~ JNX	5.9	0.0044	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total PeCDF	~~0.14~~	~~J I B~~ 5.9 U	5.9	0.0029	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total TCDD	ND		1.2	0.0040	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1
Total TCDF	0.033	~~J I~~ JNX	1.2	0.0031	ng/Kg	☼	05/27/22 12:22	05/31/22 23:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	*63*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*63*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*60*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*

Client Sample ID: B-2022-1 (12-16)
Date Collected: 05/16/22 11:00
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-3
Matrix: Solid
Percent Solids: 83.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*64*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,6,7,8-HxCDF	*63*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,7,8,9-HxCDD	*66*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,7,8,9-HxCDF	*62*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-2,3,4,6,7,8-HxCDF	*63*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-2,3,4,7,8-PeCDF	*63*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-2,3,7,8-TCDF	*64*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-OCDD	*58*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*
13C-OCDF	*56*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:05*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.2**	**J**	17.9	0.48	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Arsenic	**3.4**		2.4	0.48	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Barium	**26.8**		0.60	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Beryllium	**0.19**	**J**	0.24	0.033	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Cadmium	**0.063**	**J**	0.24	0.036	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Chromium	**4.4**		0.60	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Cobalt	**5.9**		0.60	0.060	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Copper	**7.6**		1.2	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Lead	**5.5**		1.2	0.29	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Nickel	**9.7**		6.0	0.27	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Selenium	**0.90**	**J**	4.8	0.48	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Silver	ND		0.71	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Thallium	ND		7.1	0.36	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Tin	**0.81**	**J**	2.4	0.51	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Vanadium	**5.3**		0.60	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1
Zinc	**27.7**		2.4	0.76	mg/Kg	☼	05/19/22 12:46	05/24/22 13:42	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0054	mg/Kg	☼	05/18/22 11:48	05/18/22 13:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.099	0.048	mg/Kg	☼	05/25/22 14:40	05/25/22 16:09	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.1	12.0	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-1 (14)
Date Collected: 05/16/22 11:00
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-4
Matrix: Solid
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.50	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,1,1-Trichloroethane	ND		5.0	0.36	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.80	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,1,2-Trichloroethane	ND		5.0	0.64	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,1-Dichloroethane	ND		5.0	0.60	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,1-Dichloroethene	ND		5.0	0.61	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,2,3-Trichloropropane	ND		5.0	0.50	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,2-Dichloroethane	ND		5.0	0.25	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
2-Butanone (MEK)	ND		25	1.8	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
2-Chloro-1,3-butadiene	ND		5.0	3.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
2-Chloroethyl vinyl ether	ND		9.9	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
3-Chloro-1-propene	ND		5.0	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.6	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Acetone	ND		25	4.2	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Acetonitrile	ND		50	6.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Acrolein	ND		25	7.8	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Acrylonitrile	ND		25	4.4	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Benzene	ND		5.0	0.24	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Bromoform	ND		5.0	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Bromomethane	ND		5.0	0.45	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Carbon disulfide	ND		5.0	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Carbon tetrachloride	ND		5.0	0.48	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Chlorobenzene	ND		5.0	0.65	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Chlorodibromomethane	ND		5.0	0.63	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Chloroethane	ND		5.0	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Chloroform	ND		5.0	0.31	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Chloromethane	ND		5.0	0.30	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
cis-1,3-Dichloropropene	ND		5.0	0.71	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Dibromomethane	ND		5.0	0.51	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Dichlorobromomethane	ND		5.0	0.66	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Dichlorodifluoromethane	ND		5.0	0.41	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Ethyl methacrylate	ND		5.0	1.7	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Ethylbenzene	ND		5.0	0.34	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Ethylene Dibromide	ND		5.0	0.64	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Iodomethane	ND		5.0	0.24	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Methacrylonitrile	ND		25	5.9	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Methyl methacrylate	ND		5.0	1.0	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Methylene Chloride	ND		5.0	2.3	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
m-Xylene & p-Xylene	ND		9.9	0.83	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
o-Xylene	ND		5.0	0.65	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Propionitrile	ND		50	28	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Styrene	ND		5.0	0.25	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Tetrachloroethene	ND		5.0	0.67	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Toluene	ND		5.0	0.37	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
trans-1,2-Dichloroethene	ND		5.0	0.51	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
trans-1,3-Dichloropropene	ND		5.0	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1

Client Sample ID: B-2022-1 (14)
Lab Sample ID: 480-198018-4

Date Collected: 05/16/22 11:00
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 94.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Trichloroethene	ND		5.0	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Trichlorofluoromethane	ND		5.0	0.47	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Vinyl acetate	ND		9.9	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1
Vinyl chloride	ND		5.0	0.60	ug/Kg	☼	05/17/22 12:15	05/17/22 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*05/17/22 12:15*	*05/17/22 22:23*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*05/17/22 12:15*	*05/17/22 22:23*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*	*05/17/22 12:15*	*05/17/22 22:23*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*05/17/22 12:15*	*05/17/22 22:23*	*1*

Client Sample ID: B-2022-1 (28-32)
Lab Sample ID: 480-198018-5

Date Collected: 05/16/22 12:56
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,2,4-Trichlorobenzene	ND		380	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,2-Dichlorobenzene	ND		380	27	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1,4-Naphthoquinone	ND		380	72	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,6-Dichlorophenol	ND		380	72	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Acetylaminofluorene	ND		380	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Methylphenol	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Picoline	ND		380	44	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
2-Toluidine	ND		380	94	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1

Client Sample ID: B-2022-1 (28-32)
Lab Sample ID: 480-198018-5

Date Collected: 05/16/22 12:56
Matrix: Solid

Date Received: 05/17/22 10:00
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		770	380	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
3-Methylphenol	ND		380	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
3-Nitroaniline	ND		380	55	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Aminobiphenyl	ND	*-	380	80	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Methylphenol	ND		380	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Nitrophenol	ND	*+	380	140	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
4-Nitroquinoline-1-oxide	ND		770	380	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
a,a-Dimethylphenethylamine	ND		380	380	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Acenaphthene	ND		200	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Acenaphthylene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Acetophenone	ND		200	27	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Aniline	ND		380	48	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Anthracene	ND		200	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Aramite, Total	ND		380	190	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzidine	ND		5800	2500	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Benzyl alcohol	ND		380	27	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Bis(2-ethylhexyl) phthalate	**200**		200	67	ug/Kg	☼	05/18/22 08:58	05/20/22 19:17	1
Butyl benzyl phthalate	ND	*+	200	33	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Chrysene	ND		200	44	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Diallate	ND		380	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Dibenzofuran	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Dimethoate	ND		380	48	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Dinoseb	ND		380	69	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Diphenylamine	ND		380	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Disulfoton	ND		380	290	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Chlorobenzilate	ND		380	62	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
Ethyl methanesulfonate	ND		380	85	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1
~~Famphur~~	~~ND~~	~~*-~~	~~770~~	~~190~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 20:18~~	~~1~~ R

Client Sample ID: B-2022-1 (28-32)
Date Collected: 05/16/22 12:56
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-5
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Fluoranthene	ND		200	21	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Fluorene	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Hexachloropropene	ND		380	98	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Isodrin	ND		380	67	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Isophorone	ND		200	42	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Isosafrole	ND		380	51	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
~~Kepone~~	~~ND~~	~~*-~~	~~770~~	~~380~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 20:18~~	~~1~~	R
Methapyrilene	ND		1700	380	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Methyl methanesulfonate	ND		380	88	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Naphthalene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Nitrobenzene	ND		200	22	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitro-o-toluidine	ND		380	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosodiethylamine	ND		380	89	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosodimethylamine	ND		380	84	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosomethylethylamine	ND		380	88	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosomorpholine	ND		380	86	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosopiperidine	ND		380	78	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
N-Nitrosopyrrolidine	ND		380	58	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
o,o',o''-Triethylphosphorothioate	ND		380	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Ethyl Parathion	ND		380	43	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Methyl parathion	ND		380	66	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
p-Dimethylamino azobenzene	ND		380	65	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Pentachlorobenzene	ND		380	80	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Pentachloronitrobenzene	ND		380	98	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Pentachlorophenol	ND		380	200	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Phenacetin	ND		380	52	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Phenanthrene	ND		200	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Phenol	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Phorate	ND	*+	380	110	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
p-Phenylene diamine	ND		930	380	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Pronamide	ND		380	76	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Pyrene	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Pyridine	ND		380	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Safrole	ND		380	52	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Sulfotepp	ND		380	62	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	
Thionazin	ND		380	67	ug/Kg	☼	05/18/22 08:58	05/24/22 20:18	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*54 - 120*	*05/18/22 08:58*	*05/24/22 20:18*	*1*
2-Fluorobiphenyl (Surr)	*87*		*60 - 120*	*05/18/22 08:58*	*05/24/22 20:18*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*05/18/22 08:58*	*05/24/22 20:18*	*1*
Nitrobenzene-d5 (Surr)	*92*		*53 - 120*	*05/18/22 08:58*	*05/24/22 20:18*	*1*

Client Sample ID: B-2022-1 (28-32)
Date Collected: 05/16/22 12:56
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-5
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5 (Surr)	*77*		*54 - 120*	*05/18/22 08:58*	*05/24/22 20:18*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*05/18/22 08:58*	*05/24/22 20:18*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
4,4'-DDT	ND		1.9	0.45	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Aldrin	ND		1.9	0.48	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
cis-Chlordane	ND		1.9	0.96	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Endrin	ND		1.9	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Endrin ketone	ND		1.9	0.48	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Methoxychlor	ND		1.9	0.39	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
Toxaphene	ND		19	11	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1
trans-Chlordane	ND		1.9	0.61	ug/Kg	☼	05/24/22 09:00	05/25/22 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*		*45 - 120*	*05/24/22 09:00*	*05/25/22 14:08*	*1*
DCB Decachlorobiphenyl	*86*		*45 - 120*	*05/24/22 09:00*	*05/25/22 14:08*	*1*
Tetrachloro-m-xylene	*114*		*30 - 124*	*05/24/22 09:00*	*05/25/22 14:08*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*05/24/22 09:00*	*05/25/22 14:08*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.27	0.054	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1
PCB-1221	ND		0.27	0.054	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1
PCB-1232	ND		0.27	0.054	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1
PCB-1242	ND		0.27	0.054	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1
PCB-1248	ND		0.27	0.054	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1
PCB-1254	ND		0.27	0.13	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1
PCB-1260	ND		0.27	0.13	mg/Kg	☼	05/24/22 09:18	05/24/22 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*65 - 174*	*05/24/22 09:18*	*05/24/22 20:03*	*1*
DCB Decachlorobiphenyl	*97*		*65 - 174*	*05/24/22 09:18*	*05/24/22 20:03*	*1*
Tetrachloro-m-xylene	*91*		*60 - 154*	*05/24/22 09:18*	*05/24/22 20:03*	*1*
Tetrachloro-m-xylene	*98*		*60 - 154*	*05/24/22 09:18*	*05/24/22 20:03*	*1*

Client Sample ID: B-2022-1 (28-32)
Date Collected: 05/16/22 12:56
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-5
Matrix: Solid
Percent Solids: 85.4

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	05/18/22 07:09	05/24/22 03:20	1
2,4-D	ND		19	12	ug/Kg	☼	05/18/22 07:09	05/24/22 03:20	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	05/18/22 07:09	05/24/22 03:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*59*		*28 - 129*	*05/18/22 07:09*	*05/24/22 03:20*	*1*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*05/18/22 07:09*	*05/24/22 03:20*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	22	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1
Disulfoton	ND		38	25	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1
Famphur	ND		38	21	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1
Methyl parathion	ND		38	22	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1
Phorate	ND		38	13	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1
Sulfotepp	ND		38	15	ug/Kg	☼	05/20/22 07:45	05/23/22 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*65*		*20 - 135*	*05/20/22 07:45*	*05/23/22 15:33*	*1*
Tributyl phosphate	*63*		*20 - 135*	*05/20/22 07:45*	*05/23/22 15:33*	*1*
Triphenylphosphate	*82*		*33 - 168*	*05/20/22 07:45*	*05/23/22 15:33*	*1*
Triphenylphosphate	*83*		*33 - 168*	*05/20/22 07:45*	*05/23/22 15:33*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.28~~	~~J B~~ 5.8 U	5.8	0.070	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,4,6,7,8-HpCDF	~~0.16~~	~~J B~~ 5.8 U	5.8	0.0041	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,4,7,8,9-HpCDF	ND		5.8	0.0079	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,4,7,8-HxCDD	~~0.18~~	~~J B~~ 5.8 U	5.8	0.026	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,4,7,8-HxCDF	~~0.36~~	~~J B~~	5.8	0.020	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,6,7,8-HxCDD	~~0.10~~	~~J B~~	5.8	0.026	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,6,7,8-HxCDF	~~0.11~~	~~J B~~	5.8	0.019	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,7,8,9-HxCDD	~~0.054~~	~~J B~~	5.8	0.025	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,7,8,9-HxCDF	~~0.16~~	~~J B~~	5.8	0.027	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,7,8-PeCDD	ND		5.8	0.039	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
1,2,3,7,8-PeCDF	~~0.066~~	~~J B~~ 5.8 U	5.8	0.023	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
2,3,4,6,7,8-HxCDF	~~0.17~~	~~J B~~	5.8	0.017	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
2,3,4,7,8-PeCDF	~~0.14~~	~~J B~~	5.8	0.018	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
2,3,7,8-TCDD	0.063	~~J1~~ JNX	1.2	0.019	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
2,3,7,8-TCDF	ND		1.2	0.025	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
OCDD	~~3.1~~	~~J B~~ 12 U	12	0.047	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
OCDF	~~0.23~~	~~J B~~ 12 U	12	0.020	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total HpCDD	~~0.28~~	~~J B~~ 5.8 U	5.8	0.070	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total HpCDF	~~0.16~~	~~J B~~	5.8	0.0060	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total HxCDD	~~0.33~~	~~J B~~	5.8	0.026	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total HxCDF	~~0.80~~	~~J B~~	5.8	0.021	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total PeCDD	ND		5.8	0.039	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total PeCDF	~~0.21~~	~~J B~~ 5.8 U	5.8	0.021	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1
Total TCDD	0.063	~~J1~~ JNX	1.2	0.019	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1

Client Sample ID: B-2022-1 (28-32)
Date Collected: 05/16/22 12:56
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-5
Matrix: Solid
Percent Solids: 85.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		1.2	0.025	ng/Kg	☼	05/27/22 12:22	05/31/22 23:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*49*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*39*	*5-	*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*43*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*45*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*51*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*47*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,7,8,9-HxCDD	*53*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*44*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,7,8-PeCDD	*44*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-1,2,3,7,8-PeCDF	*44*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*48*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-2,3,4,7,8-PeCDF	*44*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-2,3,7,8-TCDD	*38*	*5-	*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-2,3,7,8-TCDF	*36*	*5-	*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-OCDD	*41*		*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*
13C-OCDF	*32*	*5-	*40 - 135*	*05/27/22 12:22*	*05/31/22 23:56*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**2.1**	**J**	17.8	0.47	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Arsenic	**3.3**		2.4	0.47	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Barium	**21.4**		0.59	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Beryllium	**0.22**	**J**	0.24	0.033	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Cadmium	**0.071**	**J**	0.24	0.036	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Chromium	**5.2**		0.59	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Cobalt	**5.1**		0.59	0.059	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Copper	**7.3**		1.2	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Lead	**5.6**		1.2	0.28	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Nickel	**9.0**		5.9	0.27	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Selenium	**0.72**	**J**	4.7	0.47	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Silver	ND		0.71	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Thallium	ND		7.1	0.36	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Tin	ND		2.4	0.51	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Vanadium	**6.1**		0.59	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1
Zinc	**27.2**		2.4	0.76	mg/Kg	☼	05/19/22 12:46	05/24/22 13:46	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0054	mg/Kg	☼	05/18/22 11:48	05/18/22 13:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.098	0.047	mg/Kg	☼	05/25/22 14:40	05/25/22 16:10	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.2	12.1	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-1 (29)
Date Collected: 05/16/22 12:56
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-6
Matrix: Solid
Percent Solids: 87.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1	0.51	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,1,1-Trichloroethane	ND		5.1	0.37	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,1,2,2-Tetrachloroethane	ND		5.1	0.82	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,1,2-Trichloroethane	ND		5.1	0.66	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,1-Dichloroethane	ND		5.1	0.62	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,1-Dichloroethene	ND		5.1	0.62	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,2,3-Trichloropropane	ND		5.1	0.52	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,2-Dibromo-3-Chloropropane	ND		5.1	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,2-Dichloroethane	ND		5.1	0.25	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
1,2-Dichloropropane	ND		5.1	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
2-Butanone (MEK)	ND		25	1.9	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
2-Chloro-1,3-butadiene	ND		5.1	3.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
2-Chloroethyl vinyl ether	ND		10	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
3-Chloro-1-propene	ND		5.1	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.7	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Acetone	ND		25	4.3	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Acetonitrile	ND		51	6.2	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Acrolein	ND		25	8.0	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Acrylonitrile	ND		25	4.6	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Benzene	ND		5.1	0.25	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Bromoform	ND		5.1	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Bromomethane	ND		5.1	0.46	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Carbon disulfide	ND		5.1	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Carbon tetrachloride	ND		5.1	0.49	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Chlorobenzene	ND		5.1	0.67	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Chlorodibromomethane	ND		5.1	0.65	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Chloroethane	ND		5.1	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Chloroform	ND		5.1	0.31	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Chloromethane	ND		5.1	0.31	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
cis-1,3-Dichloropropene	ND		5.1	0.73	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Dibromomethane	ND		5.1	0.52	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Dichlorobromomethane	ND		5.1	0.68	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Dichlorodifluoromethane	ND		5.1	0.42	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Ethyl methacrylate	ND		5.1	1.7	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Ethylbenzene	ND		5.1	0.35	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Ethylene Dibromide	ND		5.1	0.65	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Iodomethane	ND		5.1	0.25	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Methacrylonitrile	ND		25	6.0	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Methyl methacrylate	ND		5.1	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Methylene Chloride	ND		5.1	2.3	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
m-Xylene & p-Xylene	ND		10	0.85	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
o-Xylene	ND		5.1	0.66	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Propionitrile	ND		51	28	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Styrene	ND		5.1	0.25	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Tetrachloroethene	ND		5.1	0.68	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Toluene	ND		5.1	0.38	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
trans-1,2-Dichloroethene	ND		5.1	0.52	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
trans-1,3-Dichloropropene	ND		5.1	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1

Client Sample ID: B-2022-1 (29)
Lab Sample ID: 480-198018-6

Date Collected: 05/16/22 12:56
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 87.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.1	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Trichloroethene	ND		5.1	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Trichlorofluoromethane	ND		5.1	0.48	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Vinyl acetate	ND		10	2.5	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1
Vinyl chloride	ND		5.1	0.62	ug/Kg	☼	05/17/22 12:15	05/17/22 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/17/22 12:15*	*05/17/22 22:47*	*1*
4-Bromofluorobenzene (Surr)	*95*		*72 - 126*	*05/17/22 12:15*	*05/17/22 22:47*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*05/17/22 12:15*	*05/17/22 22:47*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/17/22 12:15*	*05/17/22 22:47*	*1*

Client Sample ID: B-2022-1 (43-47)
Lab Sample ID: 480-198018-7

Date Collected: 05/16/22 13:37
Matrix: Solid
Date Received: 05/17/22 10:00
Percent Solids: 83.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,2-Dichlorobenzene	ND		390	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Chloronaphthalene	ND		200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Naphthylamine	ND		390	140	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Nitroaniline	ND	*+	390	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Picoline	ND		390	45	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
2-Toluidine	ND		390	97	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1

Client Sample ID: B-2022-1 (43-47)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-7
Matrix: Solid
Percent Solids: 83.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Aminobiphenyl	ND	*+	390	83	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Nitrophenol	ND	*+	390	140	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
7,12-Dimethylbenz(a)anthracene	ND		390	59	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Acenaphthylene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Acetophenone	ND		200	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Aniline	ND		390	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Anthracene	ND		200	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzidine	ND		6000	2500	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Benzyl alcohol	ND		390	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Bis(2-ethylhexyl) phthalate	**86**	**J**	200	69	ug/Kg	☼	05/18/22 08:58	05/20/22 19:41	1
Butyl benzyl phthalate	ND	*+	200	34	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Chrysene	ND		200	45	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Diallate	ND		390	50	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Dimethoate	ND		390	49	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Dinoseb	ND		390	71	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Disulfoton	ND		390	300	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1
Famphur	ND	*-	790	190	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1 R

Client Sample ID: B-2022-1 (43-47)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-7
Matrix: Solid
Percent Solids: 83.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Fluoranthene	ND		200	22	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Fluorene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Hexachlorobenzene	ND		200	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Hexachlorocyclopentadiene	ND		200	28	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Hexachloropropene	ND		390	100	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Isodrin	ND		390	69	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Isophorone	ND		200	43	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Isosafrole	ND		390	53	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
~~Kepone~~	~~ND~~	~~*-~~	~~790~~	~~390~~	~~ug/Kg~~	~~☼~~	~~05/18/22 08:58~~	~~05/24/22 20:42~~	~~1~~	R
Methapyrilene	ND		1800	390	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Naphthalene	ND		200	26	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Nitrobenzene	ND		200	23	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosodiphenylamine	ND		200	170	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosomorpholine	ND		390	89	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Methyl parathion	ND		390	68	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Pentachlorobenzene	ND		390	83	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Phenacetin	ND		390	54	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Phenanthrene	ND		200	30	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Phenol	ND		200	31	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Phorate	ND	*+	390	110	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
p-Phenylene diamine	ND		960	390	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Pronamide	ND		390	78	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Pyrene	ND		200	24	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Pyridine	ND		390	29	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Safrole	ND		390	54	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Sulfotepp	ND		390	63	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	
Thionazin	ND		390	69	ug/Kg	☼	05/18/22 08:58	05/24/22 20:42	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*05/18/22 08:58*	*05/24/22 20:42*	*1*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*05/18/22 08:58*	*05/24/22 20:42*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*05/18/22 08:58*	*05/24/22 20:42*	*1*
Nitrobenzene-d5 (Surr)	*94*		*53 - 120*	*05/18/22 08:58*	*05/24/22 20:42*	*1*

Client Sample ID: B-2022-1 (43-47)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-7
Matrix: Solid
Percent Solids: 83.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5 (Surr)	*81*		*54 - 120*	*05/18/22 08:58*	*05/24/22 20:42*	*1*
p-Terphenyl-d14 (Surr)	*108*		*79 - 130*	*05/18/22 08:58*	*05/24/22 20:42*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Endrin	ND		2.0	0.40	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
Toxaphene	ND		20	12	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	05/24/22 09:00	05/25/22 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*45 - 120*	*05/24/22 09:00*	*05/25/22 14:28*	*1*
DCB Decachlorobiphenyl	*98*		*45 - 120*	*05/24/22 09:00*	*05/25/22 14:28*	*1*
Tetrachloro-m-xylene	*149*	*S1+*	*30 - 124*	*05/24/22 09:00*	*05/25/22 14:28*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*05/24/22 09:00*	*05/25/22 14:28*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.049	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1
PCB-1221	ND		0.25	0.049	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1
PCB-1232	ND		0.25	0.049	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1
PCB-1242	ND		0.25	0.049	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1
PCB-1248	ND		0.25	0.049	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1
PCB-1254	ND		0.25	0.12	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1
PCB-1260	ND		0.25	0.12	mg/Kg	☼	05/24/22 09:18	05/24/22 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*81*		*65 - 174*	*05/24/22 09:18*	*05/24/22 20:16*	*1*
DCB Decachlorobiphenyl	*88*		*65 - 174*	*05/24/22 09:18*	*05/24/22 20:16*	*1*
Tetrachloro-m-xylene	*85*		*60 - 154*	*05/24/22 09:18*	*05/24/22 20:16*	*1*
Tetrachloro-m-xylene	*93*		*60 - 154*	*05/24/22 09:18*	*05/24/22 20:16*	*1*

Client Sample ID: B-2022-1 (43-47)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-7
Matrix: Solid
Percent Solids: 83.1

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.4	ug/Kg	☼	05/18/22 07:09	05/24/22 03:49	1
2,4-D	ND		20	13	ug/Kg	☼	05/18/22 07:09	05/24/22 03:49	1
Silvex (2,4,5-TP)	ND		20	7.2	ug/Kg	☼	05/18/22 07:09	05/24/22 03:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*05/18/22 07:09*	*05/24/22 03:49*	*1*
2,4-Dichlorophenylacetic acid	*84*		*28 - 129*	*05/18/22 07:09*	*05/24/22 03:49*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1
Disulfoton	ND		39	26	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1
Famphur	ND		39	21	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1
Methyl parathion	ND		39	22	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1
Phorate	ND		39	13	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1
Sulfotepp	ND		39	15	ug/Kg	☼	05/20/22 07:45	05/23/22 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*89*		*20 - 135*	*05/20/22 07:45*	*05/23/22 16:05*	*1*
Tributyl phosphate	*87*		*20 - 135*	*05/20/22 07:45*	*05/23/22 16:05*	*1*
Triphenylphosphate	*97*		*33 - 168*	*05/20/22 07:45*	*05/23/22 16:05*	*1*
Triphenylphosphate	*97*		*33 - 168*	*05/20/22 07:45*	*05/23/22 16:05*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.27~~	~~J B~~ 5.9 U	5.9	0.011	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,4,6,7,8-HpCDF	~~0.20~~	~~J B~~	5.9	0.00099	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,4,7,8,9-HpCDF	~~0.062~~	~~J B~~	5.9	0.0014	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,4,7,8-HxCDD	~~0.051~~	~~J B~~	5.9	0.0029	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,4,7,8-HxCDF	~~0.25~~	~~J B~~	5.9	0.011	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,6,7,8-HxCDD	~~0.050~~	~~J B~~	5.9	0.0028	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,6,7,8-HxCDF	~~0.19~~	~~J B~~	5.9	0.010	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,7,8,9-HxCDD	~~0.066~~	~~J B~~	5.9	0.0030	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,7,8,9-HxCDF	~~0.066~~	~~J B~~	5.9	0.014	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,7,8-PeCDD	0.042	~~J+~~ JNX	5.9	0.0039	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
1,2,3,7,8-PeCDF	~~0.19~~	~~J B~~ 5.9 U	5.9	0.0071	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
2,3,4,6,7,8-HxCDF	~~0.049~~	~~J B~~	5.9	0.0089	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
2,3,4,7,8-PeCDF	~~0.10~~	~~J B~~	5.9	0.0049	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
2,3,7,8-TCDD	ND		1.2	0.0052	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
2,3,7,8-TCDF	0.11	~~J+~~ JNX	1.2	0.0057	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
OCDD	~~2.9~~	~~J B~~ 12 U	12	0.016	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
OCDF	~~0.21~~	~~J B~~ 12 U	12	0.0066	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total HpCDD	~~0.27~~	~~J B~~ 5.9 U	5.9	0.011	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total HpCDF	~~0.26~~	~~J B~~	5.9	0.0012	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total HxCDD	~~0.18~~	~~J B~~	5.9	0.0029	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total HxCDF	~~0.56~~	~~J B~~	5.9	0.011	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total PeCDD	0.042	~~J+~~ JNX	5.9	0.0039	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total PeCDF	~~0.29~~	~~J B~~ 5.9 U	5.9	0.0060	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1
Total TCDD	ND		1.2	0.0052	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1

Client Sample ID: B-2022-1 (43-47)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-7
Matrix: Solid
Percent Solids: 83.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	0.11	~~JT~~ JNX	1.2	0.0057	ng/Kg	☼	05/27/22 12:22	06/01/22 00:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,7,8,9-HxCDD	*89*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,7,8,9-HxCDF	*80*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-2,3,4,7,8-PeCDF	*85*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-2,3,7,8-TCDD	*80*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-2,3,7,8-TCDF	*82*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-OCDD	*76*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*
13C-OCDF	*74*		*40 - 135*	*05/27/22 12:22*	*06/01/22 00:46*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.0	J	18.7	0.50	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Arsenic	3.7		2.5	0.50	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Barium	21.5		0.62	0.14	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Beryllium	0.23	J	0.25	0.035	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Cadmium	0.061	J	0.25	0.037	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Chromium	5.8		0.62	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Cobalt	5.5		0.62	0.062	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Copper	10.2		1.2	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Lead	6.4		1.2	0.30	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Nickel	10.0		6.2	0.29	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Selenium	0.78	J	5.0	0.50	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Silver	ND		0.75	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Thallium	ND		7.5	0.37	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Tin	ND		2.5	0.54	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Vanadium	6.9		0.62	0.14	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1
Zinc	31.1		2.5	0.80	mg/Kg	☼	05/19/22 12:46	05/24/22 14:01	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0055	mg/Kg	☼	05/18/22 11:48	05/18/22 13:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.10	0.048	mg/Kg	☼	05/25/22 14:40	05/25/22 16:15	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.0	12.6	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-1 (44)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-8
Matrix: Solid
Percent Solids: 83.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.8	0.48	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,1,1-Trichloroethane	ND		4.8	0.35	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,1,2,2-Tetrachloroethane	ND		4.8	0.77	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,1,2-Trichloroethane	ND		4.8	0.62	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,1-Dichloroethane	ND		4.8	0.58	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,1-Dichloroethene	ND		4.8	0.58	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,2,3-Trichloropropane	ND		4.8	0.49	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,2-Dibromo-3-Chloropropane	ND		4.8	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,2-Dichloroethane	ND		4.8	0.24	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
2-Butanone (MEK)	ND		24	1.7	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
2-Chloro-1,3-butadiene	ND		4.8	3.0	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
2-Chloroethyl vinyl ether	ND		9.5	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
3-Chloro-1-propene	ND		4.8	2.3	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Acetone	ND		24	4.0	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Acetonitrile	ND		48	5.8	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Acrolein	ND		24	7.5	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Acrylonitrile	ND		24	4.3	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Benzene	ND		4.8	0.23	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Bromomethane	ND		4.8	0.43	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Carbon tetrachloride	ND		4.8	0.46	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Chlorobenzene	ND		4.8	0.63	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Chlorodibromomethane	ND		4.8	0.61	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Chloroethane	ND		4.8	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Chloroform	**0.67**	**J**	4.8	0.29	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Chloromethane	ND		4.8	0.29	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
cis-1,3-Dichloropropene	ND		4.8	0.69	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Dibromomethane	ND		4.8	0.49	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Dichlorobromomethane	ND		4.8	0.64	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Dichlorodifluoromethane	ND		4.8	0.39	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Ethyl methacrylate	ND		4.8	1.6	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Ethylbenzene	ND		4.8	0.33	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Ethylene Dibromide	ND		4.8	0.61	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Iodomethane	ND		4.8	0.23	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Methacrylonitrile	ND		24	5.6	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Methyl methacrylate	ND		4.8	1.0	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Methylene Chloride	ND		4.8	2.2	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
m-Xylene & p-Xylene	ND		9.5	0.80	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
o-Xylene	ND		4.8	0.62	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Propionitrile	ND		48	27	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Styrene	ND		4.8	0.24	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Tetrachloroethene	ND		4.8	0.64	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Toluene	ND		4.8	0.36	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
trans-1,2-Dichloroethene	ND		4.8	0.49	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
trans-1,3-Dichloropropene	ND		4.8	2.1	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1

Client Sample ID: B-2022-1 (44)
Date Collected: 05/16/22 13:37
Date Received: 05/17/22 10:00

Lab Sample ID: 480-198018-8
Matrix: Solid
Percent Solids: 83.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.8	1.1	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Trichloroethene	ND		4.8	1.0	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Trichlorofluoromethane	ND		4.8	0.45	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Vinyl acetate	ND		9.5	2.4	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1
Vinyl chloride	ND		4.8	0.58	ug/Kg	☼	05/17/22 12:15	05/17/22 23:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*05/17/22 12:15*	*05/17/22 23:12*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*05/17/22 12:15*	*05/17/22 23:12*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*05/17/22 12:15*	*05/17/22 23:12*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*05/17/22 12:15*	*05/17/22 23:12*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-198049-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47632R
Review Level: Tier I
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Blank Contamination 8
3.3 Laboratory Control Sample Analysis 9
3.4 System Performance and Overall Assessment 10
3.5 Data Validation Checklist 10
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 11
4.3 Data Validation Checklist 11
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 System Performance and Overall Assessment 12
5.3 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 12
6.1 Holding Times 12
6.2 Blank Contamination 13
6.3 Compound Identification 13
6.4 System Performance and Overall Assessment 14
6.5 Data Validation Checklist 14
7 Metals Analyses 14
7.1 Holding Times 14
7.2 System Performance and Overall Assessment 15
7.3 Data Validation Checklist 15
8 General Chemistry Analyses 15

8.1 Holding Times 15
8.2 System Performance and Overall Assessment 16
8.3 Data Validation Checklist for General Chemistry 16
9 Overall Data Usability 16

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 4
Table 2. Evaluation of Data Package Completeness 4
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Summary of Blank Contamination Qualifications 9
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 8. Laboratory Control Sample Recovery Criteria and Qualifications 9
Table 9. Holding Time for Method SW-846 8082A 10
Table 10. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 11. Holding Time for Method SW-846 8290A 12
Table 12. Summary of Blank Contamination Qualifications 13
Table 13. Holding Time for Method SW-846 6010C/7471B 15
Table 14. Specified Holding Times 16
Table 15. Overall Summary of Data Usability 17

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-198049-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	MET	MISC
B-2022-1 (58-66)	480-198049-1	Soil	05/17/2022			X	X	X	X	X
B-2022-1 (59)	480-198049-2	Soil	05/17/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations

and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	0	0	0	0	1
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
OPC	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 6. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
B-2022-1 (58-66)	Di-n-butyl phthalate (MB)	Detected sample results >RL and <BAL	"U" at detected sample concentration

Notes:
MB = Method blank
RL = Reporting limit

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
B-2022-1 (58-66)	Prep Batch: 627444	Famphur	<10%
		Kepone	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X	X		
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 11. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 12. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
B-2022-1 (58-66)	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDF (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB = Method blank
RL = Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals

eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 15. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	2
PCBs	100%	0
PEST	100%	0
OPC	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: November 18, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 19, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
[illegible] Hazelwood Drive
[illegible], NY [illegible]
Phone: [illegible] Fax: [illegible]

Chain of Custody Record

Syracuse

#225

Client Information	Sampler: R McDermott	Lab PM: Schover, John W	Carrier Tracking No(s):	COC No: 480-198049-27440.1
Client Contact: Mr. Daniel Melendro	Phone: 561-632-1409	E-Mail: John.Schover@et.eurofinsus.com	State of Origin: NY	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:	Analysis Requested		Job #:
Address: One Lincoln Center 110 West Fayette St. Suite 300	Due Date Requested:			Preservation Codes:
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Yes No			
Phone: 315.671.9270(Tel)	PO #: 30132437.0001			
Email: daniel.melendro@arcadis.com	WO #: WA-EUROFINS-30 07553-2022			
Project Name: GE Wood Prod Fields	Project #: 48014370			
Site: GE Lee	SSOW#:			SHORT HOLD

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_TCL_Target_List	8260C_TCL_Target_List_Acrolein_Acrylonitrile	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Acrolein_Acrylonitrile	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Appendix_IX_Volatiles	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Appendix_IX_Volatiles_Acrolein_Acrylonitrile	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Acrolein_Acrylonitrile	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Full_List	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Full_List_Acrolein_Acrylonitrile	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Appendix_IX_Volatiles	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Appendix_IX_Volatiles_Acrolein_Acrylonitrile	8260C_TCL_Target_List_Dioxane_1_4_Methods_Low_Level_Full_List_Acrolein_Acrylonitrile	Total Number of containers	Special Instructions/Note:
			Preservation Code:				X	N	N	N	N	N	N	N	N	N	N	N	N	
B-2022-1 (5.5-6.0)	5-19-2022	0945	C	S			X	X	X	X										4
B-2022-1 (6.5-7.0)	1	1	G	1							X									1

480-198049 Chain of Custody

Possible Hazard Identification: Non-Hazard / Flammable / Skin Irritant / Poison B / Unknown / Radiological	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client / Disposal By Lab / Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5-19-2022/1545	Company: ARCA	Received by:	Date/Time: 5/19/22 1545	Company: KGS TA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Yes / No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.4 + 1.0 E

Ver: 06/08/2021

Page 1 of 1

06/02/2022

Eurofins Buffalo
[illegible] Drive
[illegible], NY [illegible]
Phone: [illegible] Fax: [illegible]

Chain of Custody Record

480-158849 Chain of Custody

Client Information - Sub Contract Lab	[illegible]	[illegible]	[illegible]
Client Contact: Shipping/Receiving	[illegible]	[illegible]	[illegible]
Company: Eurofins Environment Testing Northeast		Sub-Contract Receiver: State - Massachusetts	[illegible]
Address: 301 Alpha Drive, RIDC Park	Sub Cust Requested: [illegible]		
City: Pittsburgh	TAT Requested (Days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	Site:		
Email:	WO#:		
Project Name: GE Alpha Pond Parcel	Project #: 480-[illegible]		
Site:	SSOW#:		

Analysis Requested

Remarks: Sample Type (Y=Yes, N=No); Perform MS/MSD (Yes or No); Sample Specific # of Containers Filtered Sample (Yes or No); Total Number of Containers

Preservation Codes: A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Soil, Gas, Oil, Tissue, Air)	Perform MS/MSD (Yes or No)	Sample Specific # of Containers Filtered Sample (Yes or No)	Total Number of Containers	Special Instructions/Note:
			Preservation Code					
6-2022-1 (3846) 480-158849-11	5/17/22	0845 Eastern		Soil		X		

[illegible]

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: BDB	Date/Time: 5/18/22 1800	Company: [illegible]	Received by: [illegible]	Date/Time: [illegible]	Company: [illegible]
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: [illegible]	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temperature(s) (°C) and Other Remarks:		

06/02/2022

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Barbara C Brunsdon	Carrier Tracking No(s):	COC No: 480-72194-1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Barbara.Brunsdon@eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-198049-1
Address: 2425 New Holland Pike	Due Date Requested: 8/11/2022	Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601	PO #:			
Phone: 717-656-2300(Tel)	WO #:			
Email:	Project #: 48010310			
Project Name: GE Angola Road Parcel	SSOW#:			
Site:				Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B_Sep_Glycols_Phenols_11 Sample Specific #s	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
BH22-1 (SB-BH22-198049-1)	8/17/22	08:45 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon the subcontract laboratory. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analytes/matrix(s) being analyzed, the results must be reported on an unaccredited basis to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be reported to Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be reported to Eurofins Environment Testing Northeast, LLC immediately. All requested accreditations are currently available in the Eurofins Environment Testing Northeast, LLC quality system unless otherwise noted.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client / Disposal By Lab / Archive For / Months
Deliverable Requested: I, II, III, IV, Other (specify): Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 8/18/22 1800	Company: FAB	Received by:
Relinquished by:	Date/Time:	Company:	Received by:
Relinquished by:	Date/Time:	Company:	Received by: 8/18/22 1815 Company: EAET
Custody Seals Intact: Yes No	Custody Seal No.: 178474		Cooler Temperature(s) °C and Other Remarks: -1°C

08/02/2022

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: B-2022-1 (58-66)
Date Collected: 05/17/22 08:45
Date Received: 05/18/22 10:00

Lab Sample ID: 480-198049-1
Matrix: Solid
Percent Solids: 95.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		170	30	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,2,4-Trichlorobenzene	ND		340	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,2-Dichlorobenzene	ND		340	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,2-Diphenylhydrazine	ND		340	19	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,3,5-Trinitrobenzene	ND		340	14	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,3-Dichlorobenzene	ND		340	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,3-Dinitrobenzene	ND		340	41	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,4-Dichlorobenzene	ND		340	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,4-Dioxane	ND		100	56	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1,4-Naphthoquinone	ND		340	63	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
1-Naphthylamine	ND		340	120	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,3,4,6-Tetrachlorophenol	ND		170	36	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,4,5-Trichlorophenol	ND		170	47	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,4,6-Trichlorophenol	ND		170	35	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,4-Dichlorophenol	ND		170	18	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,4-Dimethylphenol	ND		170	42	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,4-Dinitrophenol	ND		1700	800	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,4-Dinitrotoluene	ND		170	36	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,6-Dichlorophenol	ND		340	63	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2,6-Dinitrotoluene	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Acetylaminofluorene	ND		340	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Chloronaphthalene	ND		170	29	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Chlorophenol	ND		340	32	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Methylnaphthalene	ND		170	35	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Methylphenol	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Naphthylamine	ND		340	120	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Nitroaniline	ND		340	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Nitrophenol	ND		170	49	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Picoline	ND		340	39	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
2-Toluidine	ND		340	83	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
3 & 4 Methylphenol	ND		340	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
3,3'-Dichlorobenzidine	ND		340	200	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
3,3'-Dimethylbenzidine	ND		670	340	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
3-Methylcholanthrene	ND		340	56	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
3-Methylphenol	ND		340	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
3-Nitroaniline	ND		340	48	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4,6-Dinitro-2-methylphenol	ND		340	170	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Aminobiphenyl	ND	*	340	70	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Bromophenyl phenyl ether	ND		170	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Chloro-3-methylphenol	ND		170	43	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Chloroaniline	ND		170	43	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Chlorophenyl phenyl ether	ND		170	21	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Methylphenol	ND		340	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Nitroaniline	ND		340	91	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Nitrophenol	ND		340	120	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
4-Nitroquinoline-1-oxide	ND		670	340	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
7,12-Dimethylbenz(a)anthracene	ND		340	50	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
a,a-Dimethylphenethylamine	ND		340	340	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Acenaphthene	ND		170	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1

Client Sample ID: B-2022-1 (58-66)
Date Collected: 05/17/22 08:45
Date Received: 05/18/22 10:00

Lab Sample ID: 480-198049-1
Matrix: Solid
Percent Solids: 95.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		170	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Acetophenone	ND		170	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Aniline	ND		340	42	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Anthracene	ND		170	43	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Aramite, Total	ND		340	160	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzidine	ND		5100	2200	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzo[a]anthracene	ND		170	17	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzo[a]pyrene	ND		170	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzo[b]fluoranthene	ND		170	28	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzo[g,h,i]perylene	ND		170	18	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzo[k]fluoranthene	ND		170	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Benzyl alcohol	ND		340	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
bis (2-chloroisopropyl) ether	ND		170	35	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Bis(2-chloroethoxy)methane	ND		170	37	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Bis(2-chloroethyl)ether	ND		170	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Bis(2-ethylhexyl) phthalate	**380**		170	59	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Butyl benzyl phthalate	ND		170	29	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Chrysene	ND		170	39	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Diallate	ND		340	43	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Dibenz(a,h)anthracene	ND		170	31	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Dibenzofuran	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Diethyl phthalate	ND		170	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Dimethoate	ND		340	42	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Dimethyl phthalate	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Di-n-butyl phthalate	**300**	~~B~~ U	170	30	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Di-n-octyl phthalate	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Dinoseb	ND		340	60	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Diphenylamine	ND		340	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Disulfoton	ND		340	260	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Chlorobenzilate	ND		340	54	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Ethyl methanesulfonate	ND		340	75	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
~~Famphur~~	~~ND~~	~~*-~~	~~670~~	~~160~~	~~ug/Kg~~	~~☼~~	~~05/24/22 15:34~~	~~05/27/22 07:10~~	~~1~~	R
Fluoranthene	ND		170	18	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Fluorene	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Hexachlorobenzene	ND		170	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Hexachlorobutadiene	ND		170	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Hexachlorocyclopentadiene	ND		170	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Hexachloroethane	ND		170	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Hexachloropropene	ND		340	86	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Isodrin	ND		340	59	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Isophorone	ND		170	37	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Isosafrole	ND		340	45	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
~~Kepone~~	~~ND~~	~~*-~~	~~3400~~	~~340~~	~~ug/Kg~~	~~☼~~	~~05/24/22 15:34~~	~~05/27/22 07:10~~	~~1~~	R
Methapyrilene	ND		1500	340	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Methyl methanesulfonate	ND		340	78	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Naphthalene	ND		170	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
Nitrobenzene	ND		170	19	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	
N-Nitro-o-toluidine	ND		340	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1	

Client Sample ID: B-2022-1 (58-66)
Lab Sample ID: 480-198049-1
Date Collected: 05/17/22 08:45
Matrix: Solid
Date Received: 05/18/22 10:00
Percent Solids: 95.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		340	79	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosodimethylamine	ND		340	74	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosodi-n-butylamine	ND		340	92	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosodi-n-propylamine	ND		170	30	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosodiphenylamine	ND		170	140	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosomethylethylamine	ND		340	78	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosomorpholine	ND		340	76	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosopiperidine	ND		340	68	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
N-Nitrosopyrrolidine	ND		340	51	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
o,o',o''-Triethylphosphorothioate	ND		340	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Ethyl Parathion	ND		340	38	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Methyl parathion	ND		340	58	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
p-Dimethylamino azobenzene	ND		340	57	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Pentachlorobenzene	ND		340	70	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Pentachloronitrobenzene	ND		340	86	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Pentachlorophenol	ND	*+	340	170	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Phenacetin	ND		340	46	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Phenanthrene	ND		170	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Phenol	ND		170	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Phorate	ND		340	93	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
p-Phenylene diamine	ND		820	340	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Pronamide	ND		340	66	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Pyrene	ND		170	20	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Pyridine	ND		340	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Safrole	ND		340	46	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Sulfotepp	ND		340	54	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1
Thionazin	ND		340	59	ug/Kg	☼	05/24/22 15:34	05/27/22 07:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*54 - 120*	*05/24/22 15:34*	*05/27/22 07:10*	*1*
2-Fluorobiphenyl (Surr)	*95*		*60 - 120*	*05/24/22 15:34*	*05/27/22 07:10*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*05/24/22 15:34*	*05/27/22 07:10*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*05/24/22 15:34*	*05/27/22 07:10*	*1*
Phenol-d5 (Surr)	*89*		*54 - 120*	*05/24/22 15:34*	*05/27/22 07:10*	*1*
p-Terphenyl-d14 (Surr)	*129*		*79 - 130*	*05/24/22 15:34*	*05/27/22 07:10*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
4,4'-DDT	ND		1.7	0.41	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Aldrin	ND		1.7	0.43	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Dieldrin	ND		1.7	0.42	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1

Client Sample ID: B-2022-1 (58-66)
Date Collected: 05/17/22 08:45
Date Received: 05/18/22 10:00

Lab Sample ID: 480-198049-1
Matrix: Solid
Percent Solids: 95.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Endrin	ND		1.7	0.34	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Endrin ketone	ND		1.7	0.43	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Heptachlor	ND		1.7	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
Toxaphene	ND		17	10	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	05/24/22 09:00	05/25/22 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*05/24/22 09:00*	*05/25/22 14:48*	*1*
DCB Decachlorobiphenyl	*100*		*45 - 120*	*05/24/22 09:00*	*05/25/22 14:48*	*1*
Tetrachloro-m-xylene	*129*	*S1+*	*30 - 124*	*05/24/22 09:00*	*05/25/22 14:48*	*1*
Tetrachloro-m-xylene	*80*		*30 - 124*	*05/24/22 09:00*	*05/25/22 14:48*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	05/24/22 09:18	05/24/22 20:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*78*		*65 - 174*	*05/24/22 09:18*	*05/24/22 20:30*	*1*
DCB Decachlorobiphenyl	*84*		*65 - 174*	*05/24/22 09:18*	*05/24/22 20:30*	*1*
Tetrachloro-m-xylene	*81*		*60 - 154*	*05/24/22 09:18*	*05/24/22 20:30*	*1*
Tetrachloro-m-xylene	*88*		*60 - 154*	*05/24/22 09:18*	*05/24/22 20:30*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.4	ug/Kg	☼	05/27/22 11:23	06/01/22 17:13	1
2,4-D	ND		17	11	ug/Kg	☼	05/27/22 11:23	06/01/22 17:13	1
Silvex (2,4,5-TP)	ND		17	6.1	ug/Kg	☼	05/27/22 11:23	06/01/22 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*66*		*28 - 129*	*05/27/22 11:23*	*06/01/22 17:13*	*1*
2,4-Dichlorophenylacetic acid	*57*		*28 - 129*	*05/27/22 11:23*	*06/01/22 17:13*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1
Disulfoton	ND		34	23	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1
Famphur	ND		34	18	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1
Methyl parathion	ND	*1	34	20	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1
Ethyl Parathion	ND	*1	34	19	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1

Client Sample ID: B-2022-1 (58-66)
Date Collected: 05/17/22 08:45
Date Received: 05/18/22 10:00

Lab Sample ID: 480-198049-1
Matrix: Solid
Percent Solids: 95.9

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND	~~*1~~	34	12	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1
Sulfotepp	ND		34	13	ug/Kg	☼	05/23/22 23:40	05/25/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*41*		*20 - 135*	*05/23/22 23:40*	*05/25/22 16:56*	*1*
Tributyl phosphate	*40*		*20 - 135*	*05/23/22 23:40*	*05/25/22 16:56*	*1*
Triphenylphosphate	*55*		*33 - 168*	*05/23/22 23:40*	*05/25/22 16:56*	*1*
Triphenylphosphate	*55*		*33 - 168*	*05/23/22 23:40*	*05/25/22 16:56*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.19**	~~J1~~ JNX	5.1	0.014	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,4,6,7,8-HpCDF	~~**0.12**~~ ~~**J B**~~ 5.1 U		5.1	0.0065	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,4,7,8,9-HpCDF	**0.041** **J** JNX		5.1	0.0079	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,4,7,8-HxCDD	**0.034** **J**		5.1	0.0059	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,4,7,8-HxCDF	**0.060** **J**		5.1	0.011	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,6,7,8-HxCDD	**0.033** **J**		5.1	0.0057	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,6,7,8-HxCDF	~~**0.050**~~ ~~**J B**~~ 5.1 U		5.1	0.012	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,7,8,9-HxCDD	ND		5.1	0.0063	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,7,8,9-HxCDF	~~**0.043**~~ ~~**J I B**~~ 5.1 U		5.1	0.014	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,7,8-PeCDD	ND		5.1	0.0081	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
1,2,3,7,8-PeCDF	~~**0.039**~~ ~~**J I B**~~ 5.1 U		5.1	0.0048	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
2,3,4,6,7,8-HxCDF	~~**0.026**~~ ~~**J I B**~~ 5.1 U		5.1	0.011	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
2,3,4,7,8-PeCDF	**0.057** ~~**J I**~~ JNX		5.1	0.0034	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
2,3,7,8-TCDD	ND		1.0	0.0064	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
2,3,7,8-TCDF	ND		1.0	0.0036	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
OCDD	~~**0.51**~~ ~~**J I B**~~ 10 U		10	0.011	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
OCDF	~~**0.29**~~ ~~**J I B**~~ 10 U		10	0.0042	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total HpCDD	**0.19** ~~**J I**~~ JNX		5.1	0.014	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total HpCDF	~~**0.16**~~ ~~**J I B**~~ 5.1 U		5.1	0.0072	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total HxCDD	**0.067** ~~**J I**~~ JNX		5.1	0.0060	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total HxCDF	~~**0.19**~~ ~~**J I B**~~ 5.1 U		5.1	0.012	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total PeCDD	ND		5.1	0.0081	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total PeCDF	~~**0.096**~~ ~~**J I B**~~ 5.1 U		5.1	0.0041	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total TCDD	ND		1.0	0.0064	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1
Total TCDF	ND		1.0	0.0036	ng/Kg	☼	05/25/22 15:23	05/27/22 17:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*90*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,4,7,8-HxCDD	*85*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,4,7,8-HxCDF	*93*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,6,7,8-HxCDD	*87*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,7,8,9-HxCDD	*89*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,7,8,9-HxCDF	*97*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-2,3,4,6,7,8-HxCDF	*91*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*

Client Sample ID: B-2022-1 (58-66)
Lab Sample ID: 480-198049-1

Date Collected: 05/17/22 08:45
Matrix: Solid
Date Received: 05/18/22 10:00
Percent Solids: 95.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*84*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-2,3,7,8-TCDD	*81*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-OCDD	*65*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*
13C-OCDF	*103*		*40 - 135*	*05/25/22 15:23*	*05/27/22 17:52*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.3	0.44	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Arsenic	**1.1**	**J**	2.2	0.44	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Barium	**8.0**		0.54	0.12	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Beryllium	**0.063**	**J**	0.22	0.030	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Cadmium	**0.041**	**J**	0.22	0.033	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Chromium	**1.9**		0.54	0.22	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Cobalt	**1.2**		0.54	0.054	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Copper	**4.0**		1.1	0.23	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Lead	**2.2**		1.1	0.26	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Nickel	**2.8**	**J**	5.4	0.25	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Selenium	ND		4.4	0.44	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Silver	ND		0.65	0.22	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Thallium	ND		6.5	0.33	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Tin	ND		2.2	0.47	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Vanadium	**1.7**		0.54	0.12	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1
Zinc	**7.6**		2.2	0.70	mg/Kg	☼	05/25/22 15:15	05/27/22 00:59	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0049	mg/Kg	☼	05/24/22 10:05	05/24/22 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.087	0.042	mg/Kg	☼	05/25/22 14:40	05/25/22 16:16	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		18.6	10.6	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: B-2022-1 (59)
Lab Sample ID: 480-198049-2

Date Collected: 05/17/22 08:45
Matrix: Solid
Date Received: 05/18/22 10:00
Percent Solids: 75.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.5	0.45	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,1,1-Trichloroethane	ND		4.5	0.33	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,1,2,2-Tetrachloroethane	ND		4.5	0.73	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,1,2-Trichloroethane	ND		4.5	0.59	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,1-Dichloroethane	ND		4.5	0.55	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,1-Dichloroethene	ND		4.5	0.55	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,2,3-Trichloropropane	ND		4.5	0.46	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,2-Dibromo-3-Chloropropane	ND		4.5	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1

Client Sample ID: B-2022-1 (59)
Date Collected: 05/17/22 08:45
Date Received: 05/18/22 10:00

Lab Sample ID: 480-198049-2
Matrix: Solid
Percent Solids: 75.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		4.5	0.23	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
1,2-Dichloropropane	ND		4.5	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
2-Butanone (MEK)	ND		23	1.7	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
2-Chloro-1,3-butadiene	ND		4.5	2.8	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
2-Chloroethyl vinyl ether	ND		9.0	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
2-Hexanone	ND		23	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
3-Chloro-1-propene	ND		4.5	2.2	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
4-Methyl-2-pentanone (MIBK)	ND		23	1.5	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Acetone	ND		23	3.8	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Acetonitrile	ND		45	5.5	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Acrolein	ND		23	7.1	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Acrylonitrile	ND		23	4.0	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Benzene	ND		4.5	0.22	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Bromoform	ND		4.5	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Bromomethane	ND		4.5	0.41	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Carbon disulfide	ND		4.5	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Carbon tetrachloride	ND		4.5	0.44	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Chlorobenzene	ND		4.5	0.60	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Chlorodibromomethane	ND		4.5	0.58	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Chloroethane	ND		4.5	1.0	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Chloroform	**0.45**	**J**	4.5	0.28	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Chloromethane	ND		4.5	0.27	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
cis-1,3-Dichloropropene	ND		4.5	0.65	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Dibromomethane	ND		4.5	0.46	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Dichlorobromomethane	ND		4.5	0.60	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Dichlorodifluoromethane	ND		4.5	0.37	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Ethyl methacrylate	ND		4.5	1.5	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Ethylbenzene	ND		4.5	0.31	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Ethylene Dibromide	ND		4.5	0.58	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Iodomethane	ND		4.5	0.22	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Methacrylonitrile	ND		23	5.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Methyl methacrylate	ND		4.5	0.95	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Methylene Chloride	ND		4.5	2.1	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
m-Xylene & p-Xylene	ND		9.0	0.76	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
o-Xylene	ND		4.5	0.59	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Propionitrile	ND		45	25	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Styrene	ND		4.5	0.23	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Tetrachloroethene	ND		4.5	0.61	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Toluene	ND		4.5	0.34	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
trans-1,2-Dichloroethene	ND		4.5	0.47	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
trans-1,3-Dichloropropene	ND		4.5	2.0	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
trans-1,4-Dichloro-2-butene	ND		4.5	1.0	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Trichloroethene	ND		4.5	0.99	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Trichlorofluoromethane	ND		4.5	0.43	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Vinyl acetate	ND		9.0	2.3	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1
Vinyl chloride	ND		4.5	0.55	ug/Kg	☼	05/18/22 12:15	05/19/22 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/18/22 12:15*	*05/19/22 00:04*	*1*
4-Bromofluorobenzene (Surr)	*93*		*72 - 126*	*05/18/22 12:15*	*05/19/22 00:04*	*1*

Client: ARCADIS U.S. Inc
Job ID: 480-198049-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: B-2022-1 (59)
Lab Sample ID: 480-198049-2
Date Collected: 05/17/22 08:45
Matrix: Solid
Date Received: 05/18/22 10:00
Percent Solids: 75.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		60 - 140	05/18/22 12:15	05/19/22 00:04	1
Toluene-d8 (Surr)	92		71 - 125	05/18/22 12:15	05/19/22 00:04	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site

Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-198104-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47652R
Review Level: Tier I
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Blank Contamination 9
3.3 Laboratory Control Sample Analysis 9
3.4 System Performance and Overall Assessment 10
3.5 Data Validation Checklist 10
4 Polychlorinated Biphenyl Analyses 11
4.1 Holding Times 11
4.2 System Performance and Overall Assessment 11
4.3 Data Validation Checklist 11
5 Pesticide/Herbicide Analyses 12
5.1 Holding Times 12
5.2 System Performance and Overall Assessment 12
5.3 Data Validation Checklist 13
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 13
6.3 Compound Identification 14
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Metals Analyses 15
7.1 Holding Times 15
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 16
8 General Chemistry Analyses 16

8.1 Holding Times 16
8.2 System Performance and Overall Assessment 17
8.3 Data Validation Checklist for General Chemistry 18
9 Overall Data Usability 18

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Blank Contamination Qualifications 9
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 8. Laboratory Control Sample Recovery Criteria and Qualifications 10
Table 9. Holding Time for Method SW-846 8082A 11
Table 10. Holding Time for Method SW-846 8081B/8141B/8151A 12
Table 11. Holding Time for Method SW-846 8290A 13
Table 12. Summary of Blank Contamination Qualifications 14
Table 13. Holding Time for Method SW-846 6010C/7470A/7471B 15
Table 14. Specified Holding Times 17
Table 15. Summary of Holding Time Exceedances 17
Table 16. Summary of Holding Time Qualifications 17
Table 17. Overall Summary of Data Usability 18

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-198104-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	MET	MISC
B-2022-1 (74-80)	480-198104-1	Soil	05/18/2022			X	X	X	X	X
B-2022-1 (75)	480-198104-2	Soil	05/18/2022		X					
FB-051822	480-198104-3	Water	05/18/2022		X	X	X	X	X	X
TRIP BLANK	480-198104-4	Water	05/18/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	2	0	0	0	3
SVOCs	1	0	1	0	0	0	2
PCBs	1	0	1	0	0	0	2
PEST	1	0	1	0	0	0	2
OPC	1	0	1	0	0	0	2
HERB	1	0	1	0	0	0	2
PCDD/PCDF	1	0	1	0	0	0	2
Metals	1	0	1	0	0	0	2
MISC	1	0	1	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 6. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
B-2022-1 (74-80)	Di-n-butyl phthalate (MB)	Detected sample results >RL and <BAL	"U" at detected sample concentration

Notes:
MB = Method blank
RL = Reporting limit

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
FB-051822	Prep Batch: 627299	p-Phenylene diamine	<10%
B-2022-1 (74-80)	Prep Batch: 627444	Famphur	<10%
		Kepone	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X	X		
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 11. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 12. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
B-2022-1 (74-80)	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,7,8-PeCDF (MB) OCDD (FB, MB) OCDF (FB, MB) Total HpCDF (FB, MB) Total HxCDF (FB, MB) Total PeCDF (FB, MB)	Detected sample results <RL and <BAL	“U” at the RL
	1,2,3,4,6,7,8-HpCDF (FB) 1,2,3,4,7,8,9-HpCDF (FB) 1,2,3,4,7,8-HxCDF (FB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB = Method blank
FB = Field blank
RL = Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Field blanks		X	X		
Compound identification and quantitation		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 6010C/7470A/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.

Method	Matrix	Holding Time	Preservation
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7470A/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil		Cool to <6 °C.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
	Soil	14 days from collection to analysis	Cool to <6 °C.

The analyses that exceeded the holding time are presented in the following table.

Table 15. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
FB-051822	9 days from collection to analysis (Sulfide)	7 days from collection to analysis (Water)

Sample results associated with sample locations analyzed by analytical method SM 4500 S2 F were qualified, as specified in the table below. All other holding times were met.

Table 16. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 17. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.8%	3
PCBs	100%	0
PEST	100%	0
OPC	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: November 21, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 21, 2022

Appendix A

Chain of Custody

Eurofins Buffalo

Chain of Custody Record

eurofins

Environment Testing America

Client Information

Client Contact: Mr. Daniel Meadows

Company: ARCADIS U.S. Inc

Address: One Lincoln Center, 110 West Fayette St, Suite 300

City: Syracuse

State, Zip: NY, 13202

Phone: 716-971-3974(Tel)

Email: daniel.meadows@arcadis.com

Project Name: GE Woods Pond Phase1

Site: GE Lee

Sampler:

Phone: 551-282-1429

PO #: 30183580 0001

WO #: WA EUR 7[illegible]

Project #: 60045[illegible]

SSOW#:

Lab PM: [illegible]

E-Mail: Lauren.Schoyen@eurofinsus.com

State of Origin: MA

Accreditations Required (See note): NELAP - New York

Job #: 480-[illegible]-37193-1

Page: Page 1 of 1

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S2O3, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B, 8260C, 624, 624.1 (GC/MS VOA)	8260B_SIM, 8260C_SIM (GC/MS VOA)	8081B - Appendix IX Pesticides	8082A - Aroclors by GC	8082A - Aroclors by GC Isotope Dilution	8270C - Appendix IX Volatiles	8270C - Appendix IX Semivolatiles	8270D - Appendix IX Semivolatiles	8290A (HRMS)	8290B - Dioxins (HRMS)	8290B - Dioxins (HRMS)	8151A - Appendix IX Herbicides	8151A - Appendix IX Herbicides	8082A - Aroclors by GC Pcbs	8082A - Aroclors by GC Pcbs	Total number of containers	Special Instructions/Note:
					N	N																	
B-2022-1 (74-80)	5/8/22	0910	C	S			X	X	X	X												4	
B-2022-1 (75)	1	0912	G	S							X											2	
FB_050822	1	1010	G	W					X	X		X	X	X	X	X	X	X	X	X	X	15	

480-198104 Chain of Custody

Possible Hazard Identification: Non-Hazard, Flammable, Skin Irritant, Poison B, Unknown, Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client, Disposal By Lab, Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method Shipped:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	5/8/2022 1700	ARC		5/9/22 1000	FedEx
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Yes, No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.0 #1 ICE

Ver: 01/16/2019

Page 74 of 76

06/03/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record



Client Information (Sub Contract Lab)
Client Contact: Shipping/Receiving
Company: Eurofins Environment Testing Northeast
Address: 801 Adair Drive, RIDC Park
City: Pittsburgh
State, Zip: PA, 15239
Phone: 412-963-7058(Tel) 412-963-2468(Fax)
Email:
Project Name: GE Woods Pond Parcel
PO #:

Sampler:
Phone:
Due Date Requested:
TAT Requested (days):
PO #:
WO #:
Project #: 48024570
SSOW#:

Lab PM: Schwan, John T
E-Mail: John.Schwan@EurofinsUS.com
Carrier and Tracking No(s): State Lab - Massachusetts
Job #: 480-192104-1

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Soil, Oil, Sludge, Solid, Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1,4-Dioxane - 8270D SIM (Low Level)	1,4-Dioxane - SHC Appendix IX Expanded	Total Number of containers	Special Instructions/Note
			Preservation Code:							
SB-202_1 (480-192104-1)	5/18/22	DSHC Eastern		Solid			X			
FB-051822 (480-192104-3)	5/18/22	16:20 Eastern		Water				X		

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/method/matrix being requested, this reflects the laboratory's capability to perform the analysis. Eurofins Environment Testing Northeast, LLC attests that all analyses will be performed in accordance with the Eurofins Environment Testing Northeast, LLC quality assurance program. Eurofins Environment Testing Northeast, LLC is a subsidiary of Eurofins Environment Testing America, LLC which is a wholly owned subsidiary of Eurofins Environment Testing North America, Inc.

Possible Hazard Identification: Unconfirmed
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client / Disposal By Lab / Archive For / Months
Deliverable Requested: I, II, III, IV, Other (specify)
Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by: / Date: / Time: / Method of Shipment:

Relinquished by:	Date/Time: 5/19/22 1800	Company: TMB	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: / Custody Seal No.: / Cooler Temperature(s) °C and Other Remarks:

06/03/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Skibicki, Jamie R.	Carrier Tracking No(s):	COC No: 480-675375-1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Vanhoven@eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environ...		Accreditations Required (See note): State - Massachusetts		Job #: 480-198184-1
Address: 2425 New Holland Pike	Due Date Requested: 6/2/2023	Analysis Requested		Preservation Codes: A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S2; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Y - Trizma; Z - other (specify)
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601	PO #:			
Phone: 717-656-2300(Tel)	WO #:			
Email:	Project #: 48024031			
Project Name: 30 Woods Road Pelham	SSOW#:			
Site:				Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D_Soil_Calc_List_1 - 8260D_Soil_Calc_List_1 Targets	8260D_Soil_Calc_List_2 - 8260D_Soil_Calc_List_2 Targets	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SB-052423 (480-198184-1)	5/19/23	08:42 Eastern		Water			6		3	
FB-051923 (480-198184-2)	5/19/23	10:20 Eastern		Water					3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/method/matrix being requested, this shipment may be rejected without further notice. Unless otherwise instructed, all samples will be returned to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client / Disposal By Lab / Archive For ___ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2
Empty Kit Relinquished by:	Date:
Relinquished by:	Date/Time: 5/19/23 1800 Company: EFET
Relinquished by:	Date/Time: Company:
Relinquished by:	Date/Time: Company:
Custody Seals Intact: Yes / No	Custody Seal No.: 1784902

Special Instructions/QC Requirements:

Received by:	Date/Time:	Company:
Received by:	Date/Time:	Company:
Received by:	Date/Time: 5/20/23 1037	Company: EFA
Cooler Temperature(s) °C and Other Remarks: 4		

Appendix B

Annotated Sample Analysis Data Sheets

Definitions/Glossary

Client: ARCADIS U.S. Inc
Job ID: 480-198104-1
Project/Site: GE Woods Pond Parcel

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: B-2022-1 (74-80)
Date Collected: 05/18/22 08:42
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-1
Matrix: Solid
Percent Solids: 91.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,2,4-Trichlorobenzene	ND		360	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,2-Dichlorobenzene	ND		360	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,2-Diphenylhydrazine	ND		360	21	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,3,5-Trinitrobenzene	ND		360	15	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,3-Dichlorobenzene	ND		360	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,3-Dinitrobenzene	ND		360	43	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,4-Dichlorobenzene	ND		360	28	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1,4-Naphthoquinone	ND		360	67	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
1-Naphthylamine	ND		360	120	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,3,4,6-Tetrachlorophenol	ND		180	38	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,4,5-Trichlorophenol	ND		180	50	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,4,6-Trichlorophenol	ND		180	37	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,4-Dinitrophenol	ND		1800	850	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,4-Dinitrotoluene	ND		180	38	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,6-Dichlorophenol	ND		360	67	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2,6-Dinitrotoluene	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Acetylaminofluorene	ND		360	46	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Chlorophenol	ND		360	33	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Methylnaphthalene	ND		180	37	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Methylphenol	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Naphthylamine	ND		360	120	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Nitroaniline	ND		360	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Nitrophenol	ND		180	52	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Picoline	ND		360	41	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
2-Toluidine	ND		360	87	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
3 & 4 Methylphenol	ND		360	28	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
3,3'-Dichlorobenzidine	ND		360	220	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
3,3'-Dimethylbenzidine	ND		710	360	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
3-Methylcholanthrene	ND		360	59	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
3-Methylphenol	ND		360	28	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
3-Nitroaniline	ND		360	51	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4,6-Dinitro-2-methylphenol	ND		360	180	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Aminobiphenyl	ND		360	75	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Chloroaniline	ND		180	45	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Chlorophenyl phenyl ether	ND		180	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Methylphenol	ND		360	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Nitroaniline	ND		360	96	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Nitrophenol	ND		360	130	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
4-Nitroquinoline-1-oxide	ND		710	360	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
a,a-Dimethylphenethylamine	ND		360	360	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Acenaphthene	ND		180	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1

Client Sample ID: B-2022-1 (74-80)
Lab Sample ID: 480-198104-1
Date Collected: 05/18/22 08:42
Matrix: Solid
Date Received: 05/19/22 10:00
Percent Solids: 91.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		180	24	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Acetophenone	ND		180	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Aniline	ND		360	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Anthracene	ND		180	45	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Aramite, Total	ND		360	170	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzidine	ND		5400	2300	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzo[k]fluoranthene	ND		180	24	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Benzyl alcohol	ND		360	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
bis (2-chloroisopropyl) ether	ND		180	37	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Bis(2-chloroethoxy)methane	ND		180	39	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Bis(2-chloroethyl)ether	ND		180	24	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Bis(2-ethylhexyl) phthalate	**280**		180	63	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Chrysene	ND		180	41	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Diallate	ND		360	45	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Dibenzofuran	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Diethyl phthalate	ND		180	24	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Dimethoate	ND		360	44	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Dimethyl phthalate	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Di-n-butyl phthalate	**380**	B U	180	31	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Di-n-octyl phthalate	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Dinoseb	ND		360	64	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Diphenylamine	ND		360	46	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Disulfoton	ND		360	270	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Chlorobenzilate	ND		360	57	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Ethyl methanesulfonate	ND		360	79	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
~~Famphur~~	~~ND~~	~~*-~~	~~710~~	~~170~~	~~ug/Kg~~	~~☼~~	~~05/24/22 15:34~~	~~05/27/22 07:34~~	~~1~~	R
Fluoranthene	ND		180	19	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Fluorene	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Hexachlorobenzene	ND		180	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Hexachlorocyclopentadiene	ND		180	25	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Hexachloroethane	ND		180	24	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Hexachloropropene	ND		360	91	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Indeno[1,2,3-cd]pyrene	ND		180	23	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Isodrin	ND		360	63	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Isophorone	ND		180	39	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Isosafrole	ND		360	48	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
~~Kepone~~	~~ND~~	~~*-~~	~~3600~~	~~360~~	~~ug/Kg~~	~~☼~~	~~05/24/22 15:34~~	~~05/27/22 07:34~~	~~1~~	R
Methapyrilene	ND		1600	360	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Methyl methanesulfonate	ND		360	82	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Naphthalene	ND		180	24	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
Nitrobenzene	ND		180	21	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	
N-Nitro-o-toluidine	ND		360	46	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1	

Client Sample ID: B-2022-1 (74-80)
Lab Sample ID: 480-198104-1
Date Collected: 05/18/22 08:42
Matrix: Solid
Date Received: 05/19/22 10:00
Percent Solids: 91.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		360	83	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosodimethylamine	ND		360	78	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosodi-n-butylamine	ND		360	97	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosomethylethylamine	ND		360	82	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosomorpholine	ND		360	80	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosopiperidine	ND		360	72	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
N-Nitrosopyrrolidine	ND		360	54	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
o,o',o''-Triethylphosphorothioate	ND		360	46	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Ethyl Parathion	ND		360	40	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Methyl parathion	ND		360	62	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
p-Dimethylamino azobenzene	ND		360	60	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Pentachlorobenzene	ND		360	75	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Pentachloronitrobenzene	ND		360	91	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Pentachlorophenol	ND	*+	360	180	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Phenacetin	ND		360	49	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Phenanthrene	ND		180	27	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Phenol	ND		180	28	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Phorate	ND		360	98	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
p-Phenylene diamine	ND		860	360	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Pronamide	ND		360	70	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Pyrene	ND		180	22	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Pyridine	ND		360	26	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Safrole	ND		360	49	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Sulfotepp	ND		360	57	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1
Thionazin	ND		360	63	ug/Kg	☼	05/24/22 15:34	05/27/22 07:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*54 - 120*	*05/24/22 15:34*	*05/27/22 07:34*	*1*
2-Fluorobiphenyl (Surr)	*87*		*60 - 120*	*05/24/22 15:34*	*05/27/22 07:34*	*1*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*05/24/22 15:34*	*05/27/22 07:34*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*	*05/24/22 15:34*	*05/27/22 07:34*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*05/24/22 15:34*	*05/27/22 07:34*	*1*
p-Terphenyl-d14 (Surr)	*118*		*79 - 130*	*05/24/22 15:34*	*05/27/22 07:34*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
4,4'-DDT	ND		1.8	0.42	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Aldrin	ND		1.8	0.44	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Chlordane (technical)	ND		18	4.0	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
cis-Chlordane	ND		1.8	0.90	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Dieldrin	ND		1.8	0.43	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1

Client Sample ID: B-2022-1 (74-80)
Date Collected: 05/18/22 08:42
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-1
Matrix: Solid
Percent Solids: 91.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Endrin	ND		1.8	0.36	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Endrin aldehyde	ND		1.8	0.46	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Endrin ketone	ND		1.8	0.44	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
gamma-BHC (Lindane)	ND		1.8	0.33	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Heptachlor	ND		1.8	0.39	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
Toxaphene	ND		18	10	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1
trans-Chlordane	ND		1.8	0.57	ug/Kg	☼	05/24/22 09:00	05/25/22 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*45 - 120*	*05/24/22 09:00*	*05/25/22 15:07*	*1*
DCB Decachlorobiphenyl	*103*		*45 - 120*	*05/24/22 09:00*	*05/25/22 15:07*	*1*
Tetrachloro-m-xylene	*139*	*S1+*	*30 - 124*	*05/24/22 09:00*	*05/25/22 15:07*	*1*
Tetrachloro-m-xylene	*86*		*30 - 124*	*05/24/22 09:00*	*05/25/22 15:07*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.048	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1
PCB-1221	ND		0.24	0.048	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1
PCB-1232	ND		0.24	0.048	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1
PCB-1242	ND		0.24	0.048	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1
PCB-1248	ND		0.24	0.048	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1
PCB-1254	ND		0.24	0.11	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1
PCB-1260	ND		0.24	0.11	mg/Kg	☼	05/24/22 09:18	05/24/22 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*65 - 174*	*05/24/22 09:18*	*05/24/22 22:44*	*1*
DCB Decachlorobiphenyl	*107*		*65 - 174*	*05/24/22 09:18*	*05/24/22 22:44*	*1*
Tetrachloro-m-xylene	*99*		*60 - 154*	*05/24/22 09:18*	*05/24/22 22:44*	*1*
Tetrachloro-m-xylene	*105*		*60 - 154*	*05/24/22 09:18*	*05/24/22 22:44*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.7	ug/Kg	☼	05/27/22 11:23	06/01/22 17:42	1
2,4-D	ND		18	11	ug/Kg	☼	05/27/22 11:23	06/01/22 17:42	1
Silvex (2,4,5-TP)	ND		18	6.4	ug/Kg	☼	05/27/22 11:23	06/01/22 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*05/27/22 11:23*	*06/01/22 17:42*	*1*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*05/27/22 11:23*	*06/01/22 17:42*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1
Disulfoton	ND		36	24	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1
Famphur	ND		36	19	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1
Methyl parathion	ND	*1	36	20	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1
Ethyl Parathion	ND	*1	36	20	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1

Client Sample ID: B-2022-1 (74-80)
Date Collected: 05/18/22 08:42
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-1
Matrix: Solid
Percent Solids: 91.9

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND	~~J~~	36	12	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/23/22 23:40	05/25/22 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*75*		*20 - 135*	*05/23/22 23:40*	*05/25/22 17:28*	*1*
Tributyl phosphate	*72*		*20 - 135*	*05/23/22 23:40*	*05/25/22 17:28*	*1*
Triphenylphosphate	*86*		*33 - 168*	*05/23/22 23:40*	*05/25/22 17:28*	*1*
Triphenylphosphate	*88*		*33 - 168*	*05/23/22 23:40*	*05/25/22 17:28*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		5.3	0.034	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,4,6,7,8-HpCDF	~~0.083 J I B~~ 5.3 U		5.3	0.0033	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,4,7,8,9-HpCDF	~~0.024 J I~~ 5.3 U		5.3	0.0046	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,4,7,8-HxCDD	ND		5.3	0.0051	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,4,7,8-HxCDF	~~0.048 J~~ 5.3 U		5.3	0.011	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,6,7,8-HxCDD	ND		5.3	0.0049	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,6,7,8-HxCDF	ND		5.3	0.011	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,7,8,9-HxCDD	ND		5.3	0.0051	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,7,8,9-HxCDF	ND		5.3	0.014	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,7,8-PeCDD	ND		5.3	0.013	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
1,2,3,7,8-PeCDF	~~0.047 J I B~~ 5.3 U		5.3	0.0080	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
2,3,4,6,7,8-HxCDF	ND		5.3	0.010	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
2,3,4,7,8-PeCDF	ND		5.3	0.0056	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
2,3,7,8-TCDD	ND		1.1	0.0091	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
2,3,7,8-TCDF	ND		1.1	0.0057	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
OCDD	~~0.67 J I B~~ 11 U		11	0.021	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
OCDF	~~0.31 J B~~ 11 U		11	0.0072	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total HpCDD	ND		5.3	0.034	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total HpCDF	~~0.11 J I B~~ 5.3 U		5.3	0.0040	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total HxCDD	ND		5.3	0.0051	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total HxCDF	~~0.048 J B~~ 5.3 U		5.3	0.011	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total PeCDD	ND		5.3	0.013	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total PeCDF	~~0.047 J I B~~ 5.3 U		5.3	0.0068	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total TCDD	ND		1.1	0.0091	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1
Total TCDF	ND		1.1	0.0057	ng/Kg	☼	05/25/22 15:23	05/27/22 18:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*69*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*74*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,4,7,8-HxCDD	*66*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,6,7,8-HxCDF	*64*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,7,8,9-HxCDD	*72*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,7,8-PeCDD	*51*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*

Client Sample ID: B-2022-1 (74-80)
Lab Sample ID: 480-198104-1

Date Collected: 05/18/22 08:42
Matrix: Solid
Date Received: 05/19/22 10:00
Percent Solids: 91.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*58*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-2,3,7,8-TCDF	*69*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-OCDD	*55*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*
13C-OCDF	*60*		*40 - 135*	*05/25/22 15:23*	*05/27/22 18:41*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.4	0.44	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Arsenic	**1.7**	**J**	2.2	0.44	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Barium	**9.0**		0.55	0.12	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Beryllium	**0.11**	**J**	0.22	0.031	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Cadmium	**0.050**	**J**	0.22	0.033	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Chromium	**3.4**		0.55	0.22	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Cobalt	**2.6**		0.55	0.055	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Copper	**4.0**		1.1	0.23	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Lead	**3.5**		1.1	0.26	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Nickel	**5.2**	**J**	5.5	0.25	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Selenium	ND		4.4	0.44	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Silver	ND		0.66	0.22	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Thallium	ND		6.6	0.33	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Tin	ND		2.2	0.47	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Vanadium	**3.4**		0.55	0.12	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1
Zinc	**20.4**		2.2	0.70	mg/Kg	☼	05/25/22 15:15	05/27/22 00:56	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0048	mg/Kg	☼	05/24/22 10:05	05/24/22 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.091	0.044	mg/Kg	☼	05/25/22 14:40	05/25/22 16:18	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.2	11.5	mg/Kg	☼		05/31/22 15:00	1

Client Sample ID: B-2022-1 (75)
Lab Sample ID: 480-198104-2

Date Collected: 05/18/22 08:42
Matrix: Solid
Date Received: 05/19/22 10:00
Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.1	0.41	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,1,1-Trichloroethane	ND		4.1	0.30	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,1,2,2-Tetrachloroethane	ND		4.1	0.66	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,1,2-Trichloroethane	ND		4.1	0.53	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,1-Dichloroethane	ND		4.1	0.50	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,1-Dichloroethene	ND		4.1	0.50	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,2,3-Trichloropropane	ND		4.1	0.41	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,2-Dibromo-3-Chloropropane	ND		4.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1

Client Sample ID: B-2022-1 (75)
Date Collected: 05/18/22 08:42
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-2
Matrix: Solid
Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		4.1	0.20	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
1,2-Dichloropropane	ND		4.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
2-Butanone (MEK)	ND		20	1.5	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
2-Chloro-1,3-butadiene	ND		4.1	2.5	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
2-Chloroethyl vinyl ether	ND		8.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
2-Hexanone	ND		20	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
3-Chloro-1-propene	ND		4.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
4-Methyl-2-pentanone (MIBK)	ND		20	1.3	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Acetone	ND		20	3.4	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Acetonitrile	ND		41	5.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Acrolein	ND		20	6.4	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Acrylonitrile	ND		20	3.6	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Benzene	ND		4.1	0.20	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Bromoform	ND		4.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Bromomethane	ND		4.1	0.37	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Carbon disulfide	ND		4.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Carbon tetrachloride	ND		4.1	0.39	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Chlorobenzene	ND		4.1	0.54	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Chlorodibromomethane	ND		4.1	0.52	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Chloroethane	ND		4.1	0.92	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Chloroform	**1.7**	**J**	4.1	0.25	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Chloromethane	ND		4.1	0.25	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
cis-1,3-Dichloropropene	ND		4.1	0.59	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Dibromomethane	ND		4.1	0.42	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Dichlorobromomethane	ND		4.1	0.55	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Dichlorodifluoromethane	ND		4.1	0.34	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Ethyl methacrylate	ND		4.1	1.4	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Ethylbenzene	ND		4.1	0.28	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Ethylene Dibromide	ND		4.1	0.52	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Iodomethane	ND		4.1	0.20	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Methacrylonitrile	ND		20	4.8	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Methyl methacrylate	ND		4.1	0.85	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Methylene Chloride	ND		4.1	1.9	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
m-Xylene & p-Xylene	ND		8.1	0.68	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
o-Xylene	ND		4.1	0.53	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Propionitrile	ND		41	23	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Styrene	ND		4.1	0.20	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Tetrachloroethene	ND		4.1	0.55	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Toluene	ND		4.1	0.31	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
trans-1,2-Dichloroethene	ND		4.1	0.42	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
trans-1,3-Dichloropropene	ND		4.1	1.8	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
trans-1,4-Dichloro-2-butene	ND		4.1	0.92	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Trichloroethene	ND		4.1	0.90	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Trichlorofluoromethane	ND		4.1	0.39	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Vinyl acetate	ND		8.1	2.0	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1
Vinyl chloride	ND		4.1	0.50	ug/Kg	☼	05/19/22 16:00	05/20/22 04:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*64 - 126*	*05/19/22 16:00*	*05/20/22 04:39*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*05/19/22 16:00*	*05/20/22 04:39*	*1*

Client Sample ID: B-2022-1 (75)
Lab Sample ID: 480-198104-2

Date Collected: 05/18/22 08:42
Matrix: Solid
Date Received: 05/19/22 10:00
Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*60 - 140*	*05/19/22 16:00*	*05/20/22 04:39*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/19/22 16:00*	*05/20/22 04:39*	*1*

Client Sample ID: FB-051822
Lab Sample ID: 480-198104-3

Date Collected: 05/18/22 16:20
Matrix: Water
Date Received: 05/19/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/27/22 19:30	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/27/22 19:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/27/22 19:30	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/27/22 19:30	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/27/22 19:30	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/27/22 19:30	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/27/22 19:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/27/22 19:30	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/27/22 19:30	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/27/22 19:30	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/27/22 19:30	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/27/22 19:30	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/27/22 19:30	1
2-Hexanone	ND		5.0	1.2	ug/L			05/27/22 19:30	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/27/22 19:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/27/22 19:30	1
Acetone	**4.7**	**J**	10	3.0	ug/L			05/27/22 19:30	1
Acetonitrile	ND		15	4.9	ug/L			05/27/22 19:30	1
Acrolein	ND		20	0.91	ug/L			05/27/22 19:30	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/27/22 19:30	1
Benzene	ND		1.0	0.41	ug/L			05/27/22 19:30	1
Bromoform	ND		1.0	0.26	ug/L			05/27/22 19:30	1
Bromomethane	ND		1.0	0.69	ug/L			05/27/22 19:30	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/27/22 19:30	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/27/22 19:30	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/27/22 19:30	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/27/22 19:30	1
Chloroethane	ND		1.0	0.32	ug/L			05/27/22 19:30	1
Chloroform	ND		1.0	0.34	ug/L			05/27/22 19:30	1
Chloromethane	ND		1.0	0.35	ug/L			05/27/22 19:30	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/27/22 19:30	1
Dibromomethane	ND		1.0	0.41	ug/L			05/27/22 19:30	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/27/22 19:30	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/27/22 19:30	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/27/22 19:30	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/27/22 19:30	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/27/22 19:30	1
Iodomethane	ND		1.0	0.30	ug/L			05/27/22 19:30	1
Methacrylonitrile	ND		5.0	0.69	ug/L			05/27/22 19:30	1
Methyl methacrylate	ND		1.0	0.61	ug/L			05/27/22 19:30	1

Client Sample ID: FB-051822
Date Collected: 05/18/22 16:20
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		1.0	0.44	ug/L			05/27/22 19:30	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/27/22 19:30	1
o-Xylene	ND		1.0	0.76	ug/L			05/27/22 19:30	1
Propionitrile	ND		10	5.8	ug/L			05/27/22 19:30	1
Styrene	ND		1.0	0.73	ug/L			05/27/22 19:30	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/27/22 19:30	1
Toluene	ND		1.0	0.51	ug/L			05/27/22 19:30	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/27/22 19:30	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/27/22 19:30	1
trans-1,4-Dichloro-2-butene	ND	*	1.0	0.22	ug/L			05/27/22 19:30	1
Trichloroethene	ND		1.0	0.46	ug/L			05/27/22 19:30	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/27/22 19:30	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/27/22 19:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/27/22 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*77 - 120*		*05/27/22 19:30*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*05/27/22 19:30*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*05/27/22 19:30*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/27/22 19:30*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,4-Dioxane	ND		10	1.1	ug/L		05/23/22 16:57	05/24/22 22:46	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/23/22 16:57	05/24/22 22:46	1
1-Naphthylamine	ND		10	1.3	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/23/22 16:57	05/24/22 22:46	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Naphthylamine	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Nitroaniline	ND		10	0.42	ug/L		05/23/22 16:57	05/24/22 22:46	1

Client Sample ID: FB-051822
Lab Sample ID: 480-198104-3

Date Collected: 05/18/22 16:20
Matrix: Water
Date Received: 05/19/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	ND		5.0	0.48	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Picoline	ND		80	1.4	ug/L		05/23/22 16:57	05/24/22 22:46	1
2-Toluidine	ND		10	1.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/23/22 16:57	05/24/22 22:46	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
3-Methylphenol	ND		10	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
3-Nitroaniline	ND		10	0.48	ug/L		05/23/22 16:57	05/24/22 22:46	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Chloro-3-methylphenol	**11**		5.0	0.45	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Methylphenol	ND		10	0.36	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Nitroaniline	ND		10	0.25	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Nitrophenol	ND		10	1.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/23/22 16:57	05/24/22 22:46	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		05/23/22 16:57	05/24/22 22:46	1
Acenaphthene	ND		5.0	0.41	ug/L		05/23/22 16:57	05/24/22 22:46	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/23/22 16:57	05/24/22 22:46	1
Acetophenone	ND		5.0	0.54	ug/L		05/23/22 16:57	05/24/22 22:46	1
Aniline	ND		10	0.61	ug/L		05/23/22 16:57	05/24/22 22:46	1
Anthracene	ND		5.0	0.28	ug/L		05/23/22 16:57	05/24/22 22:46	1
Aramite, Total	ND		20	1.6	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzidine	ND		80	2.2	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/23/22 16:57	05/24/22 22:46	1
Benzyl alcohol	ND		20	2.0	ug/L		05/23/22 16:57	05/24/22 22:46	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/23/22 16:57	05/24/22 22:46	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/23/22 16:57	05/24/22 22:46	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/23/22 16:57	05/24/22 22:46	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/23/22 16:57	05/24/22 22:46	1
Chrysene	ND		5.0	0.33	ug/L		05/23/22 16:57	05/24/22 22:46	1
Diallate	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/23/22 16:57	05/24/22 22:46	1
Dibenzofuran	ND		10	0.51	ug/L		05/23/22 16:57	05/24/22 22:46	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/23/22 16:57	05/24/22 22:46	1
Dimethoate	ND		10	0.54	ug/L		05/23/22 16:57	05/24/22 22:46	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/23/22 16:57	05/24/22 22:46	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/23/22 16:57	05/24/22 22:46	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/23/22 16:57	05/24/22 22:46	1
Dinoseb	ND		10	2.9	ug/L		05/23/22 16:57	05/24/22 22:46	1

Client Sample ID: FB-051822
Date Collected: 05/18/22 16:20
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diphenylamine	ND		10	0.82	ug/L		05/23/22 16:57	05/24/22 22:46	1
Disulfoton	ND		10	0.42	ug/L		05/23/22 16:57	05/24/22 22:46	1
Chlorobenzilate	ND		20	0.67	ug/L		05/23/22 16:57	05/24/22 22:46	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/23/22 16:57	05/24/22 22:46	1
Famphur	ND	*-	40	1.9	ug/L		05/23/22 16:57	05/24/22 22:46	1
Fluoranthene	ND		5.0	0.40	ug/L		05/23/22 16:57	05/24/22 22:46	1
Fluorene	ND		5.0	0.36	ug/L		05/23/22 16:57	05/24/22 22:46	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/23/22 16:57	05/24/22 22:46	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/23/22 16:57	05/24/22 22:46	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/23/22 16:57	05/24/22 22:46	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/23/22 16:57	05/24/22 22:46	1
Hexachloropropene	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/23/22 16:57	05/24/22 22:46	1
Isodrin	ND		10	0.18	ug/L		05/23/22 16:57	05/24/22 22:46	1
Isophorone	ND		5.0	0.43	ug/L		05/23/22 16:57	05/24/22 22:46	1
Isosafrole	ND		10	0.58	ug/L		05/23/22 16:57	05/24/22 22:46	1
Kepone	ND	*-	50	1.8	ug/L		05/23/22 16:57	05/24/22 22:46	1
Methapyrilene	ND		50	1.8	ug/L		05/23/22 16:57	05/24/22 22:46	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
Naphthalene	ND		5.0	0.76	ug/L		05/23/22 16:57	05/24/22 22:46	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/23/22 16:57	05/24/22 22:46	1
Ethyl Parathion	ND		10	0.64	ug/L		05/23/22 16:57	05/24/22 22:46	1
Methyl parathion	ND		10	0.37	ug/L		05/23/22 16:57	05/24/22 22:46	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/23/22 16:57	05/24/22 22:46	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/23/22 16:57	05/24/22 22:46	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
Pentachlorophenol	ND		10	2.2	ug/L		05/23/22 16:57	05/24/22 22:46	1
Phenacetin	ND		10	0.61	ug/L		05/23/22 16:57	05/24/22 22:46	1
Phenanthrene	ND		5.0	0.44	ug/L		05/23/22 16:57	05/24/22 22:46	1
Phenol	ND		5.0	0.39	ug/L		05/23/22 16:57	05/24/22 22:46	1
Phorate	ND		10	0.50	ug/L		05/23/22 16:57	05/24/22 22:46	1
p-Phenylene diamine	ND	*-	800	200	ug/L		05/23/22 16:57	05/24/22 22:46	1 R
Pronamide	ND		10	2.5	ug/L		05/23/22 16:57	05/24/22 22:46	1
Pyrene	ND		5.0	0.34	ug/L		05/23/22 16:57	05/24/22 22:46	1
Pyridine	ND		25	0.41	ug/L		05/23/22 16:57	05/24/22 22:46	1
Safrole	ND		10	0.46	ug/L		05/23/22 16:57	05/24/22 22:46	1
Sulfotepp	ND		10	0.64	ug/L		05/23/22 16:57	05/24/22 22:46	1
Thionazin	ND		10	0.38	ug/L		05/23/22 16:57	05/24/22 22:46	1

Client Sample ID: FB-051822
Date Collected: 05/18/22 16:20
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*68*		*41 - 120*	*05/23/22 16:57*	*05/24/22 22:46*	*1*
2-Fluorobiphenyl (Surr)	*86*		*48 - 120*	*05/23/22 16:57*	*05/24/22 22:46*	*1*
2-Fluorophenol (Surr)	*67*		*35 - 120*	*05/23/22 16:57*	*05/24/22 22:46*	*1*
Nitrobenzene-d5 (Surr)	*75*		*46 - 120*	*05/23/22 16:57*	*05/24/22 22:46*	*1*
Phenol-d5 (Surr)	*49*		*22 - 120*	*05/23/22 16:57*	*05/24/22 22:46*	*1*
p-Terphenyl-d14 (Surr)	*93*		*60 - 148*	*05/23/22 16:57*	*05/24/22 22:46*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/25/22 09:02	05/26/22 11:14	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/25/22 09:02	05/26/22 11:14	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/25/22 09:02	05/26/22 11:14	1
Aldrin	ND		0.050	0.0081	ug/L		05/25/22 09:02	05/26/22 11:14	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/25/22 09:02	05/26/22 11:14	1
beta-BHC	ND		0.050	0.025	ug/L		05/25/22 09:02	05/26/22 11:14	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/25/22 09:02	05/26/22 11:14	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/25/22 09:02	05/26/22 11:14	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/25/22 09:02	05/26/22 11:14	1
delta-BHC	ND		0.050	0.010	ug/L		05/25/22 09:02	05/26/22 11:14	1
Dieldrin	ND		0.050	0.0098	ug/L		05/25/22 09:02	05/26/22 11:14	1
Endosulfan I	ND		0.050	0.011	ug/L		05/25/22 09:02	05/26/22 11:14	1
Endosulfan II	ND		0.050	0.012	ug/L		05/25/22 09:02	05/26/22 11:14	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/25/22 09:02	05/26/22 11:14	1
Endrin	ND		0.050	0.014	ug/L		05/25/22 09:02	05/26/22 11:14	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/25/22 09:02	05/26/22 11:14	1
Endrin ketone	ND		0.050	0.012	ug/L		05/25/22 09:02	05/26/22 11:14	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/25/22 09:02	05/26/22 11:14	1
Heptachlor	ND		0.050	0.0085	ug/L		05/25/22 09:02	05/26/22 11:14	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/25/22 09:02	05/26/22 11:14	1
Methoxychlor	ND		0.050	0.014	ug/L		05/25/22 09:02	05/26/22 11:14	1
Toxaphene	ND		0.50	0.12	ug/L		05/25/22 09:02	05/26/22 11:14	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/25/22 09:02	05/26/22 11:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*57*		*20 - 120*	*05/25/22 09:02*	*05/26/22 11:14*	*1*
DCB Decachlorobiphenyl	*66*		*20 - 120*	*05/25/22 09:02*	*05/26/22 11:14*	*1*
Tetrachloro-m-xylene	*93*		*44 - 120*	*05/25/22 09:02*	*05/26/22 11:14*	*1*
Tetrachloro-m-xylene	*66*		*44 - 120*	*05/25/22 09:02*	*05/26/22 11:14*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/25/22 08:46	05/25/22 23:20	1
PCB-1221	ND		0.50	0.18	ug/L		05/25/22 08:46	05/25/22 23:20	1
PCB-1232	ND		0.50	0.18	ug/L		05/25/22 08:46	05/25/22 23:20	1
PCB-1242	ND		0.50	0.18	ug/L		05/25/22 08:46	05/25/22 23:20	1
PCB-1248	ND		0.50	0.18	ug/L		05/25/22 08:46	05/25/22 23:20	1
PCB-1254	ND		0.50	0.25	ug/L		05/25/22 08:46	05/25/22 23:20	1
PCB-1260	ND		0.50	0.25	ug/L		05/25/22 08:46	05/25/22 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	*65*		*39 - 121*	*05/25/22 08:46*	*05/25/22 23:20*	*1*

Client Sample ID: FB-051822
Date Collected: 05/18/22 16:20
Date Received: 05/19/22 10:00

Lab Sample ID: 480-198104-3
Matrix: Water

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*39 - 121*	*05/25/22 08:46*	*05/25/22 23:20*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*05/25/22 08:46*	*05/25/22 23:20*	*1*
DCB Decachlorobiphenyl	*54*		*19 - 120*	*05/25/22 08:46*	*05/25/22 23:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.51	0.069	ug/L		05/20/22 09:28	05/23/22 19:26	1
2,4-D	ND		0.51	0.18	ug/L		05/20/22 09:28	05/23/22 19:26	1
Silvex (2,4,5-TP)	ND		0.51	0.051	ug/L		05/20/22 09:28	05/23/22 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*71*		*48 - 132*	*05/20/22 09:28*	*05/23/22 19:26*	*1*
2,4-Dichlorophenylacetic acid	*80*		*48 - 132*	*05/20/22 09:28*	*05/23/22 19:26*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.99	0.26	ug/L		05/23/22 05:20	05/25/22 19:34	1
Disulfoton	ND		0.99	0.40	ug/L		05/23/22 05:20	05/25/22 19:34	1
Famphur	ND		0.99	0.32	ug/L		05/23/22 05:20	05/25/22 19:34	1
Methyl parathion	ND		0.99	0.34	ug/L		05/23/22 05:20	05/25/22 19:34	1
Ethyl Parathion	ND		0.99	0.36	ug/L		05/23/22 05:20	05/25/22 19:34	1
Phorate	ND		0.99	0.38	ug/L		05/23/22 05:20	05/25/22 19:34	1
Sulfotepp	ND		0.99	0.40	ug/L		05/23/22 05:20	05/25/22 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*25 - 127*	*05/23/22 05:20*	*05/25/22 19:34*	*1*
Tributyl phosphate	*91*		*25 - 127*	*05/23/22 05:20*	*05/25/22 19:34*	*1*
Triphenylphosphate	*98*		*70 - 155*	*05/23/22 05:20*	*05/25/22 19:34*	*1*
Triphenylphosphate	*102*		*70 - 155*	*05/23/22 05:20*	*05/25/22 19:34*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.64**	~~J+~~ JNX	25	0.19	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,4,6,7,8-HpCDF	**0.27**	~~J+B~~ BJNX	25	0.0080	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,4,7,8,9-HpCDF	**0.26**	~~J+B~~ BJNX	25	0.013	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,4,7,8-HxCDD	**0.41**	~~J B~~ J	25	0.020	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,4,7,8-HxCDF	**0.45**	~~J B~~ J	25	0.059	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,6,7,8-HxCDD	**0.26**	~~J+~~ JNX	25	0.020	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,6,7,8-HxCDF	**0.24**	~~J+B~~ BJNX	25	0.058	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,7,8,9-HxCDD	**0.26**	~~J+B~~ BJNX	25	0.021	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,7,8,9-HxCDF	**0.43**	~~J+~~ JNX	25	0.080	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,7,8-PeCDD	**0.65**	~~J T~~ JNX	25	0.048	pg/L		05/27/22 12:11	05/29/22 20:55	1
1,2,3,7,8-PeCDF	**0.40**	~~J T~~ JNX	25	0.054	pg/L		05/27/22 12:11	05/29/22 20:55	1
2,3,4,6,7,8-HxCDF	**0.43**	~~J+B~~ BJNX	25	0.054	pg/L		05/27/22 12:11	05/29/22 20:55	1
2,3,4,7,8-PeCDF	ND		25	0.039	pg/L		05/27/22 12:11	05/29/22 20:55	1
2,3,7,8-TCDD	ND		4.9	0.032	pg/L		05/27/22 12:11	05/29/22 20:55	1
2,3,7,8-TCDF	**0.14**	~~J+~~ JNX	4.9	0.029	pg/L		05/27/22 12:11	05/29/22 20:55	1
OCDD	**2.6**	~~J B~~ J	110	0.15	pg/L		05/27/22 12:11	05/29/22 20:55	1
OCDF	**0.79**	~~J B~~ J	49	0.045	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total HpCDD	**0.64**	~~J T~~ JNX	25	0.19	pg/L		05/27/22 12:11	05/29/22 20:55	1

Client Sample ID: FB-051822
Lab Sample ID: 480-198104-3

Date Collected: 05/18/22 16:20
Matrix: Water
Date Received: 05/19/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	**0.53**	~~J1B~~ BJNX	25	0.011	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total HxCDD	**0.93**	~~J1B~~	25	0.021	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total HxCDF	**1.6**	~~J1B~~	25	0.063	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total PeCDD	**0.65**	~~J1~~ JNX	25	0.048	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total PeCDF	**0.40**	~~J1~~ JNX	25	0.046	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total TCDD	ND		4.9	0.032	pg/L		05/27/22 12:11	05/29/22 20:55	1
Total TCDF	**0.14**	~~J1~~ JNX	4.9	0.029	pg/L		05/27/22 12:11	05/29/22 20:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,7,8,9-HxCDD	*92*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-2,3,7,8-TCDD	*73*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-OCDD	*78*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*
13C-OCDF	*71*		*40 - 135*	*05/27/22 12:11*	*05/29/22 20:55*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/24/22 09:43	05/26/22 02:58	1
Arsenic	ND		0.015	0.0056	mg/L		05/24/22 09:43	05/26/22 02:58	1
Barium	ND	~~^+~~	0.0020	0.00070	mg/L		05/24/22 09:43	05/26/22 02:58	1
Beryllium	ND		0.0020	0.00030	mg/L		05/24/22 09:43	05/26/22 02:58	1
Cadmium	ND		0.0020	0.00050	mg/L		05/24/22 09:43	05/26/22 02:58	1
Chromium	ND		0.0040	0.0010	mg/L		05/24/22 09:43	05/26/22 02:58	1
Cobalt	ND		0.0040	0.00063	mg/L		05/24/22 09:43	05/26/22 02:58	1
Copper	**0.0068**	J ~~B^+~~	0.010	0.0016	mg/L		05/24/22 09:43	05/26/22 02:58	1
Lead	ND		0.010	0.0030	mg/L		05/24/22 09:43	05/26/22 02:58	1
Nickel	ND		0.010	0.0013	mg/L		05/24/22 09:43	05/26/22 02:58	1
Selenium	ND		0.025	0.0087	mg/L		05/24/22 09:43	05/26/22 02:58	1
Silver	ND		0.0060	0.0017	mg/L		05/24/22 09:43	05/26/22 02:58	1
Thallium	ND		0.020	0.010	mg/L		05/24/22 09:43	05/26/22 02:58	1
Tin	ND		0.010	0.0051	mg/L		05/24/22 09:43	05/26/22 02:58	1
Vanadium	ND		0.0050	0.0015	mg/L		05/24/22 09:43	05/26/22 02:58	1
Zinc	ND		0.010	0.0015	mg/L		05/24/22 09:43	05/26/22 02:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/24/22 11:23	05/24/22 17:19	1

Client Sample ID: FB-051822
Lab Sample ID: 480-198104-3

Date Collected: 05/18/22 16:20
Matrix: Water
Date Received: 05/19/22 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0064	J	0.010	0.0050	mg/L		05/27/22 11:13	05/27/22 14:14	1
Sulfide	ND	H UJ	1.0	0.67	mg/L			05/27/22 15:15	1

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-198104-4

Date Collected: 05/18/22 00:00
Matrix: Water
Date Received: 05/19/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/27/22 19:53	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/27/22 19:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/27/22 19:53	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/27/22 19:53	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/27/22 19:53	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/27/22 19:53	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/27/22 19:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/27/22 19:53	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/27/22 19:53	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/27/22 19:53	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/27/22 19:53	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/27/22 19:53	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/27/22 19:53	1
2-Hexanone	ND		5.0	1.2	ug/L			05/27/22 19:53	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/27/22 19:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/27/22 19:53	1
Acetone	ND		10	3.0	ug/L			05/27/22 19:53	1
Acetonitrile	ND		15	4.9	ug/L			05/27/22 19:53	1
Acrolein	ND		20	0.91	ug/L			05/27/22 19:53	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/27/22 19:53	1
Benzene	ND		1.0	0.41	ug/L			05/27/22 19:53	1
Bromoform	ND		1.0	0.26	ug/L			05/27/22 19:53	1
Bromomethane	ND		1.0	0.69	ug/L			05/27/22 19:53	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/27/22 19:53	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/27/22 19:53	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/27/22 19:53	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/27/22 19:53	1
Chloroethane	ND		1.0	0.32	ug/L			05/27/22 19:53	1
Chloroform	ND		1.0	0.34	ug/L			05/27/22 19:53	1
Chloromethane	ND		1.0	0.35	ug/L			05/27/22 19:53	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/27/22 19:53	1
Dibromomethane	ND		1.0	0.41	ug/L			05/27/22 19:53	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/27/22 19:53	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/27/22 19:53	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/27/22 19:53	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/27/22 19:53	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/27/22 19:53	1
Iodomethane	ND		1.0	0.30	ug/L			05/27/22 19:53	1
Methacrylonitrile	ND		5.0	0.69	ug/L			05/27/22 19:53	1
Methyl methacrylate	ND		1.0	0.61	ug/L			05/27/22 19:53	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/27/22 19:53	1

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-198104-4

Date Collected: 05/18/22 00:00
Matrix: Water
Date Received: 05/19/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/27/22 19:53	1
o-Xylene	ND		1.0	0.76	ug/L			05/27/22 19:53	1
Propionitrile	ND		10	5.8	ug/L			05/27/22 19:53	1
Styrene	ND		1.0	0.73	ug/L			05/27/22 19:53	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/27/22 19:53	1
Toluene	ND		1.0	0.51	ug/L			05/27/22 19:53	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/27/22 19:53	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/27/22 19:53	1
trans-1,4-Dichloro-2-butene	ND	*	1.0	0.22	ug/L			05/27/22 19:53	1
Trichloroethene	ND		1.0	0.46	ug/L			05/27/22 19:53	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/27/22 19:53	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/27/22 19:53	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/27/22 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*05/27/22 19:53*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*05/27/22 19:53*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*05/27/22 19:53*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/27/22 19:53*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-197432-1

Analyses Performed By:
Eurofins Lancaster Laboratories LLC,
Lancaster, Pennsylvania, USA

Eurofins Buffalo, Amherst, New York, USA

Eurofins Pittsburgh, Pennsylvania, USA

Report #47653R
Review Level: Tier I
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Laboratory Control Sample Analysis 9
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 10
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 11
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 Blank Contamination 11
5.3 System Performance and Overall Assessment 12
5.4 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 13
6.3 Compound Identification 15
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Metals Analyses 16
7.1 Holding Times 16
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 17
8 General Chemistry Analyses 17

8.1 Holding Times 17
8.2 System Performance and Overall Assessment 17
8.3 Data Validation Checklist for General Chemistry 18
9 Overall Data Usability 18

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 4
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 7. Laboratory Control Sample Recovery Criteria and Qualifications 9
Table 8. Holding Time for Method SW-846 8082A 10
Table 9. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 10. Summary of Blank Contamination Qualifications 12
Table 11. Holding Time for Method SW-846 8290A 13
Table 12. Summary of Blank Contamination Qualifications 13
Table 13. Holding Time for Method SW-846 6010C/7471B 16
Table 14. Specified Holding Times 17
Table 15. Overall Summary of Data Usability 18

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197432-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	MET	MISC
MW-2022-5(54-58)	480-197432-1	Soil	05/02/2022		X	X	X	X	X	X
MW-2022-5(61-64)	480-197432-2	Soil	05/02/2022		X	X	X	X	X	X
MW-2022-6(0-1)	480-197432-3	Soil	05/02/2022		X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	3	0	0	0	0	0	3
SVOCs	3	0	0	0	0	0	3
PCBs	3	0	0	0	0	0	3
PEST	3	0	0	0	0	0	3
OPC	3	0	0	0	0	0	3
HERB	3	0	0	0	0	0	3
PCDD/PCDF	3	0	0	0	0	0	3
Metals	3	0	0	0	0	0	3
MISC	3	0	0	0	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-5(54-58) MW-2022-5(61-64) MW-2022-6(0-1)	Prep Batch: 624769	Famphur	<10%
		Kepone	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 7. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
System performance and Overall Assessment		X		X	

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 10. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2022-5(54-58) MW-2022-5(61-64) MW-2022-6(0-1)	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 11. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 12. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-5(54-58)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)		
MW-2022-5(61-64)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HxCDF (MB) Total PeCDF (MB)		
MW-2022-6(0-1)	1,2,3,7,8,9-HxCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB = Method blank
RL = Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Blanks					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 15. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	6
PCBs	100%	0
PEST	100%	0
OPC	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: November 22, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 23, 2022

Appendix A

Chain of Custody

Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-171716-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30103563.0001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
M - Hexane
K - EDTA
L - EDA
W - pH 4-5
Z - other (specify)
Other:

480-197432 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-5(54-56)	5/2/22	1015	G	S			X	X	X	X	X										
MW-2022-5(61-64)	5/2/22	1100	G	S			X	X	X	X	X										
MW-2022-6(0-1)	5/2/22	1502	G	S			X	X	X	X	X										

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5/2/22 1650	Company: Arcadis	Received by:	Date/Time: 5/3/22 1630	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.7 # ICE

05/17/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

9300

Chain of Custody Record



480-197432 Chain of Custody

fins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	4.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Page: Page 1 of 1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/16/2022		Job #: 480-197432-1
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3541_7d Appendix IX Organophosphorous Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-5(54-58) (480-197432-1)	5/2/22	10:15 Eastern		Solid			X	1	
MW-2022-5(61-64) (480-197432-2)	5/2/22	11:00 Eastern		Solid			X	1	
MW-2022-6(0-1) (480-197432-3)	5/2/22	15:02 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: Matthew Lincoln	Date/Time: 5/6/22 1700	Company EA	Received by: DW	Date/Time: 5-7-22 9:00	Company EAEST		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

05/17/2022

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-71905.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-197432-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/16/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-5(54-58) (480-197432-1)	5/2/22	10:15 Eastern		Solid			X	1	
MW-2022-5(61-64) (480-197432-2)	5/2/22	11:00 Eastern		Solid			X	1	
MW-2022-6(0-1) (480-197432-3)	5/2/22	15:02 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/6/22 1700	TAB	[signature]		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	5/10/22 1005	[signature]

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.8

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-5(54-58)
Date Collected: 05/02/22 10:15
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-1
Matrix: Solid
Percent Solids: 78.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.77	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,1,2-Trichloroethane	ND		4.7	0.62	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,1-Dichloroethane	ND		4.7	0.58	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,1-Dichloroethene	ND		4.7	0.58	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,2,3-Trichloropropane	ND		4.7	0.48	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,2-Dichloroethane	ND		4.7	0.24	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
1,2-Dichloropropane	ND		4.7	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
2-Butanone (MEK)	ND		24	1.7	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
2-Chloro-1,3-butadiene	ND		4.7	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
2-Chloroethyl vinyl ether	ND		9.5	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
3-Chloro-1-propene	ND		4.7	2.3	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Acetone	ND		24	4.0	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Acetonitrile	ND		47	5.8	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Acrolein	ND		24	7.5	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Acrylonitrile	ND		24	4.2	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Benzene	ND		4.7	0.23	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Bromoform	ND		4.7	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Bromomethane	ND		4.7	0.43	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Carbon disulfide	ND		4.7	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Carbon tetrachloride	ND		4.7	0.46	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Chlorobenzene	ND		4.7	0.63	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Chlorodibromomethane	ND		4.7	0.61	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Chloroform	**0.64**	**J**	4.7	0.29	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Chloromethane	ND		4.7	0.29	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
cis-1,3-Dichloropropene	ND		4.7	0.68	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Dibromomethane	ND		4.7	0.49	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Dichlorobromomethane	ND		4.7	0.63	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Ethylbenzene	ND		4.7	0.33	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Ethylene Dibromide	ND		4.7	0.61	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Methacrylonitrile	ND		24	5.6	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Methyl methacrylate	ND		4.7	0.99	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Methylene Chloride	ND		4.7	2.2	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
m-Xylene & p-Xylene	ND		9.5	0.80	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
o-Xylene	ND		4.7	0.62	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Propionitrile	ND		47	27	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Styrene	ND		4.7	0.24	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Tetrachloroethene	ND		4.7	0.64	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Toluene	ND		4.7	0.36	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
trans-1,2-Dichloroethene	ND		4.7	0.49	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1

Client Sample ID: MW-2022-5(54-58)
Date Collected: 05/02/22 10:15
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-1
Matrix: Solid
Percent Solids: 78.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Trichlorofluoromethane	ND		4.7	0.45	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Vinyl acetate	ND		9.5	2.4	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1
Vinyl chloride	ND		4.7	0.58	ug/Kg	☼	05/03/22 16:00	05/04/22 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/03/22 16:00*	*05/04/22 22:27*	*1*
4-Bromofluorobenzene (Surr)	*101*		*72 - 126*	*05/03/22 16:00*	*05/04/22 22:27*	*1*
Dibromofluoromethane (Surr)	*109*		*60 - 140*	*05/03/22 16:00*	*05/04/22 22:27*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*05/03/22 16:00*	*05/04/22 22:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,2,4-Trichlorobenzene	ND		410	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,2-Dichlorobenzene	ND		410	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,2-Diphenylhydrazine	ND		410	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,3,5-Trinitrobenzene	ND		410	17	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,3-Dichlorobenzene	ND		410	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,3-Dinitrobenzene	ND		410	49	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,4-Dichlorobenzene	ND		410	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,4-Dioxane	ND		120	68	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1,4-Naphthoquinone	ND		410	76	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
1-Naphthylamine	ND		410	140	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,3,4,6-Tetrachlorophenol	ND		210	43	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,4,5-Trichlorophenol	ND		210	57	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,4,6-Trichlorophenol	ND		210	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,4-Dichlorophenol	ND		210	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,4-Dimethylphenol	ND		210	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,4-Dinitrophenol	ND		2000	960	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,4-Dinitrotoluene	ND		210	43	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,6-Dichlorophenol	ND		410	76	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2,6-Dinitrotoluene	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Acetylaminofluorene	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Chloronaphthalene	ND		210	34	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Chlorophenol	ND		410	38	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Methylnaphthalene	ND		210	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Methylphenol	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Naphthylamine	ND		410	140	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Nitroaniline	ND		410	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Nitrophenol	ND		210	59	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Picoline	ND		410	47	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
2-Toluidine	ND		410	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
3 & 4 Methylphenol	ND		410	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
3,3'-Dichlorobenzidine	ND		410	250	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
3,3'-Dimethylbenzidine	ND		810	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
3-Methylcholanthrene	ND		410	68	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
3-Methylphenol	ND		410	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
3-Nitroaniline	ND		410	58	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1

Client Sample ID: MW-2022-5(54-58)
Date Collected: 05/02/22 10:15
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-1
Matrix: Solid
Percent Solids: 78.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		410	210	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Aminobiphenyl	ND	*-	410	85	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Bromophenyl phenyl ether	ND		210	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Chloro-3-methylphenol	ND		210	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Chloroaniline	ND		210	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Chlorophenyl phenyl ether	ND		210	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Methylphenol	ND		410	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Nitroaniline	ND		410	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Nitrophenol	ND		410	150	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
4-Nitroquinoline-1-oxide	ND		810	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
7,12-Dimethylbenz(a)anthracene	ND		410	60	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
a,a-Dimethylphenethylamine	ND		410	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Acenaphthene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Acenaphthylene	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Acetophenone	ND		210	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Aniline	ND		410	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Anthracene	ND		210	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Aramite, Total	ND		410	200	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzidine	ND		6100	2600	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzo[a]pyrene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzo[b]fluoranthene	ND		210	33	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzo[g,h,i]perylene	ND		210	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzo[k]fluoranthene	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Benzyl alcohol	ND		410	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
bis (2-chloroisopropyl) ether	ND		210	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Bis(2-chloroethoxy)methane	ND		210	44	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Bis(2-chloroethyl)ether	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Bis(2-ethylhexyl) phthalate	ND		210	71	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Butyl benzyl phthalate	ND		210	34	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Chrysene	ND		210	47	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Diallate	ND		410	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Dibenz(a,h)anthracene	ND		210	37	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Dibenzofuran	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Diethyl phthalate	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Dimethoate	ND		410	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Dimethyl phthalate	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Di-n-butyl phthalate	ND		210	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Di-n-octyl phthalate	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Dinoseb	ND		410	73	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Diphenylamine	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Disulfoton	ND		410	310	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Chlorobenzilate	ND		410	65	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Ethyl methanesulfonate	ND		410	90	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Famphur	ND	*	810	200	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Fluoranthene	ND		210	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Fluorene	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Hexachlorobenzene	ND		210	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1
Hexachlorobutadiene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1

R

Client Sample ID: MW-2022-5(54-58)
Date Collected: 05/02/22 10:15
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-1
Matrix: Solid
Percent Solids: 78.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Hexachlorocyclopentadiene	ND		210	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Hexachloroethane	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Hexachloropropene	ND		410	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Indeno[1,2,3-cd]pyrene	ND		210	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Isodrin	ND		410	71	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Isophorone	ND		210	44	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Isosafrole	ND		410	54	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Kepone	ND	*-	810	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	R
Methapyrilene	ND		1800	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Methyl methanesulfonate	ND		410	93	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Naphthalene	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Nitrobenzene	ND		210	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitro-o-toluidine	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosodiethylamine	ND		410	95	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosodimethylamine	ND		410	89	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosodi-n-butylamine	ND		410	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosodi-n-propylamine	ND		210	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosomethylethylamine	ND		410	93	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosomorpholine	ND		410	91	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosopiperidine	ND		410	82	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
N-Nitrosopyrrolidine	ND		410	61	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
o,o',o''-Triethylphosphorothioate	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Ethyl Parathion	ND		410	46	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Methyl parathion	ND		410	70	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
p-Dimethylamino azobenzene	ND		410	69	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Pentachlorobenzene	ND		410	85	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Pentachloronitrobenzene	ND		410	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Pentachlorophenol	ND		410	210	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Phenacetin	ND		410	55	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Phenanthrene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Phenol	ND		210	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Phorate	ND		410	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
p-Phenylene diamine	ND		980	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Pronamide	ND		410	80	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Pyrene	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Pyridine	ND		410	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Safrole	ND		410	55	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Sulfotepp	ND		410	65	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	
Thionazin	ND		410	71	ug/Kg	☼	05/05/22 15:33	05/06/22 21:11	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*104*		*54 - 120*	*05/05/22 15:33*	*05/06/22 21:11*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*05/05/22 15:33*	*05/06/22 21:11*	*1*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*05/05/22 15:33*	*05/06/22 21:11*	*1*
Nitrobenzene-d5 (Surr)	*92*		*53 - 120*	*05/05/22 15:33*	*05/06/22 21:11*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*05/05/22 15:33*	*05/06/22 21:11*	*1*
p-Terphenyl-d14 (Surr)	*103*		*79 - 130*	*05/05/22 15:33*	*05/06/22 21:11*	*1*

Client Sample ID: MW-2022-5(54-58)
Date Collected: 05/02/22 10:15
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-1
Matrix: Solid
Percent Solids: 78.8

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.1	0.41	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
4,4'-DDE	ND		2.1	0.44	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
4,4'-DDT	~~1.2 J B~~ 2.1 U		2.1	0.49	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Aldrin	ND		2.1	0.52	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
alpha-BHC	ND		2.1	0.38	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
beta-BHC	ND		2.1	0.38	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Chlordane (technical)	ND		21	4.7	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Chlorobenzilate	ND		21	7.1	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
cis-Chlordane	ND		2.1	1.0	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
delta-BHC	ND		2.1	0.39	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Dieldrin	ND		2.1	0.50	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Endosulfan I	ND		2.1	0.40	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Endosulfan II	ND		2.1	0.38	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Endosulfan sulfate	ND		2.1	0.39	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Endrin	ND		2.1	0.42	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Endrin aldehyde	ND		2.1	0.54	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Endrin ketone	ND		2.1	0.52	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
gamma-BHC (Lindane)	ND		2.1	0.39	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Heptachlor	ND		2.1	0.45	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Heptachlor epoxide	ND		2.1	0.54	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Methoxychlor	ND		2.1	0.43	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
Toxaphene	ND		21	12	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1
trans-Chlordane	ND		2.1	0.67	ug/Kg	☼	05/04/22 15:41	05/05/22 12:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*		*45 - 120*	*05/04/22 15:41*	*05/05/22 12:01*	*1*
Tetrachloro-m-xylene	*90*		*30 - 124*	*05/04/22 15:41*	*05/05/22 12:01*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.25	0.049	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1
PCB-1221	ND		0.25	0.049	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1
PCB-1232	ND		0.25	0.049	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1
PCB-1242	ND		0.25	0.049	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1
PCB-1248	ND		0.25	0.049	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1
PCB-1254	ND		0.25	0.12	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1
PCB-1260	ND		0.25	0.12	mg/Kg	☼	05/09/22 06:41	05/10/22 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*85*		*65 - 174*	*05/09/22 06:41*	*05/10/22 18:55*	*1*
Tetrachloro-m-xylene	*94*		*60 - 154*	*05/09/22 06:41*	*05/10/22 18:55*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		21	6.7	ug/Kg	☼	05/05/22 08:40	05/06/22 20:21	1
2,4-D	ND		21	13	ug/Kg	☼	05/05/22 08:40	05/06/22 20:21	1
Silvex (2,4,5-TP)	ND		21	7.6	ug/Kg	☼	05/05/22 08:40	05/06/22 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*79*		*28 - 129*	*05/05/22 08:40*	*05/06/22 20:21*	*1*

Client Sample ID: MW-2022-5(54-58)
Date Collected: 05/02/22 10:15
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-1
Matrix: Solid
Percent Solids: 78.8

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		42	24	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1
Disulfoton	ND		42	28	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1
Famphur	ND		42	22	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1
Methyl parathion	ND		42	24	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1
Ethyl Parathion	ND		42	23	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1
Phorate	ND		42	14	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1
Sulfotepp	ND		42	16	ug/Kg	☼	05/09/22 10:30	05/10/22 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*78*		*20 - 135*	*05/09/22 10:30*	*05/10/22 15:00*	*1*
Tributyl phosphate	*78*		*20 - 135*	*05/09/22 10:30*	*05/10/22 15:00*	*1*
Triphenylphosphate	*82*		*33 - 168*	*05/09/22 10:30*	*05/10/22 15:00*	*1*
Triphenylphosphate	*88*		*33 - 168*	*05/09/22 10:30*	*05/10/22 15:00*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.1~~	~~J B~~ 6.3 U	6.3	0.041	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,4,6,7,8-HpCDF	~~0.37~~	~~J B~~	6.3	0.0045	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,4,7,8,9-HpCDF	~~0.078~~	~~J B~~	6.3	0.0070	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,4,7,8-HxCDD	~~0.064~~	~~J B~~	6.3	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,4,7,8-HxCDF	~~0.10~~	~~J B~~	6.3	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,6,7,8-HxCDD	ND		6.3	0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,6,7,8-HxCDF	~~0.11~~	~~J B~~ 6.3 U	6.3	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,7,8,9-HxCDD	~~0.089~~	~~J B~~	6.3	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,7,8,9-HxCDF	~~0.13~~	~~J B~~	6.3	0.026	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,7,8-PeCDD	ND		6.3	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
1,2,3,7,8-PeCDF	~~0.12~~	~~J B~~ 6.3 U	6.3	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
2,3,4,6,7,8-HxCDF	ND		6.3	0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
2,3,4,7,8-PeCDF	~~0.065~~	~~J B~~ 6.3 U	6.3	0.0079	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
2,3,7,8-TCDD	ND		1.3	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
2,3,7,8-TCDF	ND		1.3	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
OCDD	~~3.7~~	~~J B~~ 13 U	13	0.028	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
OCDF	~~1.5~~	~~J B~~ 13 U	13	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total HpCDD	~~1.1~~	~~J B~~ 6.3 U	6.3	0.041	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total HpCDF	~~0.45~~	~~J B~~	6.3	0.0058	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total HxCDD	~~0.15~~	~~J B~~	6.3	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total HxCDF	~~0.34~~	~~J B~~	6.3	0.022	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total PeCDD	ND		6.3	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total PeCDF	~~0.19~~	~~J B~~ 6.3 U	6.3	0.0097	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total TCDD	ND		1.3	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1
Total TCDF	ND		1.3	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 21:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,7,8,9-HxCDD	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*

Client Sample ID: MW-2022-5(54-58)
Lab Sample ID: 480-197432-1

Date Collected: 05/02/22 10:15
Matrix: Solid
Date Received: 05/03/22 10:30
Percent Solids: 78.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-2,3,7,8-TCDF	*65*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-OCDD	*56*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*
13C-OCDF	*58*		*40 - 135*	*05/11/22 11:05*	*05/13/22 21:32*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		19.5	0.52	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Arsenic	**2.3**	**J**	2.6	0.52	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Barium	**16.9**		0.65	0.14	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Beryllium	**0.17**	**J**	0.26	0.036	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Cadmium	**0.052**	**J**	0.26	0.039	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Chromium	**4.3**		0.65	0.26	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Cobalt	**4.8**		0.65	0.065	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Copper	**5.4**	**B**	1.3	0.27	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Lead	**5.8**		1.3	0.31	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Nickel	**7.8**		6.5	0.30	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Selenium	ND		5.2	0.52	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Silver	ND		0.78	0.26	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Thallium	ND		7.8	0.39	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Tin	ND		2.6	0.56	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Vanadium	**5.7**		0.65	0.14	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1
Zinc	**26.2**		2.6	0.83	mg/Kg	☼	05/05/22 13:54	05/12/22 21:26	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.026	0.0060	mg/Kg	☼	05/06/22 08:32	05/06/22 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.60	mg/Kg	☼	05/11/22 11:59	05/11/22 13:38	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		23.3	13.3	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: MW-2022-5(61-64)
Lab Sample ID: 480-197432-2

Date Collected: 05/02/22 11:00
Matrix: Solid
Date Received: 05/03/22 10:30
Percent Solids: 79.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.8	0.58	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,1,1-Trichloroethane	ND		5.8	0.42	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,1,2,2-Tetrachloroethane	ND		5.8	0.95	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,1,2-Trichloroethane	ND		5.8	0.76	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1

Client Sample ID: MW-2022-5(61-64)
Date Collected: 05/02/22 11:00
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-2
Matrix: Solid
Percent Solids: 79.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.8	0.71	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,1-Dichloroethene	ND		5.8	0.72	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,2,3-Trichloropropane	ND		5.8	0.60	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,2-Dibromo-3-Chloropropane	ND		5.8	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,2-Dichloroethane	ND		5.8	0.29	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
1,2-Dichloropropane	ND		5.8	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
2-Butanone (MEK)	ND		29	2.1	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
2-Chloro-1,3-butadiene	ND		5.8	3.6	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
2-Chloroethyl vinyl ether	ND		12	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
2-Hexanone	ND		29	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
3-Chloro-1-propene	ND		5.8	2.8	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
4-Methyl-2-pentanone (MIBK)	ND		29	1.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Acetone	ND		29	4.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Acetonitrile	ND		58	7.1	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Acrolein	ND		29	9.2	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Acrylonitrile	ND		29	5.2	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Benzene	ND		5.8	0.29	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Bromoform	ND		5.8	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Bromomethane	ND		5.8	0.53	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Carbon disulfide	ND		5.8	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Carbon tetrachloride	ND		5.8	0.57	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Chlorobenzene	ND		5.8	0.77	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Chlorodibromomethane	ND		5.8	0.75	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Chloroethane	ND		5.8	1.3	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Chloroform	ND		5.8	0.36	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Chloromethane	ND		5.8	0.35	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
cis-1,3-Dichloropropene	ND		5.8	0.84	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Dibromomethane	ND		5.8	0.60	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Dichlorobromomethane	ND		5.8	0.78	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Dichlorodifluoromethane	ND		5.8	0.48	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Ethyl methacrylate	ND		5.8	2.0	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Ethylbenzene	ND		5.8	0.40	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Ethylene Dibromide	ND		5.8	0.75	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Iodomethane	ND		5.8	0.28	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Methacrylonitrile	ND		29	6.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Methyl methacrylate	ND		5.8	1.2	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Methylene Chloride	ND		5.8	2.7	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
m-Xylene & p-Xylene	ND		12	0.98	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
o-Xylene	ND		5.8	0.76	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Propionitrile	ND		58	33	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Styrene	ND		5.8	0.29	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Tetrachloroethene	ND		5.8	0.78	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Toluene	ND		5.8	0.44	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
trans-1,2-Dichloroethene	ND		5.8	0.60	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
trans-1,3-Dichloropropene	ND		5.8	2.6	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
trans-1,4-Dichloro-2-butene	ND		5.8	1.3	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Trichloroethene	ND		5.8	1.3	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Trichlorofluoromethane	ND		5.8	0.55	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1
Vinyl acetate	ND		12	2.9	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1

Client Sample ID: MW-2022-5(61-64)
Date Collected: 05/02/22 11:00
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-2
Matrix: Solid
Percent Solids: 79.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.8	0.71	ug/Kg	☼	05/03/22 16:00	05/04/22 22:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*05/03/22 16:00*	*05/04/22 22:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*05/03/22 16:00*	*05/04/22 22:51*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*05/03/22 16:00*	*05/04/22 22:51*	*1*
Toluene-d8 (Surr)	*92*		*71 - 125*	*05/03/22 16:00*	*05/04/22 22:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,2,4-Trichlorobenzene	ND		410	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,2-Dichlorobenzene	ND		410	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,2-Diphenylhydrazine	ND		410	24	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,3,5-Trinitrobenzene	ND		410	17	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,3-Dichlorobenzene	ND		410	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,3-Dinitrobenzene	ND		410	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,4-Dichlorobenzene	ND		410	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,4-Dioxane	ND		120	68	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1,4-Naphthoquinone	ND		410	77	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
1-Naphthylamine	ND		410	140	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,3,4,6-Tetrachlorophenol	ND		210	43	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,4,5-Trichlorophenol	ND		210	57	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,4,6-Trichlorophenol	ND		210	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,4-Dichlorophenol	ND		210	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,4-Dimethylphenol	ND		210	51	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,4-Dinitrophenol	ND		2100	970	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,4-Dinitrotoluene	ND		210	43	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,6-Dichlorophenol	ND		410	77	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2,6-Dinitrotoluene	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Acetylaminofluorene	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Chloronaphthalene	ND		210	35	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Chlorophenol	ND		410	38	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Methylnaphthalene	ND		210	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Methylphenol	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Naphthylamine	ND		410	140	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Nitroaniline	ND		410	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Nitrophenol	ND		210	59	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Picoline	ND		410	47	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
2-Toluidine	ND		410	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
3 & 4 Methylphenol	ND		410	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
3,3'-Dichlorobenzidine	ND		410	250	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
3,3'-Dimethylbenzidine	ND		820	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
3-Methylcholanthrene	ND		410	68	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
3-Methylphenol	ND		410	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
3-Nitroaniline	ND		410	58	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
4,6-Dinitro-2-methylphenol	ND		410	210	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
4-Aminobiphenyl	ND	*	410	85	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
4-Bromophenyl phenyl ether	ND		210	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
4-Chloro-3-methylphenol	ND		210	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1

Client Sample ID: MW-2022-5(61-64)
Date Collected: 05/02/22 11:00
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-2
Matrix: Solid
Percent Solids: 79.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		210	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
4-Chlorophenyl phenyl ether	ND		210	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
4-Methylphenol	ND		410	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
4-Nitroaniline	ND		410	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
4-Nitrophenol	ND		410	150	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
4-Nitroquinoline-1-oxide	ND		820	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
7,12-Dimethylbenz(a)anthracene	ND		410	61	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
a,a-Dimethylphenethylamine	ND		410	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Acenaphthene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Acenaphthylene	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Acetophenone	ND		210	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Aniline	ND		410	51	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Anthracene	ND		210	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Aramite, Total	ND		410	200	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzidine	ND		6200	2600	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzo[a]pyrene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzo[b]fluoranthene	ND		210	33	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzo[g,h,i]perylene	ND		210	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzo[k]fluoranthene	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Benzyl alcohol	ND		410	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
bis (2-chloroisopropyl) ether	ND		210	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Bis(2-chloroethoxy)methane	ND		210	45	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Bis(2-chloroethyl)ether	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Bis(2-ethylhexyl) phthalate	ND		210	72	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Butyl benzyl phthalate	ND		210	35	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Chrysene	ND		210	47	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Diallate	ND		410	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Dibenz(a,h)anthracene	ND		210	37	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Dibenzofuran	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Diethyl phthalate	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Dimethoate	ND		410	51	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Dimethyl phthalate	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Di-n-butyl phthalate	ND		210	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Di-n-octyl phthalate	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Dinoseb	ND		410	73	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Diphenylamine	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Disulfoton	ND		410	310	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Chlorobenzilate	ND		410	66	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Ethyl methanesulfonate	ND		410	90	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Famphur	ND	*	820	200	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	R
Fluoranthene	ND		210	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Fluorene	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Hexachlorobenzene	ND		210	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Hexachlorobutadiene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Hexachlorocyclopentadiene	ND		210	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Hexachloroethane	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Hexachloropropene	ND		410	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	
Indeno[1,2,3-cd]pyrene	ND		210	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1	

Client Sample ID: MW-2022-5(61-64)
Date Collected: 05/02/22 11:00
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-2
Matrix: Solid
Percent Solids: 79.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		410	72	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Isophorone	ND		210	45	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Isosafrole	ND		410	55	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
~~Kepone~~	~~ND~~	~~*~~	~~820~~	~~410~~	~~ug/Kg~~	☼	~~05/05/22 15:33~~	~~05/06/22 21:35~~	~~1~~ R
Methapyrilene	ND		1900	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Methyl methanesulfonate	ND		410	94	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Naphthalene	ND		210	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Nitrobenzene	ND		210	24	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitro-o-toluidine	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosodiethylamine	ND		410	95	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosodimethylamine	ND		410	89	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosodi-n-butylamine	ND		410	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosodi-n-propylamine	ND		210	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosomethylethylamine	ND		410	94	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosomorpholine	ND		410	92	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosopiperidine	ND		410	83	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
N-Nitrosopyrrolidine	ND		410	62	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
o,o',o''-Triethylphosphorothioate	ND		410	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Ethyl Parathion	ND		410	46	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Methyl parathion	ND		410	71	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
p-Dimethylamino azobenzene	ND		410	69	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Pentachlorobenzene	ND		410	85	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Pentachloronitrobenzene	ND		410	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Pentachlorophenol	ND		410	210	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Phenacetin	ND		410	56	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Phenanthrene	ND		210	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Phenol	ND		210	32	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Phorate	ND		410	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
p-Phenylene diamine	ND		990	410	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Pronamide	ND		410	81	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Pyrene	ND		210	25	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Pyridine	ND		410	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Safrole	ND		410	56	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Sulfotepp	ND		410	66	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1
Thionazin	ND		410	72	ug/Kg	☼	05/05/22 15:33	05/06/22 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*05/05/22 15:33*	*05/06/22 21:35*	*1*
2-Fluorobiphenyl (Surr)	*96*		*60 - 120*	*05/05/22 15:33*	*05/06/22 21:35*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*05/05/22 15:33*	*05/06/22 21:35*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 120*	*05/05/22 15:33*	*05/06/22 21:35*	*1*
Phenol-d5 (Surr)	*76*		*54 - 120*	*05/05/22 15:33*	*05/06/22 21:35*	*1*
p-Terphenyl-d14 (Surr)	*112*		*79 - 130*	*05/05/22 15:33*	*05/06/22 21:35*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.1	0.40	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
4,4'-DDE	ND		2.1	0.43	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
4,4'-DDT	~~1.3~~ ~~J B~~	2.1 U	2.1	0.48	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1

Client Sample ID: MW-2022-5(61-64)
Date Collected: 05/02/22 11:00
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-2
Matrix: Solid
Percent Solids: 79.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.1	0.51	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
alpha-BHC	ND		2.1	0.37	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
beta-BHC	ND		2.1	0.37	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Chlordane (technical)	ND		21	4.6	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Chlorobenzilate	ND		21	6.9	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
cis-Chlordane	ND		2.1	1.0	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
delta-BHC	ND		2.1	0.38	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Dieldrin	ND		2.1	0.49	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Endosulfan I	ND		2.1	0.40	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Endosulfan II	ND		2.1	0.37	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Endosulfan sulfate	ND		2.1	0.38	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Endrin	ND		2.1	0.41	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Endrin aldehyde	ND		2.1	0.53	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Endrin ketone	ND		2.1	0.51	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
gamma-BHC (Lindane)	ND		2.1	0.38	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Heptachlor	ND		2.1	0.45	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Heptachlor epoxide	ND		2.1	0.53	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Methoxychlor	ND		2.1	0.42	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
Toxaphene	ND		21	12	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1
trans-Chlordane	ND		2.1	0.66	ug/Kg	☼	05/04/22 15:41	05/05/22 12:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*45 - 120*	*05/04/22 15:41*	*05/05/22 12:21*	*1*
Tetrachloro-m-xylene	*91*		*30 - 124*	*05/04/22 15:41*	*05/05/22 12:21*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.29	0.056	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1
PCB-1221	ND		0.29	0.056	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1
PCB-1232	ND		0.29	0.056	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1
PCB-1242	ND		0.29	0.056	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1
PCB-1248	ND		0.29	0.056	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1
PCB-1254	ND		0.29	0.13	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1
PCB-1260	ND		0.29	0.13	mg/Kg	☼	05/09/22 06:41	05/10/22 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*104*		*65 - 174*	*05/09/22 06:41*	*05/10/22 19:08*	*1*
Tetrachloro-m-xylene	*111*		*60 - 154*	*05/09/22 06:41*	*05/10/22 19:08*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		21	6.6	ug/Kg	☼	05/05/22 08:40	05/06/22 20:50	1
2,4-D	ND		21	13	ug/Kg	☼	05/05/22 08:40	05/06/22 20:50	1
Silvex (2,4,5-TP)	ND		21	7.5	ug/Kg	☼	05/05/22 08:40	05/06/22 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*05/05/22 08:40*	*05/06/22 20:50*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1

Client Sample ID: MW-2022-5(61-64)
Date Collected: 05/02/22 11:00
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-2
Matrix: Solid
Percent Solids: 79.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		40	27	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1
Famphur	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1
Phorate	ND		40	14	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1
Sulfotepp	ND		40	16	ug/Kg	☼	05/09/22 10:30	05/10/22 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*89*		*20 - 135*	*05/09/22 10:30*	*05/10/22 15:32*	*1*
Tributyl phosphate	*89*		*20 - 135*	*05/09/22 10:30*	*05/10/22 15:32*	*1*
Triphenylphosphate	*99*		*33 - 168*	*05/09/22 10:30*	*05/10/22 15:32*	*1*
Triphenylphosphate	*103*		*33 - 168*	*05/09/22 10:30*	*05/10/22 15:32*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.90~~	~~J B~~ 6.2 U	6.2	0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,4,6,7,8-HpCDF	~~0.30~~	~~J I B~~	6.2	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,4,7,8,9-HpCDF	~~0.075~~	~~J I B~~	6.2	0.025	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,4,7,8-HxCDD	~~0.042~~	~~J I B~~	6.2	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,4,7,8-HxCDF	~~0.051~~	~~J I B~~	6.2	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,6,7,8-HxCDD	~~0.16~~	~~J I B~~	6.2	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,6,7,8-HxCDF	~~0.030~~	~~J I B~~	6.2	0.016	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,7,8,9-HxCDD	~~0.061~~	~~J I B~~	6.2	0.019	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,7,8,9-HxCDF	ND		6.2	0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,7,8-PeCDD	ND		6.2	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
1,2,3,7,8-PeCDF	~~0.043~~	~~J I B~~ 6.2 U	6.2	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
2,3,4,6,7,8-HxCDF	~~0.037~~	~~J B~~	6.2	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
2,3,4,7,8-PeCDF	~~0.053~~	~~J I B~~	6.2	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
2,3,7,8-TCDD	ND		1.2	0.0067	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
2,3,7,8-TCDF	**0.016**	~~J I~~ JNX	1.2	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
OCDD	~~2.7~~	~~J B~~ 12 U	12	0.051	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
OCDF	~~1.1~~	~~J B~~ 12 U	12	0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total HpCDD	~~0.90~~	~~J B~~ 6.2 U	6.2	0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total HpCDF	~~0.38~~	~~J I B~~	6.2	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total HxCDD	~~0.26~~	~~J I B~~	6.2	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total HxCDF	~~0.12~~	~~J I B~~	6.2	0.016	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total PeCDD	ND		6.2	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total PeCDF	~~0.096~~	~~J I B~~ 6.2 U	6.2	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total TCDD	ND		1.2	0.0067	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1
Total TCDF	**0.016**	~~J I~~ JNX	1.2	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 05:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*67*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,6,7,8-HxCDF	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,7,8,9-HxCDD	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*

Client Sample ID: MW-2022-5(61-64)
Lab Sample ID: 480-197432-2

Date Collected: 05/02/22 11:00
Matrix: Solid
Date Received: 05/03/22 10:30
Percent Solids: 79.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-2,3,4,6,7,8-HxCDF	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-2,3,4,7,8-PeCDF	*82*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-2,3,7,8-TCDD	*85*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-2,3,7,8-TCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-OCDD	*61*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*
13C-OCDF	*58*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:00*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.9	0.50	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Arsenic	**4.1**		2.5	0.50	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Barium	**19.0**	~~A+~~	0.63	0.14	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Beryllium	**0.18**	**J**	0.25	0.035	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Cadmium	ND		0.25	0.038	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Chromium	**4.5**		0.63	0.25	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Cobalt	**6.5**		0.63	0.063	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Copper	**7.0**	~~B~~	1.3	0.26	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Lead	**6.8**		1.3	0.30	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Nickel	**9.9**		6.3	0.29	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Selenium	ND		5.0	0.50	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Silver	ND		0.76	0.25	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Thallium	ND		7.6	0.38	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Tin	ND		2.5	0.54	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Vanadium	**5.9**		0.63	0.14	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1
Zinc	**29.3**		2.5	0.81	mg/Kg	☼	05/05/22 13:54	05/12/22 21:30	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.026	0.0060	mg/Kg	☼	05/06/22 08:32	05/06/22 11:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.60	mg/Kg	☼	05/11/22 11:59	05/11/22 13:39	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.8	12.4	mg/Kg	☼		05/05/22 16:31	1

Client Sample ID: MW-2022-6(0-1)
Lab Sample ID: 480-197432-3

Date Collected: 05/02/22 15:02
Matrix: Solid
Date Received: 05/03/22 10:30
Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.7	0.57	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,1,1-Trichloroethane	ND		5.7	0.42	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,1,2,2-Tetrachloroethane	ND		5.7	0.93	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,1,2-Trichloroethane	ND		5.7	0.74	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1

Client Sample ID: MW-2022-6(0-1)
Date Collected: 05/02/22 15:02
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-3
Matrix: Solid
Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.7	0.70	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,1-Dichloroethene	ND		5.7	0.70	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,2,3-Trichloropropane	ND		5.7	0.58	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,2-Dibromo-3-Chloropropane	ND		5.7	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,2-Dichloroethane	ND		5.7	0.29	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
1,2-Dichloropropane	ND		5.7	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
2-Butanone (MEK)	ND		29	2.1	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
2-Chloro-1,3-butadiene	ND		5.7	3.5	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
2-Chloroethyl vinyl ether	ND		11	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
2-Hexanone	ND		29	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
3-Chloro-1-propene	ND		5.7	2.7	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
4-Methyl-2-pentanone (MIBK)	ND		29	1.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Acetone	**11**	**J**	29	4.8	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Acetonitrile	ND		57	7.0	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Acrolein	ND		29	9.0	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Acrylonitrile	ND		29	5.1	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Benzene	ND		5.7	0.28	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Bromoform	ND		5.7	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Bromomethane	ND		5.7	0.52	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Carbon disulfide	ND		5.7	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Carbon tetrachloride	ND		5.7	0.55	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Chlorobenzene	ND		5.7	0.76	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Chlorodibromomethane	ND		5.7	0.73	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Chloroethane	ND		5.7	1.3	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Chloroform	ND		5.7	0.35	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Chloromethane	ND		5.7	0.35	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
cis-1,3-Dichloropropene	ND		5.7	0.82	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Dibromomethane	ND		5.7	0.59	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Dichlorobromomethane	ND		5.7	0.77	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Dichlorodifluoromethane	ND		5.7	0.47	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Ethyl methacrylate	ND		5.7	2.0	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Ethylbenzene	ND		5.7	0.39	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Ethylene Dibromide	ND		5.7	0.73	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Iodomethane	ND		5.7	0.28	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Methacrylonitrile	ND		29	6.8	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Methyl methacrylate	ND		5.7	1.2	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Methylene Chloride	ND		5.7	2.6	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
m-Xylene & p-Xylene	ND		11	0.96	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
o-Xylene	ND		5.7	0.75	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Propionitrile	ND		57	32	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Styrene	ND		5.7	0.29	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Tetrachloroethene	ND		5.7	0.77	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Toluene	ND		5.7	0.43	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
trans-1,2-Dichloroethene	ND		5.7	0.59	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
trans-1,3-Dichloropropene	ND		5.7	2.5	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
trans-1,4-Dichloro-2-butene	ND		5.7	1.3	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Trichloroethene	ND		5.7	1.3	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Trichlorofluoromethane	ND		5.7	0.54	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1
Vinyl acetate	ND		11	2.9	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1

Client Sample ID: MW-2022-6(0-1)
Date Collected: 05/02/22 15:02
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-3
Matrix: Solid
Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.7	0.70	ug/Kg	☼	05/04/22 16:39	05/05/22 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/04/22 16:39*	*05/05/22 00:27*	*1*
4-Bromofluorobenzene (Surr)	*88*		*72 - 126*	*05/04/22 16:39*	*05/05/22 00:27*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*05/04/22 16:39*	*05/05/22 00:27*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*	*05/04/22 16:39*	*05/05/22 00:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,2,4-Trichlorobenzene	ND		380	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,2-Dichlorobenzene	ND		380	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,3-Dinitrobenzene	ND		380	47	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1,4-Naphthoquinone	ND		380	72	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,6-Dichlorophenol	ND		380	72	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Acetylaminofluorene	ND		380	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Methylphenol	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Picoline	ND		380	44	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
2-Toluidine	ND		380	94	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
3,3'-Dimethylbenzidine	ND		770	380	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
3-Methylphenol	ND		380	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
3-Nitroaniline	ND		380	55	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
4-Aminobiphenyl	ND		380	80	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1

Client Sample ID: MW-2022-6(0-1)
Date Collected: 05/02/22 15:02
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-3
Matrix: Solid
Percent Solids: 84.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Chloroaniline	ND		200	49	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
4-Methylphenol	ND		380	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
4-Nitroaniline	ND		380	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
4-Nitrophenol	ND		380	140	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
4-Nitroquinoline-1-oxide	ND		770	380	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
a,a-Dimethylphenethylamine	ND		380	380	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Acenaphthene	ND		200	29	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Acenaphthylene	ND		200	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Acetophenone	ND		200	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Aniline	ND		380	48	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Anthracene	ND		200	49	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Aramite, Total	ND		380	190	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzidine	ND		5800	2500	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Benzyl alcohol	ND		380	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Chrysene	ND		200	44	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Diallate	ND		380	49	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Dibenzofuran	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Dimethoate	ND		380	48	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Dimethyl phthalate	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Dinoseb	ND		380	69	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Diphenylamine	ND		380	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Disulfoton	ND		380	290	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Chlorobenzilate	ND		380	62	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Ethyl methanesulfonate	ND		380	85	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Famphur	ND	*-	770	190	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	R
Fluoranthene	ND		200	21	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Fluorene	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Hexachloropropene	ND		380	98	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1	

Client Sample ID: MW-2022-6(0-1)
Lab Sample ID: 480-197432-3
Date Collected: 05/02/22 15:02
Matrix: Solid
Date Received: 05/03/22 10:30
Percent Solids: 84.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		380	67	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Isophorone	ND		200	42	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Isosafrole	ND		380	51	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
~~Kepone~~	~~ND~~	~~*-~~	~~770~~	~~380~~	~~ug/Kg~~	☼	~~05/05/22 15:33~~	~~05/06/22 21:59~~	~~1~~ R
Methapyrilene	ND		1700	380	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Methyl methanesulfonate	ND		380	88	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Naphthalene	ND		200	26	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Nitrobenzene	ND		200	22	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitro-o-toluidine	ND		380	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosodiethylamine	ND		380	90	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosodimethylamine	ND		380	84	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosomethylethylamine	ND		380	88	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosomorpholine	ND		380	86	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosopiperidine	ND		380	78	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
N-Nitrosopyrrolidine	ND		380	58	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
o,o',o''-Triethylphosphorothioate	ND		380	50	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Ethyl Parathion	ND		380	43	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Methyl parathion	ND		380	66	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
p-Dimethylamino azobenzene	ND		380	65	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Pentachlorobenzene	ND		380	80	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Pentachloronitrobenzene	ND		380	98	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Pentachlorophenol	ND		380	200	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Phenacetin	ND		380	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Phenanthrene	ND		200	29	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Phenol	ND		200	30	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Phorate	ND		380	110	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
p-Phenylene diamine	ND		930	380	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Pronamide	ND		380	76	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Pyrene	ND		200	23	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Pyridine	ND		380	28	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Safrole	ND		380	52	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Sulfotepp	ND		380	62	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1
Thionazin	ND		380	67	ug/Kg	☼	05/05/22 15:33	05/06/22 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*05/05/22 15:33*	*05/06/22 21:59*	*1*
2-Fluorobiphenyl (Surr)	*101*		*60 - 120*	*05/05/22 15:33*	*05/06/22 21:59*	*1*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*05/05/22 15:33*	*05/06/22 21:59*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 120*	*05/05/22 15:33*	*05/06/22 21:59*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*05/05/22 15:33*	*05/06/22 21:59*	*1*
p-Terphenyl-d14 (Surr)	*103*		*79 - 130*	*05/05/22 15:33*	*05/06/22 21:59*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		9.6	1.9	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
4,4'-DDE	ND		9.6	2.0	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
4,4'-DDT	~~4.4~~ ~~J B~~ 9.6 U		9.6	2.3	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5

Client Sample ID: MW-2022-6(0-1)
Date Collected: 05/02/22 15:02
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-3
Matrix: Solid
Percent Solids: 84.6

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		9.6	2.4	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
alpha-BHC	ND		9.6	1.7	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
beta-BHC	ND		9.6	1.7	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Chlordane (technical)	ND		96	21	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Chlorobenzilate	ND		96	32	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
cis-Chlordane	ND		9.6	4.8	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
delta-BHC	ND		9.6	1.8	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Dieldrin	ND		9.6	2.3	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Endosulfan I	ND		9.6	1.8	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Endosulfan II	ND		9.6	1.7	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Endosulfan sulfate	ND		9.6	1.8	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Endrin	ND		9.6	1.9	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Endrin aldehyde	ND		9.6	2.5	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Endrin ketone	ND		9.6	2.4	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
gamma-BHC (Lindane)	ND		9.6	1.8	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Heptachlor	ND		9.6	2.1	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Heptachlor epoxide	ND		9.6	2.5	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Methoxychlor	**5.7**	**J**	9.6	2.0	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
Toxaphene	ND		96	56	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5
trans-Chlordane	ND		9.6	3.1	ug/Kg	☼	05/04/22 15:41	05/05/22 12:40	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*45 - 120*	*05/04/22 15:41*	*05/05/22 12:40*	*5*
Tetrachloro-m-xylene	*56*		*30 - 124*	*05/04/22 15:41*	*05/05/22 12:40*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.045	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1
PCB-1221	ND		0.23	0.045	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1
PCB-1232	ND		0.23	0.045	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1
PCB-1242	ND		0.23	0.045	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1
PCB-1248	ND		0.23	0.045	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	05/09/22 06:41	05/10/22 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*96*		*65 - 174*	*05/09/22 06:41*	*05/10/22 19:21*	*1*
Tetrachloro-m-xylene	*101*		*60 - 154*	*05/09/22 06:41*	*05/10/22 19:21*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/05/22 08:40	05/06/22 21:50	1
2,4-D	ND		20	12	ug/Kg	☼	05/05/22 08:40	05/06/22 21:50	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/05/22 08:40	05/06/22 21:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*78*		*28 - 129*	*05/05/22 08:40*	*05/06/22 21:50*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	21	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1

Client Sample ID: MW-2022-6(0-1)
Date Collected: 05/02/22 15:02
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-3
Matrix: Solid
Percent Solids: 84.6

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		38	25	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1
Famphur	ND		38	20	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1
Methyl parathion	ND		38	22	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1
Phorate	ND		38	13	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1
Sulfotepp	ND		38	15	ug/Kg	☼	05/09/22 10:30	05/10/22 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*20 - 135*	*05/09/22 10:30*	*05/10/22 16:03*	*1*
Tributyl phosphate	*94*		*20 - 135*	*05/09/22 10:30*	*05/10/22 16:03*	*1*
Triphenylphosphate	*99*		*33 - 168*	*05/09/22 10:30*	*05/10/22 16:03*	*1*
Triphenylphosphate	*105*		*33 - 168*	*05/09/22 10:30*	*05/10/22 16:03*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**270**	B	5.9	0.091	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,4,6,7,8-HpCDF	**38**	B	5.9	0.10	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,4,7,8,9-HpCDF	**2.9**	J B	5.9	0.16	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,4,7,8-HxCDD	**4.4**	J B	5.9	0.029	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,4,7,8-HxCDF	**2.0**	J B	5.9	0.044	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,6,7,8-HxCDD	**8.6**	B	5.9	0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,6,7,8-HxCDF	**1.0**	J B	5.9	0.044	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,7,8,9-HxCDD	**11**	B	5.9	0.031	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,7,8,9-HxCDF	**0.29**	J I B 5.9 U	5.9	0.055	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,7,8-PeCDD	**2.8**	J I JNX	5.9	0.025	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
1,2,3,7,8-PeCDF	**0.24**	J B	5.9	0.033	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
2,3,4,6,7,8-HxCDF	**1.5**	J B	5.9	0.042	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
2,3,4,7,8-PeCDF	**0.93**	J B	5.9	0.022	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
2,3,7,8-TCDD	**0.087**	J I JNX	1.2	0.0054	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
2,3,7,8-TCDF	ND		1.2	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
OCDD	**2600**	B	12	0.14	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
OCDF	**190**	B	12	0.12	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total HpCDD	**270**	B	5.9	0.091	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total HpCDF	**41**	B	5.9	0.13	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total HxCDD	**24**	I B JNX	5.9	0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total HxCDF	**4.8**	J I B JNX	5.9	0.046	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total PeCDD	**2.8**	J I	5.9	0.025	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total PeCDF	**1.2**	J I B	5.9	0.027	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total TCDD	**0.087**	J I	1.2	0.0054	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1
Total TCDF	ND		1.2	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 05:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*60*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,6,7,8-HxCDD	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,6,7,8-HxCDF	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,7,8,9-HxCDD	*67*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*

Client Sample ID: MW-2022-6(0-1)
Date Collected: 05/02/22 15:02
Date Received: 05/03/22 10:30

Lab Sample ID: 480-197432-3
Matrix: Solid
Percent Solids: 84.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8,9-HxCDF	*67*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-2,3,4,6,7,8-HxCDF	*67*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-2,3,7,8-TCDD	*80*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-OCDD	*59*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*
13C-OCDF	*55*		*40 - 135*	*05/11/22 11:05*	*05/13/22 05:51*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.3	0.49	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Arsenic	**4.8**		2.4	0.49	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Barium	**22.0**		0.61	0.13	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Beryllium	**0.31**		0.24	0.034	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Cadmium	**0.17**	**J**	0.24	0.037	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Chromium	**6.3**		0.61	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Cobalt	**6.8**		0.61	0.061	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Copper	**9.6**		1.2	0.26	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Lead	**10.5**		1.2	0.29	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Nickel	**12.4**		6.1	0.28	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Selenium	ND		4.9	0.49	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Silver	ND		0.73	0.24	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Thallium	ND		7.3	0.37	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Tin	ND		2.4	0.53	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Vanadium	**10**		0.61	0.13	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1
Zinc	**45.5**		2.4	0.78	mg/Kg	☼	05/05/22 13:54	05/12/22 21:34	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**	**J**	0.024	0.0054	mg/Kg	☼	05/06/22 08:32	05/06/22 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.55	mg/Kg	☼	05/11/22 11:59	05/11/22 13:41	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.2	12.1	mg/Kg	☼		05/05/22 16:31	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDG # 480-197562-1

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47692R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 6
1.2 Data Validation Procedures 7
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 Field Duplicate Analysis 10
2.3 System Performance and Overall Assessment 10
2.4 Data Validation Checklist 10
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis 11
3.3 Laboratory Control Sample Analysis 12
3.4 Field Duplicate Analysis 12
3.5 System Performance and Overall Assessment 13
3.6 Data Validation Checklist 13
4 Polychlorinated Biphenyl Analyses 14
4.1 Holding Times 14
4.2 Field Duplicate Analysis 14
4.3 System Performance and Overall Assessment 14
4.4 Data Validation Checklist 15
5 Pesticide/Herbicide Analyses 15
5.1 Holding Times 15
5.2 Blank Contamination 15
5.3 Field Duplicate Analysis 16
5.4 System Performance and Overall Assessment 16
5.5 Data Validation Checklist 17
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 17
6.1 Holding Times 17
6.2 Blank Contamination 18
6.3 Field Duplicate Analysis 21
6.4 Compound Identification 22
6.5 System Performance and Overall Assessment 22

6.6 Data Validation Checklist 22
7 Metals Analyses 23
7.1 Holding Times 23
All samples were analyzed within the specified holding times 23
7.2 Field Duplicate Analysis 23
7.3 System Performance and Overall Assessment 24
7.4 Data Validation Checklist 25
8 General Chemistry Analyses 25
8.1 Holding Times 25
8.2 Field Duplicate Analysis 25
8.3 System Performance and Overall Assessment 26
8.4 Data Validation Checklist for General Chemistry 26
9 Overall Data Usability 26

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Holding Time for Method SW-846 8270D 11
Table 6. Samples with Matrix Spike / Matrix spike Duplicate Recoveries Outside Control Limits 11
Table 7. Matrix Spike / Matrix spike Duplicate Recovery Evaluation Criteria and Qualifications 11
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 12
Table 9. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications 12
Table 10. Field Duplicate Sample Results 13
Table 11. Holding Time for Method SW-846 8082A 14
Table 12. Field Duplicate Sample Results 14
Table 13. Holding Time for Method SW-846 8081B/8141B/8151A 15
Table 14. Summary of Blank Contamination Qualifications 16
Table 15. Field Duplicate Sample Results 16
Table 16. Holding Time for Method SW-846 8290A 17
Table 17. Summary of Blank Contamination Qualifications 18
Table 18. Field Duplicate Sample Results 21

Table 19. Holding Time for Method SW-846 6010C/7471B 23
Table 20. Field Duplicate Sample Results 24
Table 21. Specified Holding Times 25
Table 22. Field Duplicate Sample Results 26
Table 23. Overall Summary of Data Usability 27

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197562-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample Location	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-6 (12-16)	480-197562-1	Soil	5/3/2022			X	X	X	X	X
MW-2022-6 (14)	480-197562-2	Soil	5/3/2022		X					
MW-2022-6 (26-30)	480-197562-3	Soil	5/3/2022			X	X	X	X	X
MW-2022-6 (40-44)	480-197562-5	Soil	5/3/2022			X	X	X	X	X
MW-2022-6 (41)	480-197562-6	Soil	5/3/2022		X					
MW-2022-7 (0-1)	480-197562-7	Soil	5/3/2022			X	X	X	X	X
MW-2022-7 (12-16)	480-197562-8	Soil	5/4/2022			X	X	X	X	X
MW-2022-7 (12)	480-197562-9	Soil	5/4/2022		X					
MW-2022-7 (28-32)	480-197562-10	Soil	5/4/2022			X	X	X	X	X
MW-2022-7 (28)	480-197562-11	Soil	5/4/2022		X					
MW-2022-7 (43-47)	480-197562-12	Soil	5/4/2022			X	X	X	X	X
MW-2022-7 (43)	480-197562-13	Soil	5/4/2022		X					
MW-2022-7 (58-62)	480-197562-14	Soil	5/4/2022			X	X	X	X	X
DUP-3-050422	480-197562-15	Soil	5/4/2022	MW-2022-7 (43-47)	X	X	X	X	X	X
MW-2022-7 (58)	480-197562-16	Soil	5/4/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds

PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1. Performance was not acceptable for “requested analyses ad sample results” as the sample MW-2022-6 (28) (480-197562-4) was collected as per chain-of-custody (COC); however, the sample was not received by the laboratory. Hence, the analysis was cancelled.
2. The VOC analysis was marked on COC for sample MW-2022-7 (0-1) (480-197562-7) but the results were not included in the laboratory report.

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

U Compound considered non-detect at the listed value due to associated blank contamination.

N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	7	0	0	0	0	0	7
SVOCs	9	0	0	0	0	0	9
PCBs	9	0	0	0	0	0	9
PEST	9	0	0	0	0	0	9
HERB	9	0	0	0	0	0	9
PCDD/PCDF	9	0	0	0	0	0	9
Metals	9	0	0	0	0	0	9
MISC	9	0	0	0	0	0	9

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data

validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to freezing and 14 days from collection to analysis	Cool to <6 °C.
		48 Hours from collection to analysis, if samples are not frozen	

The analysis that exceeded the holding time are presented in the following table.

Sample Locations	Holding Time	Criteria
MW-2022-6 (14) MW-2022-6 (41)	Samples were arrived and preserved beyond 48 hours from collection	48 Hours from collection to analysis, if samples are not frozen

Sample results associated with sample locations analyzed by analytical method SW-846 8260C were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil.

A field duplicate DUP-3-050422 was collected at sample location MW-2022-7 (43-47). However, VOC analysis was not requested for parent sample but reported for duplicate sample. Hence, field duplicate was not evaluated.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X	X		
Field Duplicate (RPD)		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Table 6. Samples with Matrix Spike / Matrix spike Duplicate Recoveries Outside Control Limits

Sample Location	Compounds	MS Recovery	MSD Recovery
MW-2022-7 (58-62)	Benzidine	<10%	<10%
	Kepone	<10%	<10%
	p-Phenylene diamine	<10%	<10%
	a,a-Dimethylphenethylamine	AC	<10%

Note:
AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 7. Matrix Spike / Matrix spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The LCS analysis exhibited acceptable recoveries with the exceptions noted in the table below.

Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Locations	Compounds	LCS Recovery
MW-2022-6 (12-16) MW-2022-6 (26-30) MW-2022-6 (40-44) MW-2022-7 (0-1) MW-2022-7 (12-16) MW-2022-7 (28-32) MW-2022-7 (43-47) MW-2022-7 (58-62) DUP-3-050422	Famphur	< 10%
	Kepone	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Results for duplicate samples are summarized in the following table.

Table 10. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-7 (43-47) / DUP-3-050422	Di-n-butyl phthalate	230 U	69 J	AC

Note:

AC Acceptable

The results between the parent sample and field duplicate were acceptable.

3.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.6 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Field Duplicate (RPD)		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil / Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil matrix.

Results for duplicate samples are summarized in the following table.

Table 12. Field Duplicate Sample Results

Sample ID/Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-7 (43-47) / DUP-3-050422	All target compounds	U	U	AC

Note:

AC Acceptable

The results between parent and field duplicates were acceptable.

4.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.4 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Field Duplicate (RPD)		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B / 8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil / Water	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 14. Summary of Blank Contamination Qualifications

Sample Locations	Compound	Sample Result	Qualification
MW-2022-7 (0-1) DUP-3-050422	Endosulfan I	Detected sample results <RL and <BAL	"U" at the RL

Note:
RL Reporting limit

5.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil matrix.

Results for duplicate samples are summarized in the following table.

Table 15. Field Duplicate Sample Results

Sample ID/Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-7 (43-47) / DUP-3-050422	Endosulfan I	2.2 U	0.67	AC

Note:

AC Acceptable

The results between parent and field duplicates were acceptable.

5.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.5 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment / Field blanks	X				X
Field Duplicate (RPD)		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 16. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 17. Summary of Blank Contamination Qualifications

Sample Location	Compounds	Sample Result	Qualification
MW-2022-6 (12-16)	1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF Total HpCDF Total HxCDD Total HxCDF Total PeCDF	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-6 (26-30)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD		

Sample Location	Compounds	Sample Result	Qualification
	Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
MW-2022-6 (40-44)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
MW-2022-7 (0-1)	1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDF Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
MW-2022-7 (12-16)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF		

Sample Location	Compounds	Sample Result	Qualification
	Total PeCDF		
MW-2022-7 (28-32)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,7,8,9-HxCDD 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total PeCDF		
MW-2022-7 (43-47)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
MW-2022-7 (58-62)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
DUP-3-050422	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF		

Sample Location	Compounds	Sample Result	Qualification
	2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDF Total PeCDF		

Note:
RL – Reporting limit

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil matrix.

Results for duplicate samples are summarized in the following table.

Table 18. Field Duplicate Sample Results

Sample ID/Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-7 (43-47) / DUP-3-050422	1,2,3,4,6,7,8-HpCDF	0.32 J	0.30 J	AC
	1,2,3,4,6,7,8-HpCDD	0.72 J	0.64 J	AC
	1,2,3,4,7,8,9-HpCDF	0.054 J	0.048 J	AC
	1,2,3,4,7,8-HxCDF	0.085 J	0.069 J	AC
	1,2,3,6,7,8-HxCDF	0.048 J	0.053 J	AC
	1,2,3,6,7,8-HxCDD	0.045 J	6.1 U	AC
	1,2,3,7,8,9-HxCDF	0.069 J	0.049 J	AC
	1,2,3,7,8-PeCDF	0.082 J	0.063 J	AC
	2,3,4,6,7,8-HxCDF	0.068 J	0.037 J	AC
	2,3,4,7,8-PeCDF	0.035 J	0.078 J	AC
	2,3,7,8-TCDF	0.019 J	1.2 U	AC
	Total HpCDF	0.37 J	0.35 J	AC
	Total HpCDD	0.72 J	0.64 J	AC
	Total HxCDF	0.27 J	0.21 J	AC

Sample ID/Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
	Total HxCDD	0.045 J	6.1 U	AC
	OCDF	1.1 J	0.94 J	AC
	OCDD	1.9 J	2.1 J	AC
	Total PeCDF	0.12 J	0.14 J	AC
	Total TCDF	0.019 J	1.2 U	AC

Note:

AC Acceptable

The calculated RPD between parent and field duplicates were acceptable.

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.6 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Holding times/Preservation		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment / Field blanks	X				X
Field Duplicate (RPD)		X		X	
Compound identification and quantitation		X	X		
Reporting limits (units)		X		X	
System performance and overall assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrix is applied to the RPD between the parent sample and the field

duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil matrix.

Results for duplicate samples are summarized in the following table.

Table 20. Field Duplicate Sample Results

Sample ID/Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD
MW-2022-7 (43-47) / DUP-3-050422	Antimony	21.1 U	0.50 J	AC
	Arsenic	4.0	3.1	AC
	Barium	15.0	14.0	6.90%
	Beryllium	0.19 J	0.16 J	AC
	Cadmium	0.13 J	0.080 J	AC
	Chromium	4.5	4.2	6.90%
	Cobalt	5.8	4.7	1.74%
	Copper	6.2	5.2	AC
	Lead	6.2	5.1	AC
	Nickel	9.2	7.7	AC
	Vanadium	5.7	4.9	15.09%
	Zinc	28.6	24.7	14.63%

Note:

AC Acceptable

The calculated RPDs between parent and field duplicates were acceptable.

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Field Duplicate (RPD)		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 21. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for soil matrix.

Results for duplicate samples are summarized in the following table.

Table 22. Field Duplicate Sample Results

Sample ID/Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD
MW-2022-7 (43-47) / DUP-3-050422	Cyanide, Total	1.2 U	1.1 U	AC
	Sulfide	24.5 U	22 U	AC

Note:

AC Acceptable

The result between parent and field duplicates were acceptable.

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Field Duplicate (RPD)		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under Tier I data validation reviews. The

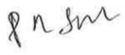
percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 23. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.13%	21
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 24, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 25, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Syracuse #225

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-173480-37198.1
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30132437.001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

SHORT HOLD

Special Instructions/Note:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Organophosphorous Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB	
MW-2022-6(12-16)	5/3/22	0855	G	S			X	X	X	X										
MW-2022-6(14)	5/3/22	0855	G	S							X									
MW-2022-6(26-30)	5/3/22	1010	G	S			X	X	X	X										
MW-2022-6(28)	5/3/22	1010	G	S							X									
MW-2022-6(40-44)	5/3/22	1120	G	S			X	X	X	X										
MW-2022-6(41)	5/3/22	1120	G	S							X									
MW-2022-7(0-1)	5/3/22	1500	G	S			X	X	X	X	X									

480-197562 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5/3/22 1600	Company	Received by:	Date/Time: 5/5/22 1230	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.8 #1 ICE

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Syracuse #225

Client Information	Sampler: Evan Green	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-173480-37198.2
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 2 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30132437.001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Organophosphorous Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-7(12-16)	5/4/22	0940	G	S			X	X	X	X											
MW-2022-7(12)	5/4/22	0940	G	S							X										
MW-2022-7(28-32)	5/4/22	1030	G	S			X	X	X	X											
MW-2022-7(28)	5/4/22	1030	G	S							X										
MW-2022-7(43-47)	5/4/22	1115	G	S			X	X	X	X											
MW-2022-7(43)	5/4/22	1115	G	S							X										
MW-2022-7(58-62)	5/4/22	1320	G	S			X	X	X	X											
DUP-3-050422	5/4/22	—	G	S			X	X	X	X	X										
MW-2022-7(58)	5/4/22	1320	G	S							X										

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Other (specify)

Other:

SHORT HOLD

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, (IV) Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/4/22 1630	Arcadis	[signature]	5/5/22 1230	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.2 # 1 ICE

Ver: 06/08/2021

09/13/2022

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-6 (12-16)
Date Collected: 05/03/22 08:55
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-1
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,2,4-Trichlorobenzene	ND		380	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,2-Dichlorobenzene	ND		380	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,4-Dioxane	ND		120	63	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1,4-Naphthoquinone	ND		380	72	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,3,4,6-Tetrachlorophenol	ND		200	40	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,4,6-Trichlorophenol	ND		200	39	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,4-Dinitrophenol	ND		1900	900	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,4-Dinitrotoluene	ND		200	40	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,6-Dichlorophenol	ND		380	72	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Acetylaminofluorene	ND		380	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Chloronaphthalene	ND		200	32	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Methylnaphthalene	ND		200	39	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Methylphenol	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Nitrophenol	ND		200	55	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Picoline	ND		380	44	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
2-Toluidine	ND		380	93	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
3,3'-Dimethylbenzidine	ND		760	380	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
3-Methylphenol	ND		380	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Aminobiphenyl	ND		380	80	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Chloro-3-methylphenol	ND		200	48	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Chloroaniline	ND		200	48	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Methylphenol	ND		380	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
4-Nitroquinoline-1-oxide	ND		760	380	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
a,a-Dimethylphenethylamine	ND		380	380	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Acenaphthene	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1

Client Sample ID: MW-2022-6 (12-16)
Date Collected: 05/03/22 08:55
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-1
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Acetophenone	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Aniline	ND		380	47	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Anthracene	ND		200	48	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Aramite, Total	ND		380	180	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzidine	ND		5800	2400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Benzyl alcohol	ND		380	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
bis (2-chloroisopropyl) ether	ND		200	39	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Bis(2-chloroethyl)ether	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Bis(2-ethylhexyl) phthalate	**140**	**J**	200	67	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Butyl benzyl phthalate	ND		200	32	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Chrysene	ND		200	44	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Diallate	ND		380	48	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Dibenzofuran	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Diethyl phthalate	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Dimethoate	ND		380	47	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Dimethyl phthalate	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Di-n-butyl phthalate	**41**	**J**	200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Dinoseb	ND		380	68	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Diphenylamine	ND		380	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Disulfoton	ND		380	290	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Chlorobenzilate	ND		380	61	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Ethyl methanesulfonate	ND		380	84	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
~~Famphur~~	~~ND~~	~~*-~~	~~760~~	~~180~~	~~ug/Kg~~	☼	~~05/06/22 15:42~~	~~05/09/22 20:07~~	R 1
Fluoranthene	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Fluorene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Hexachloroethane	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Hexachloropropene	ND		380	97	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Isodrin	ND		380	67	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Isophorone	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Isosafrole	ND		380	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
~~Kepone~~	~~ND~~	~~*-~~	~~760~~	~~380~~	~~ug/Kg~~	☼	~~05/06/22 15:42~~	~~05/09/22 20:07~~	R 1
Methapyrilene	ND		1700	380	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Methyl methanesulfonate	ND		380	88	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Naphthalene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Nitrobenzene	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitro-o-toluidine	ND		380	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1

Client Sample ID: MW-2022-6 (12-16)
Date Collected: 05/03/22 08:55
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-1
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		380	89	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosodimethylamine	ND		380	83	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosodi-n-propylamine	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosomethylethylamine	ND		380	88	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosomorpholine	ND		380	85	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosopiperidine	ND		380	77	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
N-Nitrosopyrrolidine	ND		380	58	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
o,o',o''-Triethylphosphorothioate	ND		380	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Ethyl Parathion	ND		380	43	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Methyl parathion	ND		380	66	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
p-Dimethylamino azobenzene	ND		380	65	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Pentachlorobenzene	ND		380	80	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Pentachloronitrobenzene	ND		380	97	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Pentachlorophenol	ND	*+	380	200	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Phenacetin	ND		380	52	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Phenanthrene	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Phenol	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Phorate	ND		380	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
p-Phenylene diamine	ND		920	380	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Pronamide	ND		380	75	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Pyrene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Pyridine	ND		380	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Safrole	ND		380	52	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Sulfotepp	ND		380	61	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1
Thionazin	ND		380	67	ug/Kg	☼	05/06/22 15:42	05/09/22 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*54 - 120*	*05/06/22 15:42*	*05/09/22 20:07*	*1*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*05/06/22 15:42*	*05/09/22 20:07*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*05/06/22 15:42*	*05/09/22 20:07*	*1*
Nitrobenzene-d5 (Surr)	*88*		*53 - 120*	*05/06/22 15:42*	*05/09/22 20:07*	*1*
Phenol-d5 (Surr)	*74*		*54 - 120*	*05/06/22 15:42*	*05/09/22 20:07*	*1*
p-Terphenyl-d14 (Surr)	*107*		*79 - 130*	*05/06/22 15:42*	*05/09/22 20:07*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
4,4'-DDE	ND		1.9	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Aldrin	ND		1.9	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
alpha-BHC	**0.46**	**J**	1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Chlordane (technical)	ND		19	4.2	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Chlorobenzilate	ND		19	6.4	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
cis-Chlordane	ND		1.9	0.95	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1

Client Sample ID: MW-2022-6 (12-16)
Date Collected: 05/03/22 08:55
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-1
Matrix: Solid
Percent Solids: 85.6

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Endrin	ND		1.9	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Endrin ketone	ND		1.9	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Heptachlor epoxide	ND		1.9	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Methoxychlor	**0.65**	**J**	1.9	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
Toxaphene	ND		19	11	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1
trans-Chlordane	ND		1.9	0.60	ug/Kg	☼	05/06/22 15:52	05/09/22 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*64*		*45 - 120*	*05/06/22 15:52*	*05/09/22 13:05*	*1*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*05/06/22 15:52*	*05/09/22 13:05*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*05/06/22 15:52*	*05/09/22 13:05*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*05/06/22 15:52*	*05/09/22 13:05*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1
PCB-1221	ND		0.21	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1
PCB-1232	ND		0.21	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1
PCB-1242	ND		0.21	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1
PCB-1248	ND		0.21	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1
PCB-1254	ND		0.21	0.099	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1
PCB-1260	ND		0.21	0.099	mg/Kg	☼	05/09/22 06:41	05/10/22 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*65 - 174*	*05/09/22 06:41*	*05/10/22 19:34*	*1*
DCB Decachlorobiphenyl	*88*		*65 - 174*	*05/09/22 06:41*	*05/10/22 19:34*	*1*
Tetrachloro-m-xylene	*106*		*60 - 154*	*05/09/22 06:41*	*05/10/22 19:34*	*1*
Tetrachloro-m-xylene	*98*		*60 - 154*	*05/09/22 06:41*	*05/10/22 19:34*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.1	ug/Kg	☼	05/09/22 06:36	05/12/22 20:49	1
2,4-D	ND		19	12	ug/Kg	☼	05/09/22 06:36	05/12/22 20:49	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	05/09/22 06:36	05/12/22 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*60*		*28 - 129*	*05/09/22 06:36*	*05/12/22 20:49*	*1*
2,4-Dichlorophenylacetic acid	*83*		*28 - 129*	*05/09/22 06:36*	*05/12/22 20:49*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1
Disulfoton	ND		39	26	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1
Famphur	ND		39	21	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1
Methyl parathion	ND		39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1
Ethyl Parathion	ND		39	21	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1

Client Sample ID: MW-2022-6 (12-16)
Date Collected: 05/03/22 08:55
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-1
Matrix: Solid
Percent Solids: 85.6

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		39	13	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1
Sulfotepp	ND		39	15	ug/Kg	☼	05/09/22 10:30	05/10/22 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*72*		*20 - 135*	*05/09/22 10:30*	*05/10/22 17:38*	*1*
Tributyl phosphate	*73*		*20 - 135*	*05/09/22 10:30*	*05/10/22 17:38*	*1*
Triphenylphosphate	*77*		*33 - 168*	*05/09/22 10:30*	*05/10/22 17:38*	*1*
Triphenylphosphate	*80*		*33 - 168*	*05/09/22 10:30*	*05/10/22 17:38*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**12**	**B**	5.7		0.035	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,4,6,7,8-HpCDF	**3.3**	**J B**	5.7	U	0.024	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,4,7,8,9-HpCDF	**0.40**	**J B**	5.7	U	0.033	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,4,7,8-HxCDD	**0.29**	**J I B**	5.7	U	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,4,7,8-HxCDF	**0.47**	**J B**	5.7	U	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,6,7,8-HxCDD	**0.62**	**J B**	5.7	U	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,6,7,8-HxCDF	**0.38**	**J B**	5.7	U	0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,7,8,9-HxCDD	**0.51**	**J B**	5.7	U	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,7,8,9-HxCDF	**0.11**	**J I B**	5.7	U	0.025	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,7,8-PeCDD	ND		5.7		0.019	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
1,2,3,7,8-PeCDF	**0.40**	**J B**	5.7	U	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
2,3,4,6,7,8-HxCDF	**0.42**	**J B**	5.7	U	0.019	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
2,3,4,7,8-PeCDF	**0.49**	**J B**	5.7	U	0.016	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
2,3,7,8-TCDD	**0.34**	**J**	1.1		0.0077	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
2,3,7,8-TCDF	**0.75**	**J**	1.1		0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
OCDD	**81**	**B**	11		0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
OCDF	**11**	**B**	11		0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total HpCDD	**12**	**B**	5.7		0.035	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total HpCDF	**3.7**	**J I B**	5.7	U	0.028	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total HxCDD	**1.4**	**J I B**	5.7	U	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total HxCDF	**1.4**	**J I B**	5.7	U	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total PeCDD	ND		5.7		0.019	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total PeCDF	**0.89**	**J I B**	5.7	U	0.019	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total TCDD	**0.34**	**J I** JNX	1.1		0.0077	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1
Total TCDF	**0.75**	**J I** JNX	1.1		0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 06:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*103*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*104*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*96*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,4,7,8-HxCDD	*106*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,4,7,8-HxCDF	*109*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,6,7,8-HxCDD	*110*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,6,7,8-HxCDF	*105*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,7,8,9-HxCDD	*109*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,7,8,9-HxCDF	*107*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,7,8-PeCDD	*111*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-1,2,3,7,8-PeCDF	*104*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-2,3,4,6,7,8-HxCDF	*107*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*

Client Sample ID: MW-2022-6 (12-16)
Lab Sample ID: 480-197562-1

Date Collected: 05/03/22 08:55
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 85.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*109*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-2,3,7,8-TCDD	*108*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-2,3,7,8-TCDF	*109*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-OCDD	*94*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*
13C-OCDF	*89*		*40 - 135*	*05/11/22 11:05*	*05/13/22 06:42*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.3**	**J**	16.7	0.44	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Arsenic	**5.8**		2.2	0.44	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Barium	**59.6**		0.56	0.12	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Beryllium	**0.42**		0.22	0.031	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Cadmium	**0.17**	**J**	0.22	0.033	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Chromium	**9.6**		0.56	0.22	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Cobalt	**10.5**		0.56	0.056	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Copper	**10.9**		1.1	0.23	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Lead	**17.4**		1.1	0.27	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Nickel	**14.5**		5.6	0.26	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Selenium	ND		4.4	0.44	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Silver	ND		0.67	0.22	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Thallium	ND		6.7	0.33	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Tin	**0.50**	**J**	2.2	0.48	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Vanadium	**17.2**		0.56	0.12	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1
Zinc	**64.7**		2.2	0.71	mg/Kg	☼	05/11/22 11:08	05/18/22 13:17	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.042**		0.022	0.0051	mg/Kg	☼	05/13/22 09:50	05/13/22 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	05/11/22 11:59	05/11/22 13:42	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.4	12.2	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-6 (14)
Lab Sample ID: 480-197562-2

Date Collected: 05/03/22 08:55
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 82.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	H H3	8.6	0.86	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,1,1-Trichloroethane	ND	H H3	8.6	0.62	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,1,2,2-Tetrachloroethane	ND	H H3	8.6	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,1,2-Trichloroethane	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,1-Dichloroethane	ND	H H3 UJ	8.6	1.0	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,1-Dichloroethene	ND	H H3	8.6	1.0	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,2,3-Trichloropropane	ND	H H3	8.6	0.87	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,2-Dibromo-3-Chloropropane	ND	H H3	8.6	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1

Client Sample ID: MW-2022-6 (14)
Date Collected: 05/03/22 08:55
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-2
Matrix: Solid
Percent Solids: 82.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND	H H3	8.6	0.43	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
1,2-Dichloropropane	ND	H H3	8.6	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
2-Butanone (MEK)	ND	H H3	43	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
2-Chloro-1,3-butadiene	ND	H H3	8.6	5.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
2-Chloroethyl vinyl ether	ND	H H3 *+	17	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
2-Hexanone	ND	H H3	43	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
3-Chloro-1-propene	ND	H H3	8.6	4.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
4-Methyl-2-pentanone (MIBK)	ND	H H3	43	2.8	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Acetone	ND	H H3	43	7.2	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Acetonitrile	ND	H H3	86	10	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Acrolein	ND	H H3	43	14	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Acrylonitrile	ND	H H3	43	7.7	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Benzene	ND	H H3	8.6	0.42	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Bromoform	ND	H H3	8.6	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Bromomethane	ND	H H3	8.6	0.77	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Carbon disulfide	ND	H H3	8.6	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Carbon tetrachloride	ND	H H3	8.6	0.83	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Chlorobenzene	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Chlorodibromomethane	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Chloroethane	ND	H H3	8.6	1.9	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Chloroform	ND	H H3 UJ	8.6	0.53	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Chloromethane	ND	H H3	8.6	0.52	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
cis-1,3-Dichloropropene	ND	H H3	8.6	1.2	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Dibromomethane	ND	H H3	8.6	0.88	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Dichlorobromomethane	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Dichlorodifluoromethane	ND	H H3	8.6	0.71	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Ethyl methacrylate	ND	H H3	8.6	2.9	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Ethylbenzene	ND	H H3	8.6	0.59	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Ethylene Dibromide	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Iodomethane	ND	H H3	8.6	0.42	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Methacrylonitrile	ND	H H3	43	10	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Methyl methacrylate	ND	H H3	8.6	1.8	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Methylene Chloride	ND	H H3	8.6	3.9	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
m-Xylene & p-Xylene	ND	H H3	17	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
o-Xylene	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Propionitrile	ND	H H3	86	48	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Styrene	ND	H H3	8.6	0.43	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Tetrachloroethene	ND	H H3	8.6	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Toluene	ND	H H3	8.6	0.65	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
trans-1,2-Dichloroethene	ND	H H3	8.6	0.88	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
trans-1,3-Dichloropropene	ND	H H3	8.6	3.8	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
trans-1,4-Dichloro-2-butene	ND	H H3	8.6	1.9	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Trichloroethene	ND	H H3	8.6	1.9	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Trichlorofluoromethane	ND	H H3	8.6	0.81	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Vinyl acetate	ND	H H3	17	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1
Vinyl chloride	ND	H H3	8.6	1.0	ug/Kg	☼	05/05/22 17:30	05/08/22 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*05/05/22 17:30*	*05/08/22 21:47*	*1*
4-Bromofluorobenzene (Surr)	*86*		*72 - 126*	*05/05/22 17:30*	*05/08/22 21:47*	*1*

Client Sample ID: MW-2022-6 (14)
Lab Sample ID: 480-197562-2

Date Collected: 05/03/22 08:55
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 82.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*05/05/22 17:30*	*05/08/22 21:47*	*1*
Toluene-d8 (Surr)	*100*		*71 - 125*	*05/05/22 17:30*	*05/08/22 21:47*	*1*

Client Sample ID: MW-2022-6 (26-30)
Lab Sample ID: 480-197562-3

Date Collected: 05/03/22 10:10
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,2,4-Trichlorobenzene	ND		400	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,2-Dichlorobenzene	ND		400	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,2-Diphenylhydrazine	ND		400	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,3,5-Trinitrobenzene	ND		400	16	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,3-Dichlorobenzene	ND		400	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,3-Dinitrobenzene	ND		400	48	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,4-Dichlorobenzene	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1,4-Naphthoquinone	ND		400	74	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
1-Naphthylamine	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,6-Dichlorophenol	ND		400	74	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Acetylaminofluorene	ND		400	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Chloronaphthalene	ND		200	34	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Chlorophenol	ND		400	37	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Naphthylamine	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Nitroaniline	ND		400	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Picoline	ND		400	46	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
2-Toluidine	ND		400	97	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
3 & 4 Methylphenol	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
3,3'-Dichlorobenzidine	ND		400	240	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
3,3'-Dimethylbenzidine	ND		790	400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
3-Methylcholanthrene	ND		400	66	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
3-Methylphenol	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
3-Nitroaniline	ND		400	56	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4,6-Dinitro-2-methylphenol	ND		400	200	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Aminobiphenyl	ND		400	83	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1

Client Sample ID: MW-2022-6 (26-30)
Date Collected: 05/03/22 10:10
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-3
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Methylphenol	ND		400	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Nitroaniline	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Nitrophenol	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
4-Nitroquinoline-1-oxide	ND		790	400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
7,12-Dimethylbenz(a)anthracene	ND		400	59	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
a,a-Dimethylphenethylamine	ND		400	400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Acenaphthylene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Acetophenone	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Aniline	ND		400	49	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Anthracene	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Aramite, Total	ND		400	190	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzidine	ND		6000	2500	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Benzyl alcohol	ND		400	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Butyl benzyl phthalate	ND		200	34	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Chrysene	ND		200	46	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Diallate	ND		400	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Dimethoate	ND		400	49	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Di-n-butyl phthalate	**38**	**J**	200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Dinoseb	ND		400	71	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Diphenylamine	ND		400	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Disulfoton	ND		400	300	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Chlorobenzilate	ND		400	63	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Ethyl methanesulfonate	ND		400	87	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Famphur	ND	*-	790	190	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	R 1
Fluoranthene	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Fluorene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Hexachlorobenzene	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Hexachlorocyclopentadiene	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Hexachloropropene	ND		400	100	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1

Client Sample ID: MW-2022-6 (26-30)
Date Collected: 05/03/22 10:10
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-3
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		400	69	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Isophorone	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Isosafrole	ND		400	53	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Kepone	ND	*-	790	400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	R 1
Methapyrilene	ND		1800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Methyl methanesulfonate	ND		400	91	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Naphthalene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Nitrobenzene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitro-o-toluidine	ND		400	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosodiethylamine	ND		400	92	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosodimethylamine	ND		400	86	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosodi-n-butylamine	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosodiphenylamine	ND		200	170	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosomethylethylamine	ND		400	91	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosomorpholine	ND		400	89	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosopiperidine	ND		400	80	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
N-Nitrosopyrrolidine	ND		400	60	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
o,o',o''-Triethylphosphorothioate	ND		400	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Ethyl Parathion	ND		400	44	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Methyl parathion	ND		400	68	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
p-Dimethylamino azobenzene	ND		400	67	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Pentachlorobenzene	ND		400	83	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Pentachloronitrobenzene	ND		400	100	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Pentachlorophenol	ND		400	200	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Phenacetin	ND		400	54	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Phenol	ND		200	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Phorate	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
p-Phenylene diamine	ND		960	400	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Pronamide	ND		400	78	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Pyrene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Pyridine	ND		400	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Safrole	ND		400	54	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Sulfotepp	ND		400	63	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1
Thionazin	ND		400	69	ug/Kg	☼	05/06/22 15:42	05/09/22 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*05/06/22 15:42*	*05/09/22 20:31*	*1*
2-Fluorobiphenyl (Surr)	*98*		*60 - 120*	*05/06/22 15:42*	*05/09/22 20:31*	*1*
2-Fluorophenol (Surr)	*74*		*52 - 120*	*05/06/22 15:42*	*05/09/22 20:31*	*1*
Nitrobenzene-d5 (Surr)	*93*		*53 - 120*	*05/06/22 15:42*	*05/09/22 20:31*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*05/06/22 15:42*	*05/09/22 20:31*	*1*
p-Terphenyl-d14 (Surr)	*116*		*79 - 130*	*05/06/22 15:42*	*05/09/22 20:31*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1

Client Sample ID: MW-2022-6 (26-30)
Date Collected: 05/03/22 10:10
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-3
Matrix: Solid
Percent Solids: 82.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
cis-Chlordane	ND		2.0	0.99	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Endrin	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
Toxaphene	ND		20	12	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	05/06/22 15:52	05/09/22 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*05/06/22 15:52*	*05/09/22 13:24*	*1*
DCB Decachlorobiphenyl	*87*		*45 - 120*	*05/06/22 15:52*	*05/09/22 13:24*	*1*
Tetrachloro-m-xylene	*63*		*30 - 124*	*05/06/22 15:52*	*05/09/22 13:24*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*05/06/22 15:52*	*05/09/22 13:24*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.044	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1
PCB-1221	ND		0.23	0.044	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1
PCB-1232	ND		0.23	0.044	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1
PCB-1242	ND		0.23	0.044	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1
PCB-1248	ND		0.23	0.044	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	05/09/22 06:41	05/10/22 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*102*		*65 - 174*	*05/09/22 06:41*	*05/10/22 19:48*	*1*
DCB Decachlorobiphenyl	*100*		*65 - 174*	*05/09/22 06:41*	*05/10/22 19:48*	*1*
Tetrachloro-m-xylene	*113*		*60 - 154*	*05/09/22 06:41*	*05/10/22 19:48*	*1*
Tetrachloro-m-xylene	*107*		*60 - 154*	*05/09/22 06:41*	*05/10/22 19:48*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.5	ug/Kg	☼	05/09/22 06:36	05/12/22 21:19	1
2,4-D	ND		20	13	ug/Kg	☼	05/09/22 06:36	05/12/22 21:19	1
Silvex (2,4,5-TP)	ND		20	7.3	ug/Kg	☼	05/09/22 06:36	05/12/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*60*		*28 - 129*	*05/09/22 06:36*	*05/12/22 21:19*	*1*

Client Sample ID: MW-2022-6 (26-30)
Date Collected: 05/03/22 10:10
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-3
Matrix: Solid
Percent Solids: 82.3

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	71		28 - 129	05/09/22 06:36	05/12/22 21:19	1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1
Disulfoton	ND		40	26	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1
Famphur	ND		40	21	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1
Phorate	ND		40	14	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1
Sulfotepp	ND		40	16	ug/Kg	☼	05/09/22 10:30	05/10/22 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	85		20 - 135	05/09/22 10:30	05/10/22 18:10	1
Tributyl phosphate	85		20 - 135	05/09/22 10:30	05/10/22 18:10	1
Triphenylphosphate	92		33 - 168	05/09/22 10:30	05/10/22 18:10	1
Triphenylphosphate	98		33 - 168	05/09/22 10:30	05/10/22 18:10	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.88	J B	6.0	0.026	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,4,6,7,8-HpCDF	0.28	J B	6.0	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,4,7,8,9-HpCDF	0.064	J I B	6.0	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,4,7,8-HxCDD	0.11	J B	6.0	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,4,7,8-HxCDF	0.16	J I B	6.0	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,6,7,8-HxCDD	0.17	J I B	6.0	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,6,7,8-HxCDF	0.15	J B	6.0	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,7,8,9-HxCDD	0.10	J B	6.0	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,7,8,9-HxCDF	0.13	J I B	6.0	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,7,8-PeCDD	0.18	J	6.0	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
1,2,3,7,8-PeCDF	0.26	J B	6.0	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
2,3,4,6,7,8-HxCDF	0.13	J I B	6.0 U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
2,3,4,7,8-PeCDF	0.21	J I B	6.0	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
2,3,7,8-TCDD	0.062	~~J I~~ JNX	1.2	0.0043	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
2,3,7,8-TCDF	ND		1.2	0.0061	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
OCDD	2.9	J B	12	0.019	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
OCDF	0.93	J B	12	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total HpCDD	0.88	J B	6.0 U	0.026	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total HpCDF	0.34	J I B	6.0	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total HxCDD	0.38	J I B	6.0	0.017	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total HxCDF	0.57	J I B	6.0	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total PeCDD	0.18	~~J I~~ JNX	6.0	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total PeCDF	0.47	~~J I B~~	6.0 U	0.0094	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total TCDD	0.062	~~J I~~ JNX	1.2	0.0043	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1
Total TCDF	ND		1.2	0.0061	ng/Kg	☼	05/11/22 11:05	05/13/22 07:32	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	87		40 - 135	05/11/22 11:05	05/13/22 07:32	1
13C-1,2,3,4,6,7,8-HpCDF	90		40 - 135	05/11/22 11:05	05/13/22 07:32	1
13C-1,2,3,4,7,8,9-HpCDF	84		40 - 135	05/11/22 11:05	05/13/22 07:32	1

Client Sample ID: MW-2022-6 (26-30)
Date Collected: 05/03/22 10:10
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-3
Matrix: Solid
Percent Solids: 82.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*86*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,6,7,8-HxCDD	*90*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,7,8,9-HxCDD	*88*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,7,8,9-HxCDF	*87*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-2,3,4,6,7,8-HxCDF	*90*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-2,3,7,8-TCDD	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-OCDD	*78*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*
13C-OCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 07:32*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.81**	**J**	19.1	0.51	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Arsenic	**3.6**		2.6	0.51	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Barium	**15.2**		0.64	0.14	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Beryllium	**0.20**	**J**	0.26	0.036	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Cadmium	**0.057**	**J**	0.26	0.038	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Chromium	**4.0**		0.64	0.26	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Cobalt	**4.4**		0.64	0.064	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Copper	**6.6**		1.3	0.27	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Lead	**6.3**		1.3	0.31	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Nickel	**12.0**		6.4	0.29	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Selenium	ND		5.1	0.51	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Silver	ND		0.77	0.26	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Thallium	ND		7.7	0.38	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Tin	ND		2.6	0.55	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Vanadium	**5.0**		0.64	0.14	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1
Zinc	**35.8**		2.6	0.82	mg/Kg	☼	05/11/22 11:08	05/18/22 13:20	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	05/13/22 09:50	05/13/22 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.56	mg/Kg	☼	05/11/22 11:59	05/11/22 13:43	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.8	12.4	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-6 (40-44)
Date Collected: 05/03/22 11:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-5
Matrix: Solid
Percent Solids: 82.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Picoline	ND		390	45	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
2-Toluidine	ND		390	96	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1

Client Sample ID: MW-2022-6 (40-44)
Lab Sample ID: 480-197562-5
Date Collected: 05/03/22 11:20
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 82.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Acetophenone	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Aniline	ND		390	49	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Anthracene	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzidine	ND		6000	2500	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Chrysene	ND		200	45	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Diallate	ND		390	50	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Dimethoate	ND		390	49	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Dinoseb	ND		390	70	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Disulfoton	ND		390	300	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Famphur	ND	*-	790	190	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	R 1
Fluoranthene	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Fluorene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Hexachloropropene	ND		390	100	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Isodrin	ND		390	69	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Isophorone	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Isosafrole	ND		390	52	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Kepone	ND	*-	790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	R 1
Methapyrilene	ND		1800	390	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Naphthalene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Nitrobenzene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1

Client Sample ID: MW-2022-6 (40-44)
Date Collected: 05/03/22 11:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-5
Matrix: Solid
Percent Solids: 82.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Methyl parathion	ND		390	68	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Phenacetin	ND		390	54	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Phenol	ND		200	31	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Phorate	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Pronamide	ND		390	77	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Pyrene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Pyridine	ND		390	29	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Safrole	ND		390	54	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1
Thionazin	ND		390	69	ug/Kg	☼	05/06/22 15:42	05/09/22 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*05/06/22 15:42*	*05/09/22 20:55*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*05/06/22 15:42*	*05/09/22 20:55*	*1*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*05/06/22 15:42*	*05/09/22 20:55*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*05/06/22 15:42*	*05/09/22 20:55*	*1*
Phenol-d5 (Surr)	*73*		*54 - 120*	*05/06/22 15:42*	*05/09/22 20:55*	*1*
p-Terphenyl-d14 (Surr)	*113*		*79 - 130*	*05/06/22 15:42*	*05/09/22 20:55*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Chlordane (technical)	ND		20	4.5	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Chlorobenzilate	ND		20	6.8	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Endosulfan I	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1

Client Sample ID: MW-2022-6 (40-44)
Date Collected: 05/03/22 11:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-5
Matrix: Solid
Percent Solids: 82.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Endrin	ND		2.0	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Heptachlor	ND		2.0	0.44	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
Toxaphene	ND		20	12	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	05/06/22 15:52	05/09/22 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*67*		*45 - 120*	*05/06/22 15:52*	*05/09/22 13:44*	*1*
DCB Decachlorobiphenyl	*85*		*45 - 120*	*05/06/22 15:52*	*05/09/22 13:44*	*1*
Tetrachloro-m-xylene	*62*		*30 - 124*	*05/06/22 15:52*	*05/09/22 13:44*	*1*
Tetrachloro-m-xylene	*69*		*30 - 124*	*05/06/22 15:52*	*05/09/22 13:44*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	05/09/22 06:41	05/10/22 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:01*	*1*
DCB Decachlorobiphenyl	*96*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:01*	*1*
Tetrachloro-m-xylene	*105*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:01*	*1*
Tetrachloro-m-xylene	*101*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:01*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/09/22 06:36	05/12/22 21:48	1
2,4-D	ND		20	12	ug/Kg	☼	05/09/22 06:36	05/12/22 21:48	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/09/22 06:36	05/12/22 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*63*		*28 - 129*	*05/09/22 06:36*	*05/12/22 21:48*	*1*
2,4-Dichlorophenylacetic acid	*65*		*28 - 129*	*05/09/22 06:36*	*05/12/22 21:48*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1
Disulfoton	ND		39	26	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1
Famphur	ND		39	21	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1
Methyl parathion	ND		39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1

Client Sample ID: MW-2022-6 (40-44)
Date Collected: 05/03/22 11:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-5
Matrix: Solid
Percent Solids: 82.1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		39	13	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1
Sulfotepp	ND		39	15	ug/Kg	☼	05/09/22 10:30	05/10/22 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*46*		*20 - 135*	*05/09/22 10:30*	*05/10/22 18:41*	*1*
Tributyl phosphate	*46*		*20 - 135*	*05/09/22 10:30*	*05/10/22 18:41*	*1*
Triphenylphosphate	*80*		*33 - 168*	*05/09/22 10:30*	*05/10/22 18:41*	*1*
Triphenylphosphate	*83*		*33 - 168*	*05/09/22 10:30*	*05/10/22 18:41*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.96**	**J I B**	5.9	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,4,6,7,8-HpCDF	**0.36**	**J B**	5.9	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,4,7,8,9-HpCDF	**0.14**	**J I B**	5.9	0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,4,7,8-HxCDD	**0.15**	**J B**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,4,7,8-HxCDF	**0.19**	**J I B**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,6,7,8-HxCDD	**0.19**	**J B**	5.9	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,6,7,8-HxCDF	**0.16**	**J B**	5.9	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,7,8,9-HxCDD	**0.15**	**J B**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,7,8,9-HxCDF	**0.11**	**J B**	5.9	0.016	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,7,8-PeCDD	**0.19**	**J**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
1,2,3,7,8-PeCDF	**0.22**	**J I B**	5.9 U	0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
2,3,4,6,7,8-HxCDF	**0.15**	**J B**	5.9 U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
2,3,4,7,8-PeCDF	**0.20**	**J I B**	5.9 U	0.0094	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
2,3,7,8-TCDD	ND		1.2	0.0033	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
2,3,7,8-TCDF	**0.032**	**J I** JNX	1.2	0.0087	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
OCDD	**2.7**	**J B**	12	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
OCDF	**1.0**	**J B**	12	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total HpCDD	**0.96**	**J I B**	5.9	0.021	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total HpCDF	**0.50**	**J I B**	5.9 U	0.018	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total HxCDD	**0.49**	**J I B**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total HxCDF	**0.61**	**J I B**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total PeCDD	**0.19**	**J**	5.9	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total PeCDF	**0.42**	**J I B**	5.9 U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total TCDD	ND		1.2	0.0033	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1
Total TCDF	**0.032**	**J I** JNX	1.2	0.0087	ng/Kg	☼	05/11/22 11:05	05/13/22 08:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,7,8,9-HxCDD	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*

Client Sample ID: MW-2022-6 (40-44)
Lab Sample ID: 480-197562-5

Date Collected: 05/03/22 11:20
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 82.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*82*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-2,3,7,8-TCDD	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-2,3,7,8-TCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-OCDD	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*
13C-OCDF	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 08:23*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.55**	**J**	18.3	0.49	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Arsenic	**3.9**		2.4	0.49	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Barium	**13.4**		0.61	0.13	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Beryllium	**0.20**	**J**	0.24	0.034	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Cadmium	**0.10**	**J**	0.24	0.037	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Chromium	**4.5**		0.61	0.24	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Cobalt	**4.7**		0.61	0.061	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Copper	**6.1**		1.2	0.26	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Lead	**5.4**		1.2	0.29	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Nickel	**8.2**		6.1	0.28	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Selenium	ND		4.9	0.49	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Silver	ND		0.73	0.24	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Thallium	ND		7.3	0.37	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Tin	ND		2.4	0.53	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Vanadium	**5.7**		0.61	0.13	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1
Zinc	**27.9**		2.4	0.78	mg/Kg	☼	05/11/22 11:08	05/18/22 13:51	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0055	mg/Kg	☼	05/13/22 09:50	05/13/22 14:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.54	mg/Kg	☼	05/11/22 11:59	05/11/22 13:45	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.1	12.6	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-6 (41)
Lab Sample ID: 480-197562-6

Date Collected: 05/03/22 11:20
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	H H3	6.2	0.62	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,1,1-Trichloroethane	ND	H H3	6.2	0.45	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,1,2,2-Tetrachloroethane	ND	H H3	6.2	1.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,1,2-Trichloroethane	ND	H H3	6.2	0.81	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,1-Dichloroethane	ND	H H3 UJ	6.2	0.76	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,1-Dichloroethene	ND	H H3	6.2	0.76	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,2,3-Trichloropropane	ND	H H3	6.2	0.63	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,2-Dibromo-3-Chloropropane	ND	H H3	6.2	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1

Client Sample ID: MW-2022-6 (41)
Date Collected: 05/03/22 11:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-6
Matrix: Solid
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND	H H3	6.2	0.31	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
1,2-Dichloropropane	ND	H H3	6.2	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
2-Butanone (MEK)	ND	H H3	31	2.3	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
2-Chloro-1,3-butadiene	ND	H H3	6.2	3.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
2-Chloroethyl vinyl ether	ND	H H3 *+	12	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
2-Hexanone	ND	H H3	31	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
3-Chloro-1-propene	ND	H H3	6.2	3.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
4-Methyl-2-pentanone (MIBK)	ND	H H3 UJ	31	2.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Acetone	ND	H H3	31	5.2	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Acetonitrile	ND	H H3	62	7.6	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Acrolein	ND	H H3	31	9.8	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Acrylonitrile	ND	H H3	31	5.6	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Benzene	ND	H H3	6.2	0.30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Bromoform	ND	H H3	6.2	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Bromomethane	ND	H H3	6.2	0.56	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Carbon disulfide	ND	H H3	6.2	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Carbon tetrachloride	ND	H H3	6.2	0.60	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Chlorobenzene	ND	H H3	6.2	0.82	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Chlorodibromomethane	ND	H H3	6.2	0.80	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Chloroethane	ND	H H3	6.2	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Chloroform	**0.42**	~~J H H3~~ J	6.2	0.38	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Chloromethane	ND	H H3	6.2	0.38	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
cis-1,3-Dichloropropene	ND	H H3	6.2	0.90	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Dibromomethane	ND	H H3	6.2	0.64	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Dichlorobromomethane	ND	H H3	6.2	0.83	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Dichlorodifluoromethane	ND	H H3	6.2	0.51	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Ethyl methacrylate	ND	H H3	6.2	2.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Ethylbenzene	ND	H H3	6.2	0.43	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Ethylene Dibromide	ND	H H3	6.2	0.80	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Iodomethane	ND	H H3	6.2	0.30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Methacrylonitrile	ND	H H3	31	7.3	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Methyl methacrylate	ND	H H3	6.2	1.3	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Methylene Chloride	ND	H H3 UJ	6.2	2.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
m-Xylene & p-Xylene	ND	H H3	12	1.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
o-Xylene	ND	H H3	6.2	0.81	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Propionitrile	ND	H H3	62	35	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Styrene	ND	H H3	6.2	0.31	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Tetrachloroethene	ND	H H3	6.2	0.84	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Toluene	ND	H H3	6.2	0.47	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
trans-1,2-Dichloroethene	ND	H H3	6.2	0.64	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
trans-1,3-Dichloropropene	ND	H H3	6.2	2.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
trans-1,4-Dichloro-2-butene	ND	H H3	6.2	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Trichloroethene	ND	H H3	6.2	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Trichlorofluoromethane	ND	H H3	6.2	0.59	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Vinyl acetate	ND	H H3	12	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1
Vinyl chloride	ND	H H3	6.2	0.76	ug/Kg	☼	05/05/22 17:30	05/08/22 22:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*05/05/22 17:30*	*05/08/22 22:11*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 126*	*05/05/22 17:30*	*05/08/22 22:11*	*1*

Client Sample ID: MW-2022-6 (41)
Date Collected: 05/03/22 11:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-6
Matrix: Solid
Percent Solids: 77.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*05/05/22 17:30*	*05/08/22 22:11*	*1*
Toluene-d8 (Surr)	*96*		*71 - 125*	*05/05/22 17:30*	*05/08/22 22:11*	*1*

Client Sample ID: MW-2022-7 (0-1)
Date Collected: 05/03/22 15:00
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-7
Matrix: Solid
Percent Solids: 81.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	35	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,2,4-Trichlorobenzene	ND		400	29	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,2-Dichlorobenzene	ND		400	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,2-Diphenylhydrazine	ND		400	23	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,3,5-Trinitrobenzene	ND		400	17	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,3-Dichlorobenzene	ND		400	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,3-Dinitrobenzene	ND		400	48	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,4-Dichlorobenzene	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1,4-Naphthoquinone	ND		400	75	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
1-Naphthylamine	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,3,4,6-Tetrachlorophenol	ND		210	42	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,4,5-Trichlorophenol	ND		210	55	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,4,6-Trichlorophenol	ND		210	41	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,4-Dichlorophenol	ND		210	22	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,4-Dimethylphenol	ND		210	49	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,4-Dinitrophenol	ND		2000	950	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,4-Dinitrotoluene	ND		210	42	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,6-Dichlorophenol	ND		400	75	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2,6-Dinitrotoluene	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Acetylaminofluorene	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Chloronaphthalene	ND		210	34	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Chlorophenol	ND		400	37	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Methylnaphthalene	ND		210	41	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Methylphenol	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Naphthylamine	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Nitroaniline	ND		400	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Nitrophenol	ND		210	58	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Picoline	ND		400	46	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
2-Toluidine	ND		400	98	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
3 & 4 Methylphenol	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
3,3'-Dichlorobenzidine	ND		400	240	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
3,3'-Dimethylbenzidine	ND		800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
3-Methylcholanthrene	ND		400	66	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
3-Methylphenol	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
3-Nitroaniline	ND		400	57	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4,6-Dinitro-2-methylphenol	ND		400	210	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Aminobiphenyl	ND		400	83	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Bromophenyl phenyl ether	ND		210	29	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Chloro-3-methylphenol	ND		210	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1

Client Sample ID: MW-2022-7 (0-1)
Date Collected: 05/03/22 15:00
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-7
Matrix: Solid
Percent Solids: 81.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		210	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Chlorophenyl phenyl ether	ND		210	25	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Methylphenol	ND		400	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Nitroaniline	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Nitrophenol	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
4-Nitroquinoline-1-oxide	ND		800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
7,12-Dimethylbenz(a)anthracene	ND		400	59	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
a,a-Dimethylphenethylamine	ND		400	400	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Acenaphthene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Acenaphthylene	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Acetophenone	ND		210	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Aniline	ND		400	49	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Anthracene	ND		210	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Aramite, Total	ND		400	190	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzidine	ND		6000	2600	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzo[a]pyrene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzo[b]fluoranthene	ND		210	33	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzo[g,h,i]perylene	ND		210	22	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzo[k]fluoranthene	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Benzyl alcohol	ND		400	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
bis (2-chloroisopropyl) ether	ND		210	41	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Bis(2-chloroethoxy)methane	ND		210	43	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Bis(2-chloroethyl)ether	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Bis(2-ethylhexyl) phthalate	ND		210	70	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Butyl benzyl phthalate	ND		210	34	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Chrysene	ND		210	46	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Diallate	ND		400	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Dibenz(a,h)anthracene	ND		210	36	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Dibenzofuran	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Diethyl phthalate	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Dimethoate	ND		400	49	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Dimethyl phthalate	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Di-n-butyl phthalate	**35**	**J**	210	35	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Di-n-octyl phthalate	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Dinoseb	ND		400	71	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Diphenylamine	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Disulfoton	ND		400	300	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Chlorobenzilate	ND		400	64	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Ethyl methanesulfonate	ND		400	88	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
~~Famphur~~	~~ND~~	~~*-~~	~~800~~	~~190~~	~~ug/Kg~~	~~☼~~	~~05/06/22 15:42~~	~~05/09/22 21:19~~	R 1
Fluoranthene	ND		210	22	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Fluorene	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Hexachlorobenzene	ND		210	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Hexachlorobutadiene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Hexachlorocyclopentadiene	ND		210	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Hexachloroethane	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Hexachloropropene	ND		400	100	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Indeno[1,2,3-cd]pyrene	ND		210	25	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1

Client Sample ID: MW-2022-7 (0-1)
Date Collected: 05/03/22 15:00
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-7
Matrix: Solid
Percent Solids: 81.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		400	70	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Isophorone	ND		210	43	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Isosafrole	ND		400	53	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Kepone	ND	* -	800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	R 1
Methapyrilene	ND		1800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Methyl methanesulfonate	ND		400	92	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Naphthalene	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Nitrobenzene	ND		210	23	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitro-o-toluidine	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosodiethylamine	ND		400	93	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosodimethylamine	ND		400	87	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosodi-n-butylamine	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosodi-n-propylamine	ND		210	35	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosomethylethylamine	ND		400	92	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosomorpholine	ND		400	89	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosopiperidine	ND		400	81	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
N-Nitrosopyrrolidine	ND		400	60	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
o,o',o''-Triethylphosphorothioate	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Ethyl Parathion	ND		400	45	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Methyl parathion	ND		400	69	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
p-Dimethylamino azobenzene	ND		400	68	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Pentachlorobenzene	ND		400	83	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Pentachloronitrobenzene	ND		400	100	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Pentachlorophenol	ND	* +	400	210	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Phenacetin	ND		400	54	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Phenanthrene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Phenol	ND		210	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Phorate	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
p-Phenylene diamine	ND		960	400	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Pronamide	ND		400	78	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Pyrene	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Pyridine	ND		400	29	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Safrole	ND		400	54	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Sulfotepp	ND		400	64	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1
Thionazin	ND		400	70	ug/Kg	☼	05/06/22 15:42	05/09/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*100*		*54 - 120*	*05/06/22 15:42*	*05/09/22 21:19*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*05/06/22 15:42*	*05/09/22 21:19*	*1*
2-Fluorophenol (Surr)	*70*		*52 - 120*	*05/06/22 15:42*	*05/09/22 21:19*	*1*
Nitrobenzene-d5 (Surr)	*92*		*53 - 120*	*05/06/22 15:42*	*05/09/22 21:19*	*1*
Phenol-d5 (Surr)	*70*		*54 - 120*	*05/06/22 15:42*	*05/09/22 21:19*	*1*
p-Terphenyl-d14 (Surr)	*108*		*79 - 130*	*05/06/22 15:42*	*05/09/22 21:19*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1

Client Sample ID: MW-2022-7 (0-1)
Date Collected: 05/03/22 15:00
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-7
Matrix: Solid
Percent Solids: 81.1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Chlordane (technical)	ND		20	4.5	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Chlorobenzilate	ND		20	6.8	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Endosulfan I	~~0.61~~ ~~J B~~		2.0	U 0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Endosulfan sulfate	ND		2.0	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Endrin	ND		2.0	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Heptachlor	ND		2.0	0.44	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
Toxaphene	ND		20	12	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	05/06/22 15:52	05/09/22 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*45 - 120*	*05/06/22 15:52*	*05/09/22 14:04*	*1*
DCB Decachlorobiphenyl	*106*		*45 - 120*	*05/06/22 15:52*	*05/09/22 14:04*	*1*
Tetrachloro-m-xylene	*81*		*30 - 124*	*05/06/22 15:52*	*05/09/22 14:04*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*05/06/22 15:52*	*05/09/22 14:04*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.30	0.059	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1
PCB-1221	ND		0.30	0.059	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1
PCB-1232	ND		0.30	0.059	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1
PCB-1242	ND		0.30	0.059	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1
PCB-1248	ND		0.30	0.059	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1
PCB-1254	ND		0.30	0.14	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1
PCB-1260	ND		0.30	0.14	mg/Kg	☼	05/09/22 06:41	05/10/22 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*101*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:14*	*1*
DCB Decachlorobiphenyl	*98*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:14*	*1*
Tetrachloro-m-xylene	*116*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:14*	*1*
Tetrachloro-m-xylene	*106*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:14*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.5	ug/Kg	☼	05/09/22 06:36	05/12/22 22:18	1
2,4-D	ND		20	13	ug/Kg	☼	05/09/22 06:36	05/12/22 22:18	1
Silvex (2,4,5-TP)	ND		20	7.3	ug/Kg	☼	05/09/22 06:36	05/12/22 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*64*		*28 - 129*	*05/09/22 06:36*	*05/12/22 22:18*	*1*

Client Sample ID: MW-2022-7 (0-1)
Date Collected: 05/03/22 15:00
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-7
Matrix: Solid
Percent Solids: 81.1

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	77		28 - 129	05/09/22 06:36	05/12/22 22:18	1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1
Disulfoton	ND		40	26	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1
Famphur	ND		40	21	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1
Phorate	ND		40	13	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1
Sulfotepp	ND		40	15	ug/Kg	☼	05/09/22 10:30	05/10/22 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	73		20 - 135	05/09/22 10:30	05/10/22 19:13	1
Tributyl phosphate	73		20 - 135	05/09/22 10:30	05/10/22 19:13	1
Triphenylphosphate	93		33 - 168	05/09/22 10:30	05/10/22 19:13	1
Triphenylphosphate	97		33 - 168	05/09/22 10:30	05/10/22 19:13	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	14	B	6.0	0.061	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,4,6,7,8-HpCDF	3.0	J B	6.0	0.031	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,4,7,8,9-HpCDF	0.26	J B	6.0	0.046	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,4,7,8-HxCDD	0.88	J I B	6.0	0.036	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,4,7,8-HxCDF	0.46	J B	6.0 U	0.032	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,6,7,8-HxCDD	1.1	J B	6.0	0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,6,7,8-HxCDF	0.32	J I B	6.0	0.031	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,7,8,9-HxCDD	1.0	J B	6.0	0.039	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,7,8,9-HxCDF	0.15	J I B	6.0	0.040	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,7,8-PeCDD	0.21	J I JNX	6.0	0.024	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
1,2,3,7,8-PeCDF	0.17	J I B	6.0 U	0.031	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
2,3,4,6,7,8-HxCDF	0.35	J I B	6.0 U	0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
2,3,4,7,8-PeCDF	0.30	J B	6.0 U	0.022	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
2,3,7,8-TCDD	0.014	J	1.2	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
2,3,7,8-TCDF	0.10	J I JNX	1.2	0.029	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
OCDD	100	B	12	0.052	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
OCDF	8.6	J B	12 U	0.034	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total HpCDD	14	B	6.0	0.061	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total HpCDF	3.3	J I B	6.0 U	0.039	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total HxCDD	3.0	J I B	6.0 U	0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total HxCDF	1.3	J I B	6.0 U	0.033	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total PeCDD	0.21	J I JNX	6.0	0.024	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total PeCDF	0.47	J I B	6.0 U	0.027	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total TCDD	0.014	J I JNX	1.2	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1
Total TCDF	0.10	J I JNX	1.2	0.029	ng/Kg	☼	05/11/22 11:05	05/13/22 09:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	50		40 - 135	05/11/22 11:05	05/13/22 09:13	1
13C-1,2,3,4,6,7,8-HpCDF	51		40 - 135	05/11/22 11:05	05/13/22 09:13	1
13C-1,2,3,4,7,8,9-HpCDF	48		40 - 135	05/11/22 11:05	05/13/22 09:13	1

Client Sample ID: MW-2022-7 (0-1)
Date Collected: 05/03/22 15:00
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-7
Matrix: Solid
Percent Solids: 81.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*48*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*51*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*52*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*51*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,7,8,9-HxCDD	*51*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,7,8,9-HxCDF	*51*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-1,2,3,7,8-PeCDF	*45*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-2,3,4,7,8-PeCDF	*50*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-2,3,7,8-TCDD	*49*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-2,3,7,8-TCDF	*46*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-OCDD	*43*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*
13C-OCDF	*41*		*40 - 135*	*05/11/22 11:05*	*05/13/22 09:13*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.85**	**J**	19.1	0.51	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Arsenic	**6.0**		2.5	0.51	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Barium	**37.2**		0.64	0.14	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Beryllium	**0.47**		0.25	0.036	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Cadmium	**0.13**	**J**	0.25	0.038	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Chromium	**9.6**		0.64	0.25	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Cobalt	**9.3**		0.64	0.064	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Copper	**11.2**		1.3	0.27	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Lead	**16.6**		1.3	0.31	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Nickel	**18.5**		6.4	0.29	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Selenium	ND		5.1	0.51	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Silver	ND		0.76	0.25	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Thallium	ND		7.6	0.38	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Tin	ND		2.5	0.55	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Vanadium	**14.9**		0.64	0.14	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1
Zinc	**61.9**		2.5	0.81	mg/Kg	☼	05/11/22 11:08	05/18/22 13:55	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.048**		0.025	0.0057	mg/Kg	☼	05/13/22 09:50	05/13/22 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.58	mg/Kg	☼	05/17/22 12:15	05/17/22 14:04	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		23.6	13.4	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-7 (12-16)
Date Collected: 05/04/22 09:40
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-8
Matrix: Solid
Percent Solids: 81.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,2-Dichlorobenzene	ND		390	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,4-Dichlorophenol	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,4-Dinitrophenol	ND		2000	940	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Naphthylamine	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Picoline	ND		390	45	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
2-Toluidine	ND		390	97	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Aminobiphenyl	ND		390	83	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
7,12-Dimethylbenz(a)anthracene	ND		390	59	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1

Client Sample ID: MW-2022-7 (12-16)
Date Collected: 05/04/22 09:40
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-8
Matrix: Solid
Percent Solids: 81.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Acetophenone	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Aniline	ND		390	49	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Anthracene	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzidine	ND		6000	2500	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzo[g,h,i]perylene	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Benzyl alcohol	ND		390	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Chrysene	ND		200	45	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Diallate	ND		390	50	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Dimethoate	ND		390	49	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Di-n-butyl phthalate	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Dinoseb	ND		390	71	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Disulfoton	ND		390	300	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Famphur	ND	*-	790	190	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	R 1
Fluoranthene	ND		200	22	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Fluorene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Hexachlorobenzene	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Hexachlorocyclopentadiene	ND		200	28	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Hexachloropropene	ND		390	100	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Isodrin	ND		390	69	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Isophorone	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Isosafrole	ND		390	53	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Kepone	ND	*-	790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	R 1
Methapyrilene	ND		1800	390	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Naphthalene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Nitrobenzene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1

Client Sample ID: MW-2022-7 (12-16)
Date Collected: 05/04/22 09:40
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-8
Matrix: Solid
Percent Solids: 81.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosodiphenylamine	ND		200	170	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosomorpholine	ND		390	89	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Methyl parathion	ND		390	68	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Pentachlorobenzene	ND		390	83	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Pentachlorophenol	ND	*+	390	200	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Phenacetin	ND		390	54	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Phenol	ND		200	31	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Phorate	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
p-Phenylene diamine	ND		960	390	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Pronamide	ND		390	78	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Pyrene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Pyridine	ND		390	29	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Safrole	ND		390	54	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1
Thionazin	ND		390	69	ug/Kg	☼	05/06/22 15:42	05/09/22 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*05/06/22 15:42*	*05/09/22 21:43*	*1*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*05/06/22 15:42*	*05/09/22 21:43*	*1*
2-Fluorophenol (Surr)	*68*		*52 - 120*	*05/06/22 15:42*	*05/09/22 21:43*	*1*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*	*05/06/22 15:42*	*05/09/22 21:43*	*1*
Phenol-d5 (Surr)	*76*		*54 - 120*	*05/06/22 15:42*	*05/09/22 21:43*	*1*
p-Terphenyl-d14 (Surr)	*115*		*79 - 130*	*05/06/22 15:42*	*05/09/22 21:43*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
cis-Chlordane	ND		2.0	0.99	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1

Client Sample ID: MW-2022-7 (12-16)
Date Collected: 05/04/22 09:40
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-8
Matrix: Solid
Percent Solids: 81.5

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Endrin	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
Toxaphene	ND		20	12	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	05/06/22 15:52	05/09/22 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*		*45 - 120*	*05/06/22 15:52*	*05/09/22 14:23*	*1*
DCB Decachlorobiphenyl	*85*		*45 - 120*	*05/06/22 15:52*	*05/09/22 14:23*	*1*
Tetrachloro-m-xylene	*56*		*30 - 124*	*05/06/22 15:52*	*05/09/22 14:23*	*1*
Tetrachloro-m-xylene	*71*		*30 - 124*	*05/06/22 15:52*	*05/09/22 14:23*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	05/09/22 06:41	05/10/22 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*110*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:28*	*1*
DCB Decachlorobiphenyl	*108*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:28*	*1*
Tetrachloro-m-xylene	*117*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:28*	*1*
Tetrachloro-m-xylene	*113*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:28*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.4	ug/Kg	☼	05/09/22 06:36	05/12/22 22:48	1
2,4-D	ND		20	13	ug/Kg	☼	05/09/22 06:36	05/12/22 22:48	1
Silvex (2,4,5-TP)	ND		20	7.2	ug/Kg	☼	05/09/22 06:36	05/12/22 22:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*61*		*28 - 129*	*05/09/22 06:36*	*05/12/22 22:48*	*1*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*05/09/22 06:36*	*05/12/22 22:48*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1
Disulfoton	ND		40	27	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1
Famphur	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1

Client Sample ID: MW-2022-7 (12-16)
Date Collected: 05/04/22 09:40
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-8
Matrix: Solid
Percent Solids: 81.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		40	14	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1
Sulfotepp	ND		40	16	ug/Kg	☼	05/09/22 10:30	05/10/22 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*20 - 135*	*05/09/22 10:30*	*05/10/22 19:45*	*1*
Tributyl phosphate	*94*		*20 - 135*	*05/09/22 10:30*	*05/10/22 19:45*	*1*
Triphenylphosphate	*101*		*33 - 168*	*05/09/22 10:30*	*05/10/22 19:45*	*1*
Triphenylphosphate	*105*		*33 - 168*	*05/09/22 10:30*	*05/10/22 19:45*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.62**	**J B**	6.1	0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,4,6,7,8-HpCDF	**0.22**	**J I B**	6.1 U	0.0045	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,4,7,8,9-HpCDF	**0.040**	**J I B**	6.1	0.0058	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,4,7,8-HxCDD	ND		6.1	0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,4,7,8-HxCDF	ND		6.1	0.0068	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,6,7,8-HxCDD	**0.087**	**J I B**	6.1	0.0090	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,6,7,8-HxCDF	**0.050**	**J B**	6.1 U	0.0067	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,7,8,9-HxCDD	**0.040**	**J I B**	6.1	0.0095	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,7,8,9-HxCDF	ND		6.1	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,7,8-PeCDD	ND		6.1	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
1,2,3,7,8-PeCDF	**0.055**	**J B**	6.1 U	0.0090	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
2,3,4,6,7,8-HxCDF	**0.020**	**J I B**	6.1 U	0.0059	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
2,3,4,7,8-PeCDF	ND		6.1	0.0060	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
2,3,7,8-TCDD	ND		1.2	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
2,3,7,8-TCDF	ND		1.2	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
OCDD	**1.9**	**J B**	12	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
OCDF	**0.89**	**J B**	12	0.0081	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total HpCDD	**0.62**	**J I B**	6.1	0.020	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total HpCDF	**0.26**	**J I B**	6.1 U	0.0051	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total HxCDD	**0.13**	**J I B**	6.1	0.0094	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total HxCDF	**0.070**	**J I B**	6.1	0.0068	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total PeCDD	ND		6.1	0.015	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total PeCDF	**0.055**	**J I B**	6.1 U	0.0075	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total TCDD	ND		1.2	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1
Total TCDF	ND		1.2	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 14:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,7,8,9-HxCDD	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*

Client Sample ID: MW-2022-7 (12-16)
Lab Sample ID: 480-197562-8

Date Collected: 05/04/22 09:40
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 81.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-2,3,7,8-TCDD	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-OCDD	*88*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*
13C-OCDF	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:01*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		18.0	0.48	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Arsenic	**2.8**		2.4	0.48	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Barium	**14.2**		0.60	0.13	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Beryllium	**0.19**	**J**	0.24	0.034	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Cadmium	**0.078**	**J**	0.24	0.036	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Chromium	**3.9**		0.60	0.24	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Cobalt	**5.6**		0.60	0.060	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Copper	**5.4**		1.2	0.25	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Lead	**6.0**		1.2	0.29	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Nickel	**7.9**		6.0	0.28	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Selenium	ND		4.8	0.48	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Silver	ND		0.72	0.24	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Thallium	ND		7.2	0.36	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Tin	ND		2.4	0.52	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Vanadium	**5.3**		0.60	0.13	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1
Zinc	**25.3**		2.4	0.77	mg/Kg	☼	05/11/22 11:08	05/18/22 13:59	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.026	0.0059	mg/Kg	☼	05/13/22 09:50	05/13/22 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	~~F1~~	1.2	0.58	mg/Kg	☼	05/17/22 12:15	05/17/22 14:07	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.6	12.3	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-7 (12)
Lab Sample ID: 480-197562-9

Date Collected: 05/04/22 09:40
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 85.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		60	6.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,1,1-Trichloroethane	ND		60	4.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,1,2,2-Tetrachloroethane	ND		60	9.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,1,2-Trichloroethane	ND		60	7.8	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,1-Dichloroethane	ND		60	7.3	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,1-Dichloroethene	ND		60	7.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,2,3-Trichloropropane	ND		60	6.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,2-Dibromo-3-Chloropropane	ND		60	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1

Client Sample ID: MW-2022-7 (12)
Date Collected: 05/04/22 09:40
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-9
Matrix: Solid
Percent Solids: 85.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		60	3.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
1,2-Dichloropropane	ND		60	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
2-Butanone (MEK)	ND		300	22	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
2-Chloro-1,3-butadiene	ND		60	37	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
2-Chloroethyl vinyl ether	ND		120	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
2-Hexanone	ND		300	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
3-Chloro-1-propene	ND		60	29	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
4-Methyl-2-pentanone (MIBK)	ND		300	20	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Acetone	ND		300	51	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Acetonitrile	ND		600	73	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Acrolein	ND		300	95	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Acrylonitrile	ND		300	54	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Benzene	ND		60	2.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Bromoform	ND		60	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Bromomethane	ND		60	5.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Carbon disulfide	ND		60	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Carbon tetrachloride	ND		60	5.8	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Chlorobenzene	ND		60	7.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Chlorodibromomethane	ND		60	7.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Chloroethane	ND		60	14	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Chloroform	ND		60	3.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Chloromethane	ND		60	3.6	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
cis-1,3-Dichloropropene	ND		60	8.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Dibromomethane	ND		60	6.2	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Dichlorobromomethane	ND		60	8.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Dichlorodifluoromethane	ND		60	5.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Ethyl methacrylate	ND		60	21	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Ethylbenzene	ND		60	4.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Ethylene Dibromide	ND		60	7.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Iodomethane	ND		60	2.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Methacrylonitrile	ND		300	71	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Methyl methacrylate	ND		60	13	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Methylene Chloride	ND		60	28	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
m-Xylene & p-Xylene	ND		120	10	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
o-Xylene	ND		60	7.8	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Propionitrile	ND		600	340	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Styrene	ND		60	3.0	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Tetrachloroethene	ND		60	8.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Toluene	ND		60	4.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
trans-1,2-Dichloroethene	ND		60	6.2	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
trans-1,3-Dichloropropene	ND		60	26	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
trans-1,4-Dichloro-2-butene	ND		60	14	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Trichloroethene	ND		60	13	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Trichlorofluoromethane	ND		60	5.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Vinyl acetate	ND		120	30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1
Vinyl chloride	ND		60	7.3	ug/Kg	☼	05/05/22 17:30	05/08/22 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*64 - 126*	*05/05/22 17:30*	*05/08/22 22:36*	*1*
4-Bromofluorobenzene (Surr)	*92*		*72 - 126*	*05/05/22 17:30*	*05/08/22 22:36*	*1*

Client Sample ID: MW-2022-7 (12)
Lab Sample ID: 480-197562-9

Date Collected: 05/04/22 09:40
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 85.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*05/05/22 17:30*	*05/08/22 22:36*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*05/05/22 17:30*	*05/08/22 22:36*	*1*

Client Sample ID: MW-2022-7 (28-32)
Lab Sample ID: 480-197562-10

Date Collected: 05/04/22 10:30
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,4-Dioxane	ND		110	61	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,4-Dichlorophenol	ND		190	20	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,4-Dinitrophenol	ND		1800	870	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,6-Dichlorophenol	ND		370	69	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Methylnaphthalene	ND		190	38	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Methylphenol	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Nitrophenol	ND		190	53	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Picoline	ND		370	42	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
2-Toluidine	ND		370	90	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
3-Methylphenol	ND		370	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Aminobiphenyl	ND	*	370	77	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1

Client Sample ID: MW-2022-7 (28-32)
Lab Sample ID: 480-197562-10

Date Collected: 05/04/22 10:30
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		190	47	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Methylphenol	ND		370	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
a,a-Dimethylphenethylamine	ND		370	370	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Acenaphthene	ND		190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Acenaphthylene	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Acetophenone	ND		190	26	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Aniline	ND		370	46	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Anthracene	ND		190	47	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Aramite, Total	ND		370	180	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzidine	ND		5600	2400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
bis (2-chloroisopropyl) ether	ND		190	38	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Bis(2-chloroethoxy)methane	ND		190	40	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Chrysene	ND		190	42	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Diallate	ND		370	47	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Dibenzofuran	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Dimethoate	ND		370	46	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Di-n-butyl phthalate	**35**	**J**	190	32	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Dinoseb	ND		370	66	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Diphenylamine	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Disulfoton	ND		370	280	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Ethyl methanesulfonate	ND		370	81	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Famphur	ND	*-	740	180	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	R 1
Fluoranthene	ND		190	20	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Fluorene	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Hexachlorobenzene	ND		190	26	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Hexachloroethane	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Hexachloropropene	ND		370	94	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1

Client Sample ID: MW-2022-7 (28-32)
Date Collected: 05/04/22 10:30
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-10
Matrix: Solid
Percent Solids: 88.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isodrin	ND		370	65	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Isophorone	ND		190	40	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Isosafrole	ND		370	49	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Kepone	ND	* -	740	370	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	R 1
Methapyrilene	ND		1700	370	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Naphthalene	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Nitrobenzene	ND		190	21	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosodiethylamine	ND		370	86	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosodimethylamine	ND		370	80	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosomorpholine	ND		370	82	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosopiperidine	ND		370	75	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
N-Nitrosopyrrolidine	ND		370	56	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Methyl parathion	ND		370	63	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
p-Dimethylamino azobenzene	ND		370	62	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Pentachlorobenzene	ND		370	77	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Pentachloronitrobenzene	ND		370	94	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Pentachlorophenol	ND	*+	370	190	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Phenacetin	ND		370	50	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Phenanthrene	ND		190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Phenol	ND		190	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Phorate	ND		370	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
p-Phenylene diamine	ND		890	370	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Pronamide	ND		370	72	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Pyrene	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Pyridine	ND		370	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Safrole	ND		370	50	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Sulfotepp	ND		370	59	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1
Thionazin	ND		370	65	ug/Kg	☼	05/06/22 15:42	05/09/22 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*	*05/06/22 15:42*	*05/09/22 22:07*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*05/06/22 15:42*	*05/09/22 22:07*	*1*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*05/06/22 15:42*	*05/09/22 22:07*	*1*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*	*05/06/22 15:42*	*05/09/22 22:07*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*05/06/22 15:42*	*05/09/22 22:07*	*1*
p-Terphenyl-d14 (Surr)	*112*		*79 - 130*	*05/06/22 15:42*	*05/09/22 22:07*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1

Client Sample ID: MW-2022-7 (28-32)
Date Collected: 05/04/22 10:30
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-10
Matrix: Solid
Percent Solids: 88.9

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Chlorobenzilate	ND		19	6.3	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
cis-Chlordane	ND		1.9	0.93	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Endrin	ND		1.9	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Endrin aldehyde	ND		1.9	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
Toxaphene	ND		19	11	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	05/06/22 15:52	05/09/22 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*45 - 120*	*05/06/22 15:52*	*05/09/22 14:43*	*1*
DCB Decachlorobiphenyl	*89*		*45 - 120*	*05/06/22 15:52*	*05/09/22 14:43*	*1*
Tetrachloro-m-xylene	*58*		*30 - 124*	*05/06/22 15:52*	*05/09/22 14:43*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*05/06/22 15:52*	*05/09/22 14:43*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	05/09/22 06:41	05/10/22 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*101*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:41*	*1*
DCB Decachlorobiphenyl	*98*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:41*	*1*
Tetrachloro-m-xylene	*105*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:41*	*1*
Tetrachloro-m-xylene	*103*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:41*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	05/09/22 06:36	05/12/22 23:17	1
2,4-D	ND		18	12	ug/Kg	☼	05/09/22 06:36	05/12/22 23:17	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	05/09/22 06:36	05/12/22 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*60*		*28 - 129*	*05/09/22 06:36*	*05/12/22 23:17*	*1*

Client Sample ID: MW-2022-7 (28-32)
Date Collected: 05/04/22 10:30
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-10
Matrix: Solid
Percent Solids: 88.9

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	66		28 - 129	05/09/22 06:36	05/12/22 23:17	1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1
Disulfoton	ND		36	24	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1
Famphur	ND		36	19	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1
Methyl parathion	ND		36	21	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1
Phorate	ND		36	12	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/09/22 10:30	05/10/22 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	95		20 - 135	05/09/22 10:30	05/10/22 20:16	1
Tributyl phosphate	95		20 - 135	05/09/22 10:30	05/10/22 20:16	1
Triphenylphosphate	108		33 - 168	05/09/22 10:30	05/10/22 20:16	1
Triphenylphosphate	112		33 - 168	05/09/22 10:30	05/10/22 20:16	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.65	J B	5.5	U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,4,6,7,8-HpCDF	0.26	J B	5.5	U	0.0057	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,4,7,8,9-HpCDF	0.055	J I B	5.5	U	0.0070	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,4,7,8-HxCDD	ND		5.5		0.0082	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,4,7,8-HxCDF	ND		5.5		0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,6,7,8-HxCDD	ND		5.5		0.0079	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,6,7,8-HxCDF	ND		5.5		0.031	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,7,8,9-HxCDD	0.043	J I B	5.5	U	0.0088	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,7,8,9-HxCDF	ND		5.5		0.034	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,7,8-PeCDD	ND		5.5		0.0094	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
1,2,3,7,8-PeCDF	ND		5.5		0.016	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
2,3,4,6,7,8-HxCDF	ND		5.5		0.026	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
2,3,4,7,8-PeCDF	0.040	J I B	5.5	U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
2,3,7,8-TCDD	0.021	J	1.1		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
2,3,7,8-TCDF	ND		1.1		0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
OCDD	2.0	J B	11		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
OCDF	0.91	J B	11	U	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total HpCDD	0.65	J B	5.5		0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total HpCDF	0.32	J I B	5.5		0.0064	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total HxCDD	0.043	J I B	5.5		0.0083	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total HxCDF	ND		5.5		0.030	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total PeCDD	ND		5.5		0.0094	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total PeCDF	0.040	J I B	5.5	U	0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total TCDD	0.021	J I JNX	1.1		0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1
Total TCDF	ND		1.1		0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 14:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	69		40 - 135	05/11/22 11:05	05/13/22 14:50	1
13C-1,2,3,4,6,7,8-HpCDF	70		40 - 135	05/11/22 11:05	05/13/22 14:50	1
13C-1,2,3,4,7,8,9-HpCDF	73		40 - 135	05/11/22 11:05	05/13/22 14:50	1

Client Sample ID: MW-2022-7 (28-32)
Date Collected: 05/04/22 10:30
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-10
Matrix: Solid
Percent Solids: 88.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,4,7,8-HxCDF	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,7,8,9-HxCDD	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,7,8,9-HxCDF	*72*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-2,3,4,6,7,8-HxCDF	*71*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-2,3,7,8-TCDD	*81*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-OCDD	*84*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*
13C-OCDF	*76*		*40 - 135*	*05/11/22 11:05*	*05/13/22 14:50*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		16.6	0.44	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Arsenic	**2.5**		2.2	0.44	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Barium	**15.3**		0.55	0.12	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Beryllium	**0.16**	**J**	0.22	0.031	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Cadmium	**0.067**	**J**	0.22	0.033	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Chromium	**3.5**		0.55	0.22	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Cobalt	**5.2**		0.55	0.055	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Copper	**5.8**		1.1	0.23	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Lead	**4.5**		1.1	0.27	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Nickel	**7.8**		5.5	0.25	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Selenium	ND		4.4	0.44	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Silver	ND		0.66	0.22	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Thallium	ND		6.6	0.33	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Tin	ND		2.2	0.48	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Vanadium	**4.4**		0.55	0.12	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1
Zinc	**21.9**		2.2	0.71	mg/Kg	☼	05/11/22 11:08	05/18/22 14:03	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0051	mg/Kg	☼	05/13/22 09:50	05/13/22 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.54	mg/Kg	☼	05/17/22 12:15	05/17/22 14:10	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.1	11.5	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-7 (28)
Date Collected: 05/04/22 10:30
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-11
Matrix: Solid
Percent Solids: 88.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.50	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,1,1-Trichloroethane	ND		5.0	0.36	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.81	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,1,2-Trichloroethane	ND		5.0	0.65	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,1-Dichloroethane	ND		5.0	0.61	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,1-Dichloroethene	ND		5.0	0.61	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,2,3-Trichloropropane	ND		5.0	0.51	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,2-Dichloroethane	ND		5.0	0.25	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
2-Butanone (MEK)	ND		25	1.8	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
2-Chloro-1,3-butadiene	ND		5.0	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
2-Chloroethyl vinyl ether	ND	+	10	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
2-Hexanone	ND		25	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
3-Chloro-1-propene	ND		5.0	2.4	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.6	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Acetone	ND		25	4.2	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Acetonitrile	ND		50	6.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Acrolein	ND		25	7.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Acrylonitrile	ND		25	4.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Benzene	ND		5.0	0.25	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Bromoform	ND		5.0	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Bromomethane	ND		5.0	0.45	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Carbon disulfide	ND		5.0	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Carbon tetrachloride	ND		5.0	0.49	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Chlorobenzene	ND		5.0	0.66	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Chlorodibromomethane	ND		5.0	0.64	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Chloroethane	ND		5.0	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Chloroform	**1.0**	**J**	5.0	0.31	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Chloromethane	ND		5.0	0.30	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
cis-1,3-Dichloropropene	ND		5.0	0.72	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Dibromomethane	ND		5.0	0.52	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Dichlorobromomethane	ND		5.0	0.67	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Dichlorodifluoromethane	ND		5.0	0.41	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Ethyl methacrylate	ND		5.0	1.7	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Ethylbenzene	ND		5.0	0.35	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Ethylene Dibromide	ND		5.0	0.64	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Iodomethane	ND		5.0	0.24	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Methacrylonitrile	ND		25	5.9	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Methyl methacrylate	ND		5.0	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Methylene Chloride	ND		5.0	2.3	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
m-Xylene & p-Xylene	ND		10	0.84	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
o-Xylene	ND		5.0	0.66	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Propionitrile	ND		50	28	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Styrene	ND		5.0	0.25	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Tetrachloroethene	ND		5.0	0.67	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Toluene	ND		5.0	0.38	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
trans-1,2-Dichloroethene	ND		5.0	0.52	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
trans-1,3-Dichloropropene	ND		5.0	2.2	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1

Client Sample ID: MW-2022-7 (28)
Lab Sample ID: 480-197562-11

Date Collected: 05/04/22 10:30
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 88.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.0	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Trichloroethene	ND		5.0	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Trichlorofluoromethane	ND		5.0	0.48	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Vinyl acetate	ND		10	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1
Vinyl chloride	ND		5.0	0.61	ug/Kg	☼	05/05/22 17:30	05/08/22 22:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*05/05/22 17:30*	*05/08/22 22:59*	*1*
4-Bromofluorobenzene (Surr)	*92*		*72 - 126*	*05/05/22 17:30*	*05/08/22 22:59*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*05/05/22 17:30*	*05/08/22 22:59*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/05/22 17:30*	*05/08/22 22:59*	*1*

Client Sample ID: MW-2022-7 (43-47)
Lab Sample ID: 480-197562-12

Date Collected: 05/04/22 11:15
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 74.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		230	39	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,2,4-Trichlorobenzene	ND		440	32	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,2-Dichlorobenzene	ND		440	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,2-Diphenylhydrazine	ND		440	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,3,5-Trinitrobenzene	ND		440	18	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,3-Dichlorobenzene	ND		440	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,3-Dinitrobenzene	ND		440	53	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,4-Dichlorobenzene	ND		440	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,4-Dioxane	ND		130	73	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1,4-Naphthoquinone	ND		440	83	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
1-Naphthylamine	ND		440	150	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,3,4,6-Tetrachlorophenol	ND		230	47	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,4,5-Trichlorophenol	ND		230	61	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,4,6-Trichlorophenol	ND		230	45	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,4-Dichlorophenol	ND		230	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,4-Dimethylphenol	ND		230	55	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,4-Dinitrophenol	ND		2200	1000	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,4-Dinitrotoluene	ND		230	47	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,6-Dichlorophenol	ND		440	83	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2,6-Dinitrotoluene	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Acetylaminofluorene	ND		440	57	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Chloronaphthalene	ND		230	37	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Chlorophenol	ND		440	41	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Methylnaphthalene	ND		230	45	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Methylphenol	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Naphthylamine	ND		440	150	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Nitroaniline	ND		440	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Nitrophenol	ND		230	64	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Picoline	ND		440	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
2-Toluidine	ND		440	110	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
3 & 4 Methylphenol	ND		440	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
3,3'-Dichlorobenzidine	ND		440	270	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1

Client Sample ID: MW-2022-7 (43-47)
Date Collected: 05/04/22 11:15
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-12
Matrix: Solid
Percent Solids: 74.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		880	440	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
3-Methylcholanthrene	ND		440	73	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
3-Methylphenol	ND		440	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
3-Nitroaniline	ND		440	63	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4,6-Dinitro-2-methylphenol	ND		440	230	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Aminobiphenyl	ND		440	92	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Bromophenyl phenyl ether	ND		230	32	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Chloro-3-methylphenol	ND		230	56	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Chloroaniline	ND		230	56	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Chlorophenyl phenyl ether	ND		230	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Methylphenol	ND		440	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Nitroaniline	ND		440	120	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Nitrophenol	ND		440	160	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
4-Nitroquinoline-1-oxide	ND		880	440	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
7,12-Dimethylbenz(a)anthracene	ND		440	65	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
a,a-Dimethylphenethylamine	ND		440	440	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Acenaphthene	ND		230	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Acenaphthylene	ND		230	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Acetophenone	ND		230	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Aniline	ND		440	55	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Anthracene	ND		230	56	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Aramite, Total	ND		440	210	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzidine	ND		6700	2800	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzo[a]anthracene	ND		230	23	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzo[a]pyrene	ND		230	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzo[b]fluoranthene	ND		230	36	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzo[g,h,i]perylene	ND		230	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzo[k]fluoranthene	ND		230	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Benzyl alcohol	ND		440	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
bis (2-chloroisopropyl) ether	ND		230	45	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Bis(2-chloroethoxy)methane	ND		230	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Bis(2-chloroethyl)ether	ND		230	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Bis(2-ethylhexyl) phthalate	ND		230	77	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Butyl benzyl phthalate	ND		230	37	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Chrysene	ND		230	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Diallate	ND		440	56	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Dibenz(a,h)anthracene	ND		230	40	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Dibenzofuran	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Diethyl phthalate	ND		230	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Dimethoate	ND		440	55	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Dimethyl phthalate	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Di-n-butyl phthalate	ND		230	39	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Di-n-octyl phthalate	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Dinoseb	ND		440	79	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Diphenylamine	ND		440	57	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Disulfoton	ND		440	330	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Chlorobenzilate	ND		440	71	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Ethyl methanesulfonate	ND		440	97	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Famphur	ND	*	880	210	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	R 1

Client Sample ID: MW-2022-7 (43-47)
Lab Sample ID: 480-197562-12
Date Collected: 05/04/22 11:15
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 74.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		230	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Fluorene	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Hexachlorobenzene	ND		230	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Hexachlorobutadiene	ND		230	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Hexachlorocyclopentadiene	ND		230	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Hexachloroethane	ND		230	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Hexachloropropene	ND		440	110	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Indeno[1,2,3-cd]pyrene	ND		230	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Isodrin	ND		440	77	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Isophorone	ND		230	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Isosafrole	ND		440	59	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Kepone	ND	*	880	440	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	R 1
Methapyrilene	ND		2000	440	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Methyl methanesulfonate	ND		440	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Naphthalene	ND		230	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Nitrobenzene	ND		230	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitro-o-toluidine	ND		440	57	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosodiethylamine	ND		440	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosodimethylamine	ND		440	96	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosodi-n-butylamine	ND		440	120	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosodi-n-propylamine	ND		230	39	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosodiphenylamine	ND		230	180	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosomethylethylamine	ND		440	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosomorpholine	ND		440	99	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosopiperidine	ND		440	89	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
N-Nitrosopyrrolidine	ND		440	67	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
o,o',o''-Triethylphosphorothioate	ND		440	57	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Ethyl Parathion	ND		440	49	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Methyl parathion	ND		440	76	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
p-Dimethylamino azobenzene	ND		440	75	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Pentachlorobenzene	ND		440	92	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Pentachloronitrobenzene	ND		440	110	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Pentachlorophenol	ND	*	440	230	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Phenacetin	ND		440	60	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Phenanthrene	ND		230	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Phenol	ND		230	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Phorate	ND		440	120	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
p-Phenylene diamine	ND		1100	440	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Pronamide	ND		440	87	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Pyrene	ND		230	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Pyridine	ND		440	32	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Safrole	ND		440	60	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Sulfotepp	ND		440	71	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1
Thionazin	ND		440	77	ug/Kg	☼	05/06/22 15:42	05/09/22 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*05/06/22 15:42*	*05/09/22 22:31*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*05/06/22 15:42*	*05/09/22 22:31*	*1*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*05/06/22 15:42*	*05/09/22 22:31*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*05/06/22 15:42*	*05/09/22 22:31*	*1*

Client Sample ID: MW-2022-7 (43-47)
Date Collected: 05/04/22 11:15
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-12
Matrix: Solid
Percent Solids: 74.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*78*		*54 - 120*	*05/06/22 15:42*	*05/09/22 22:31*	*1*
p-Terphenyl-d14 (Surr)	*113*		*79 - 130*	*05/06/22 15:42*	*05/09/22 22:31*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.2	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
4,4'-DDE	ND		2.2	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
4,4'-DDT	ND		2.2	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Aldrin	ND		2.2	0.54	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
alpha-BHC	ND		2.2	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
beta-BHC	ND		2.2	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Chlordane (technical)	ND		22	4.8	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Chlorobenzilate	ND		22	7.3	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
cis-Chlordane	ND		2.2	1.1	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
delta-BHC	ND		2.2	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Dieldrin	ND		2.2	0.52	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Endosulfan I	ND		2.2	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Endosulfan II	ND		2.2	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Endosulfan sulfate	ND		2.2	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Endrin	ND		2.2	0.43	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Endrin aldehyde	ND		2.2	0.56	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Endrin ketone	ND		2.2	0.54	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
gamma-BHC (Lindane)	ND		2.2	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Heptachlor	ND		2.2	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Heptachlor epoxide	ND		2.2	0.56	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Methoxychlor	ND		2.2	0.44	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
Toxaphene	ND		22	13	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1
trans-Chlordane	ND		2.2	0.69	ug/Kg	☼	05/06/22 15:52	05/09/22 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*85*		*45 - 120*	*05/06/22 15:52*	*05/09/22 15:02*	*1*
DCB Decachlorobiphenyl	*98*		*45 - 120*	*05/06/22 15:52*	*05/09/22 15:02*	*1*
Tetrachloro-m-xylene	*60*		*30 - 124*	*05/06/22 15:52*	*05/09/22 15:02*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*05/06/22 15:52*	*05/09/22 15:02*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.32	0.063	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1
PCB-1221	ND		0.32	0.063	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1
PCB-1232	ND		0.32	0.063	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1
PCB-1242	ND		0.32	0.063	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1
PCB-1248	ND		0.32	0.063	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1
PCB-1254	ND		0.32	0.15	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1
PCB-1260	ND		0.32	0.15	mg/Kg	☼	05/09/22 06:41	05/10/22 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*104*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:54*	*1*
DCB Decachlorobiphenyl	*101*		*65 - 174*	*05/09/22 06:41*	*05/10/22 20:54*	*1*
Tetrachloro-m-xylene	*115*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:54*	*1*
Tetrachloro-m-xylene	*104*		*60 - 154*	*05/09/22 06:41*	*05/10/22 20:54*	*1*

Client Sample ID: MW-2022-7 (43-47)
Date Collected: 05/04/22 11:15
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-12
Matrix: Solid
Percent Solids: 74.7

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		22	7.0	ug/Kg	☼	05/09/22 06:36	05/12/22 23:47	1
2,4-D	ND		22	14	ug/Kg	☼	05/09/22 06:36	05/12/22 23:47	1
Silvex (2,4,5-TP)	ND		22	7.9	ug/Kg	☼	05/09/22 06:36	05/12/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*57*		*28 - 129*	*05/09/22 06:36*	*05/12/22 23:47*	*1*
2,4-Dichlorophenylacetic acid	*67*		*28 - 129*	*05/09/22 06:36*	*05/12/22 23:47*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		43	24	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1
Disulfoton	ND		43	29	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1
Famphur	ND		43	23	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1
Methyl parathion	ND		43	25	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1
Ethyl Parathion	ND		43	24	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1
Phorate	ND		43	15	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1
Sulfotepp	ND		43	17	ug/Kg	☼	05/09/22 10:30	05/10/22 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*89*		*20 - 135*	*05/09/22 10:30*	*05/10/22 20:48*	*1*
Tributyl phosphate	*90*		*20 - 135*	*05/09/22 10:30*	*05/10/22 20:48*	*1*
Triphenylphosphate	*100*		*33 - 168*	*05/09/22 10:30*	*05/10/22 20:48*	*1*
Triphenylphosphate	*104*		*33 - 168*	*05/09/22 10:30*	*05/10/22 20:48*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.72**	**J B**	6.6	U 0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,4,6,7,8-HpCDF	**0.32**	**J I B**	6.6	U 0.0026	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,4,7,8,9-HpCDF	**0.054**	**J I B**	6.6	U 0.0036	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,4,7,8-HxCDD	ND		6.6	0.0042	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,4,7,8-HxCDF	**0.085**	**J B**	6.6	U 0.039	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,6,7,8-HxCDD	**0.045**	**J I B**	6.6	U 0.0039	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,6,7,8-HxCDF	**0.048**	**J I B**	6.6	U 0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,7,8,9-HxCDD	ND		6.6	0.0042	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,7,8,9-HxCDF	**0.069**	**J I B**	6.6	U 0.042	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,7,8-PeCDD	ND		6.6	0.0093	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
1,2,3,7,8-PeCDF	**0.082**	**J I B**	6.6	U 0.0083	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
2,3,4,6,7,8-HxCDF	**0.068**	**J I B**	6.6	U 0.034	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
2,3,4,7,8-PeCDF	**0.035**	**J I B**	6.6	U 0.0060	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
2,3,7,8-TCDD	ND		1.3	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
2,3,7,8-TCDF	**0.019**	**J I** JNX	1.3	0.0055	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
OCDD	**1.9**	**J I B**	13	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
OCDF	**1.1**	**J I B**	13	0.0066	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total HpCDD	**0.72**	**J B**	6.6	U 0.037	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total HpCDF	**0.37**	**J I B**	6.6	0.0031	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total HxCDD	**0.045**	**J I B**	6.6	0.0041	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total HxCDF	**0.27**	**J I B**	6.6	0.038	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total PeCDD	ND		6.6	0.0093	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total PeCDF	**0.12**	**J I B**	6.6	U 0.0071	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1
Total TCDD	ND		1.3	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1

Client Sample ID: MW-2022-7 (43-47)
Lab Sample ID: 480-197562-12

Date Collected: 05/04/22 11:15
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 74.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	**0.019**	~~J-I~~ JNX	1.3	0.0055	ng/Kg	☼	05/11/22 11:05	05/13/22 22:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*91*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*90*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*92*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*98*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,7,8,9-HxCDD	*89*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*94*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*95*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-2,3,4,7,8-PeCDF	*85*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-2,3,7,8-TCDD	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-2,3,7,8-TCDF	*77*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-OCDD	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*
13C-OCDF	*66*		*40 - 135*	*05/11/22 11:05*	*05/13/22 22:20*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		21.1	0.56	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Arsenic	**4.0**		2.8	0.56	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Barium	**15.0**		0.70	0.15	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Beryllium	**0.19**	**J**	0.28	0.039	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Cadmium	**0.13**	**J**	0.28	0.042	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Chromium	**4.5**		0.70	0.28	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Cobalt	**5.8**		0.70	0.070	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Copper	**6.2**		1.4	0.30	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Lead	**6.2**		1.4	0.34	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Nickel	**9.2**		7.0	0.32	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Selenium	ND		5.6	0.56	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Silver	ND		0.84	0.28	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Thallium	ND		8.4	0.42	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Tin	ND		2.8	0.60	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Vanadium	**5.7**		0.70	0.15	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1
Zinc	**28.6**		2.8	0.90	mg/Kg	☼	05/11/22 11:08	05/18/22 14:07	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.026	0.0060	mg/Kg	☼	05/13/22 09:50	05/13/22 14:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.2	0.58	mg/Kg	☼	05/17/22 12:15	05/17/22 14:11	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		24.5	14.0	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-7 (43)
Date Collected: 05/04/22 11:15
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-13
Matrix: Solid
Percent Solids: 74.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.5	0.65	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,1,1-Trichloroethane	ND		6.5	0.47	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,1,2,2-Tetrachloroethane	ND		6.5	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,1,2-Trichloroethane	ND		6.5	0.85	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,1-Dichloroethane	ND		6.5	0.80	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,1-Dichloroethene	ND		6.5	0.80	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,2,3-Trichloropropane	ND		6.5	0.67	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,2-Dibromo-3-Chloropropane	ND		6.5	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,2-Dichloroethane	ND		6.5	0.33	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
1,2-Dichloropropane	ND		6.5	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
2-Butanone (MEK)	ND		33	2.4	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
2-Chloro-1,3-butadiene	ND		6.5	4.1	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
2-Chloroethyl vinyl ether	ND	+	13	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
2-Hexanone	ND		33	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
3-Chloro-1-propene	ND		6.5	3.1	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
4-Methyl-2-pentanone (MIBK)	ND		33	2.1	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Acetone	ND		33	5.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Acetonitrile	ND		65	8.0	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Acrolein	ND		33	10	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Acrylonitrile	ND		33	5.9	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Benzene	ND		6.5	0.32	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Bromoform	ND		6.5	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Bromomethane	ND		6.5	0.59	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Carbon disulfide	ND		6.5	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Carbon tetrachloride	ND		6.5	0.63	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Chlorobenzene	ND		6.5	0.86	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Chlorodibromomethane	ND		6.5	0.84	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Chloroethane	ND		6.5	1.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Chloroform	ND		6.5	0.40	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Chloromethane	ND		6.5	0.39	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
cis-1,3-Dichloropropene	ND		6.5	0.94	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Dibromomethane	ND		6.5	0.67	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Dichlorobromomethane	ND		6.5	0.88	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Dichlorodifluoromethane	ND		6.5	0.54	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Ethyl methacrylate	ND		6.5	2.2	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Ethylbenzene	ND		6.5	0.45	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Ethylene Dibromide	ND		6.5	0.84	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Iodomethane	ND		6.5	0.32	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Methacrylonitrile	ND		33	7.7	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Methyl methacrylate	ND		6.5	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Methylene Chloride	ND		6.5	3.0	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
m-Xylene & p-Xylene	ND		13	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
o-Xylene	ND		6.5	0.85	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Propionitrile	ND		65	37	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Styrene	ND		6.5	0.33	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Tetrachloroethene	ND		6.5	0.88	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Toluene	ND		6.5	0.49	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
trans-1,2-Dichloroethene	ND		6.5	0.67	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
trans-1,3-Dichloropropene	ND		6.5	2.9	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1

Client Sample ID: MW-2022-7 (43)
Lab Sample ID: 480-197562-13

Date Collected: 05/04/22 11:15
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 74.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		6.5	1.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Trichloroethene	ND		6.5	1.4	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Trichlorofluoromethane	ND		6.5	0.62	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Vinyl acetate	ND		13	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1
Vinyl chloride	ND		6.5	0.80	ug/Kg	☼	05/05/22 17:30	05/08/22 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*05/05/22 17:30*	*05/08/22 23:23*	*1*
4-Bromofluorobenzene (Surr)	*92*		*72 - 126*	*05/05/22 17:30*	*05/08/22 23:23*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*	*05/05/22 17:30*	*05/08/22 23:23*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/05/22 17:30*	*05/08/22 23:23*	*1*

Client Sample ID: MW-2022-7 (58-62)
Lab Sample ID: 480-197562-14

Date Collected: 05/04/22 13:20
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 87.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,2,4-Trichlorobenzene	ND		370	27	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,2-Dichlorobenzene	ND		370	26	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,3-Dichlorobenzene	ND		370	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,3-Dinitrobenzene	ND		370	45	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,4-Dichlorobenzene	ND		370	29	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,4-Dioxane	ND		110	62	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1,4-Naphthoquinone	ND		370	69	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,4-Dichlorophenol	ND	F2	190	20	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,4-Dinitrophenol	ND		1900	880	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,6-Dichlorophenol	ND	F2	370	69	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2,6-Dinitrotoluene	ND	F2	190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Chloronaphthalene	ND	F2	190	31	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Chlorophenol	ND		370	35	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Methylnaphthalene	ND	F2	190	38	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Methylphenol	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Nitroaniline	ND	F2 F1	370	28	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Nitrophenol	ND	F2	190	54	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Picoline	ND		370	43	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
2-Toluidine	ND		370	91	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
3 & 4 Methylphenol	ND		370	29	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1

Client Sample ID: MW-2022-7 (58-62)
Lab Sample ID: 480-197562-14

Date Collected: 05/04/22 13:20
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 87.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dimethylbenzidine	ND		740	370	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
3-Methylphenol	ND		370	29	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
3-Nitroaniline	ND		370	53	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4,6-Dinitro-2-methylphenol	ND	F2	370	190	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Aminobiphenyl	ND	*	370	77	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Bromophenyl phenyl ether	ND	F2 F1	190	27	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Chloro-3-methylphenol	ND		190	47	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Chloroaniline	ND		190	47	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Chlorophenyl phenyl ether	ND	F2	190	23	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Methylphenol	ND		370	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Nitroaniline	ND		370	100	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
4-Nitroquinoline-1-oxide	ND		740	370	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
a,a-Dimethylphenethylamine	ND	F1	370	370	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	R 1
Acenaphthene	ND		190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Acenaphthylene	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Acetophenone	ND		190	26	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Aniline	ND		370	46	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Anthracene	ND		190	47	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Aramite, Total	ND	F2	370	180	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Benzidine	ND	F1	5600	2400	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	R 1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Benzo[a]pyrene	ND	F2	190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Benzo[b]fluoranthene	ND	F2	190	30	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Benzo[g,h,i]perylene	ND	F2	190	20	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Benzo[k]fluoranthene	ND	F2	190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Benzyl alcohol	ND		370	26	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
bis (2-chloroisopropyl) ether	ND	F2	190	38	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Bis(2-chloroethoxy)methane	ND	F2	190	40	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Bis(2-chloroethyl)ether	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Butyl benzyl phthalate	ND	F2 F1	190	31	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Chrysene	ND		190	43	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Diallate	ND		370	47	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Dibenz(a,h)anthracene	ND	F2	190	34	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Dibenzofuran	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Diethyl phthalate	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Dimethoate	ND		370	46	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Dimethyl phthalate	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Di-n-butyl phthalate	**36**	**J**	190	32	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Dinoseb	ND	F2	370	66	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Diphenylamine	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Disulfoton	ND		370	280	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Chlorobenzilate	ND		370	59	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Ethyl methanesulfonate	ND	F2	370	82	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Famphur	ND	*	740	180	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	R 1

Client Sample ID: MW-2022-7 (58-62)
Lab Sample ID: 480-197562-14
Date Collected: 05/04/22 13:20
Matrix: Solid
Date Received: 05/05/22 12:30
Percent Solids: 87.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		190	20	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Fluorene	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Hexachlorobenzene	ND	F2	190	26	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Hexachlorobutadiene	ND		190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Hexachlorocyclopentadiene	ND		190	26	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Hexachloroethane	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Hexachloropropene	ND	F2	370	94	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Indeno[1,2,3-cd]pyrene	ND	F2	190	23	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Isodrin	ND		370	65	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Isophorone	ND	F2	190	40	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Isosafrole	ND		370	49	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Kepone	ND	F1 *-	740	370	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	R 1
Methapyrilene	ND		1700	370	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Methyl methanesulfonate	ND		370	85	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Naphthalene	ND		190	25	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Nitrobenzene	ND		190	21	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosodiethylamine	ND	F2	370	86	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosodimethylamine	ND		370	81	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosodi-n-butylamine	ND		370	100	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosodi-n-propylamine	ND		190	32	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosomethylethylamine	ND		370	85	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosomorpholine	ND	F2	370	83	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosopiperidine	ND	F2	370	75	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
N-Nitrosopyrrolidine	ND	F2	370	56	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
o,o',o''-Triethylphosphorothioate	ND		370	48	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Methyl parathion	ND		370	64	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
p-Dimethylamino azobenzene	ND	F2	370	63	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Pentachlorobenzene	ND		370	77	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Pentachloronitrobenzene	ND	F2	370	94	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Pentachlorophenol	ND	*+	370	190	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Phenacetin	ND		370	50	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Phenanthrene	ND	F2	190	28	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Phenol	ND		190	29	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Phorate	ND		370	100	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
p-Phenylene diamine	ND	F1	890	370	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	R 1
Pronamide	ND		370	73	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Pyrene	ND		190	22	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Pyridine	ND		370	27	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Safrole	ND	F2	370	50	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Sulfotepp	ND		370	59	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1
Thionazin	ND		370	65	ug/Kg	☼	05/06/22 15:42	05/09/22 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*54 - 120*	*05/06/22 15:42*	*05/09/22 19:44*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*05/06/22 15:42*	*05/09/22 19:44*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*05/06/22 15:42*	*05/09/22 19:44*	*1*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*	*05/06/22 15:42*	*05/09/22 19:44*	*1*

Client Sample ID: MW-2022-7 (58-62)
Date Collected: 05/04/22 13:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-14
Matrix: Solid
Percent Solids: 87.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*77*		*54 - 120*	*05/06/22 15:42*	*05/09/22 19:44*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*05/06/22 15:42*	*05/09/22 19:44*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
4,4'-DDE	ND		1.9	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
4,4'-DDT	ND		1.9	0.43	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Aldrin	ND		1.9	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
alpha-BHC	ND		1.9	0.33	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
beta-BHC	ND		1.9	0.33	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Chlordane (technical)	ND		19	4.1	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Chlorobenzilate	ND		19	6.2	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
cis-Chlordane	ND		1.9	0.92	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Dieldrin	ND		1.9	0.45	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Endosulfan II	ND		1.9	0.33	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Endrin	ND		1.9	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Endrin aldehyde	ND		1.9	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Endrin ketone	ND		1.9	0.46	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
gamma-BHC (Lindane)	ND		1.9	0.34	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Heptachlor	ND		1.9	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Heptachlor epoxide	ND		1.9	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Methoxychlor	ND		1.9	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
Toxaphene	ND		19	11	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1
trans-Chlordane	ND		1.9	0.59	ug/Kg	☼	05/06/22 15:52	05/09/22 15:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*92*		*45 - 120*	*05/06/22 15:52*	*05/09/22 15:22*	*1*
DCB Decachlorobiphenyl	*99*		*45 - 120*	*05/06/22 15:52*	*05/09/22 15:22*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*05/06/22 15:52*	*05/09/22 15:22*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*05/06/22 15:52*	*05/09/22 15:22*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1
PCB-1221	ND		0.22	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1
PCB-1232	ND		0.22	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1
PCB-1242	ND		0.22	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1
PCB-1248	ND		0.22	0.042	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	05/09/22 06:41	05/10/22 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*104*		*65 - 174*	*05/09/22 06:41*	*05/10/22 21:08*	*1*
DCB Decachlorobiphenyl	*101*		*65 - 174*	*05/09/22 06:41*	*05/10/22 21:08*	*1*
Tetrachloro-m-xylene	*115*		*60 - 154*	*05/09/22 06:41*	*05/10/22 21:08*	*1*
Tetrachloro-m-xylene	*108*		*60 - 154*	*05/09/22 06:41*	*05/10/22 21:08*	*1*

Client Sample ID: MW-2022-7 (58-62)
Date Collected: 05/04/22 13:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-14
Matrix: Solid
Percent Solids: 87.9

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	5.9	ug/Kg	☼	05/09/22 06:36	05/13/22 00:16	1
2,4-D	ND		19	12	ug/Kg	☼	05/09/22 06:36	05/13/22 00:16	1
Silvex (2,4,5-TP)	ND		19	6.7	ug/Kg	☼	05/09/22 06:36	05/13/22 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*60*		*28 - 129*	*05/09/22 06:36*	*05/13/22 00:16*	*1*
2,4-Dichlorophenylacetic acid	*64*		*28 - 129*	*05/09/22 06:36*	*05/13/22 00:16*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1
Disulfoton	ND		37	24	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1
Famphur	ND		37	20	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1
Methyl parathion	ND		37	21	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1
Ethyl Parathion	ND		37	20	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1
Phorate	ND		37	12	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1
Sulfotepp	ND		37	14	ug/Kg	☼	05/09/22 10:30	05/10/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*75*		*20 - 135*	*05/09/22 10:30*	*05/10/22 21:19*	*1*
Tributyl phosphate	*73*		*20 - 135*	*05/09/22 10:30*	*05/10/22 21:19*	*1*
Triphenylphosphate	*92*		*33 - 168*	*05/09/22 10:30*	*05/10/22 21:19*	*1*
Triphenylphosphate	*95*		*33 - 168*	*05/09/22 10:30*	*05/10/22 21:19*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.69**	**J B**	5.5		0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,4,6,7,8-HpCDF	**0.31**	**J B**	5.5		0.0016	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,4,7,8,9-HpCDF	**0.073**	**J I B**	5.5		0.0023	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,4,7,8-HxCDD	**0.032**	**J I B**	5.5		0.0026	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,4,7,8-HxCDF	**0.056**	**J I B**	5.5	U	0.0059	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,6,7,8-HxCDD	**0.052**	**J I B**	5.5		0.0026	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,6,7,8-HxCDF	**0.033**	**J I B**	5.5		0.0061	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,7,8,9-HxCDD	**0.031**	**J B**	5.5		0.0028	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,7,8,9-HxCDF	**0.024**	**J I B**	5.5		0.0065	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,7,8-PeCDD	ND		5.5		0.0066	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
1,2,3,7,8-PeCDF	ND		5.5		0.0065	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
2,3,4,6,7,8-HxCDF	**0.043**	**J I B**	5.5	U	0.0056	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
2,3,4,7,8-PeCDF	**0.046**	**J I B**	5.5	U	0.0044	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
2,3,7,8-TCDD	ND		1.1		0.0060	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
2,3,7,8-TCDF	ND		1.1		0.0044	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
OCDD	**4.5**	**J B**	11		0.013	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
OCDF	**1.3**	**J I B**	11		0.0035	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total HpCDD	**0.69**	**J I B**	5.5		0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total HpCDF	**0.38**	**J I B**	5.5	U	0.0020	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total HxCDD	**0.12**	**J I B**	5.5		0.0027	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total HxCDF	**0.16**	**J I B**	5.5		0.0060	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total PeCDD	ND		5.5		0.0066	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total PeCDF	**0.046**	**J I B**	5.5	U	0.0055	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1
Total TCDD	ND		1.1		0.0060	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1

Client Sample ID: MW-2022-7 (58-62)
Date Collected: 05/04/22 13:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-14
Matrix: Solid
Percent Solids: 87.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		1.1	0.0044	ng/Kg	☼	05/11/22 11:05	05/13/22 23:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*88*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*87*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*84*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,6,7,8-HxCDF	*89*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,7,8,9-HxCDD	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,7,8,9-HxCDF	*94*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,7,8-PeCDD	*82*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-2,3,4,7,8-PeCDF	*89*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-2,3,7,8-TCDD	*83*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-OCDD	*69*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*
13C-OCDF	*73*		*40 - 135*	*05/11/22 11:05*	*05/13/22 23:09*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		17.5	0.47	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Arsenic	**3.0**		2.3	0.47	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Barium	**19.0**		0.58	0.13	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Beryllium	**0.21**	**J**	0.23	0.033	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Cadmium	**0.080**	**J**	0.23	0.035	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Chromium	**5.4**		0.58	0.23	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Cobalt	**5.2**		0.58	0.058	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Copper	**6.6**		1.2	0.24	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Lead	**5.8**		1.2	0.28	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Nickel	**9.4**		5.8	0.27	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Selenium	ND		4.7	0.47	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Silver	ND		0.70	0.23	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Thallium	ND		7.0	0.35	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Tin	ND		2.3	0.50	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Vanadium	**6.4**		0.58	0.13	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1
Zinc	**28.4**		2.3	0.75	mg/Kg	☼	05/11/22 11:08	05/18/22 14:11	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0053	mg/Kg	☼	05/13/22 09:50	05/13/22 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.0	0.49	mg/Kg	☼	05/17/22 12:15	05/17/22 14:13	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.7	12.4	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.9	0.69	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,1,1-Trichloroethane	ND		6.9	0.50	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,1,2,2-Tetrachloroethane	ND		6.9	1.1	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,1,2-Trichloroethane	ND		6.9	0.90	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,1-Dichloroethane	ND		6.9	0.84	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,1-Dichloroethene	ND		6.9	0.85	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,2,3-Trichloropropane	ND		6.9	0.71	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,2-Dibromo-3-Chloropropane	ND		6.9	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,2-Dichloroethane	ND		6.9	0.35	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
1,2-Dichloropropane	ND		6.9	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
2-Butanone (MEK)	ND		35	2.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
2-Chloro-1,3-butadiene	ND		6.9	4.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
2-Chloroethyl vinyl ether	ND	+-	14	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
2-Hexanone	ND		35	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
3-Chloro-1-propene	ND		6.9	3.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
4-Methyl-2-pentanone (MIBK)	ND		35	2.3	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Acetone	ND		35	5.8	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Acetonitrile	ND		69	8.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Acrolein	ND		35	11	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Acrylonitrile	ND		35	6.2	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Benzene	ND		6.9	0.34	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Bromoform	ND		6.9	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Bromomethane	ND		6.9	0.62	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Carbon disulfide	ND		6.9	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Carbon tetrachloride	ND		6.9	0.67	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Chlorobenzene	ND		6.9	0.91	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Chlorodibromomethane	ND		6.9	0.89	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Chloroethane	ND		6.9	1.6	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Chloroform	ND		6.9	0.43	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Chloromethane	ND		6.9	0.42	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
cis-1,3-Dichloropropene	ND		6.9	1.0	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Dibromomethane	ND		6.9	0.71	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Dichlorobromomethane	ND		6.9	0.93	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Dichlorodifluoromethane	ND		6.9	0.57	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Ethyl methacrylate	ND		6.9	2.4	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Ethylbenzene	ND		6.9	0.48	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Ethylene Dibromide	ND		6.9	0.89	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Iodomethane	ND		6.9	0.34	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Methacrylonitrile	ND		35	8.2	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Methyl methacrylate	ND		6.9	1.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Methylene Chloride	ND		6.9	3.2	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
m-Xylene & p-Xylene	ND		14	1.2	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
o-Xylene	ND		6.9	0.90	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Propionitrile	ND		69	39	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Styrene	ND		6.9	0.35	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Tetrachloroethene	ND		6.9	0.93	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Toluene	ND		6.9	0.52	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
trans-1,2-Dichloroethene	ND		6.9	0.71	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
trans-1,3-Dichloropropene	ND		6.9	3.0	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		6.9	1.6	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Trichloroethene	ND		6.9	1.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Trichlorofluoromethane	ND		6.9	0.66	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Vinyl acetate	ND		14	3.5	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1
Vinyl chloride	ND		6.9	0.84	ug/Kg	☼	05/05/22 17:30	05/08/22 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*05/05/22 17:30*	*05/08/22 23:48*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 126*	*05/05/22 17:30*	*05/08/22 23:48*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 140*	*05/05/22 17:30*	*05/08/22 23:48*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*05/05/22 17:30*	*05/08/22 23:48*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		210	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,2,4-Trichlorobenzene	ND		400	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,2-Dichlorobenzene	ND		400	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,2-Diphenylhydrazine	ND		400	23	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,3,5-Trinitrobenzene	ND		400	17	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,3-Dichlorobenzene	ND		400	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,3-Dinitrobenzene	ND		400	48	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,4-Dichlorobenzene	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1,4-Naphthoquinone	ND		400	75	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
1-Naphthylamine	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,3,4,6-Tetrachlorophenol	ND		210	42	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,4,5-Trichlorophenol	ND		210	56	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,4,6-Trichlorophenol	ND		210	41	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,4-Dichlorophenol	ND		210	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,4-Dimethylphenol	ND		210	50	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,4-Dinitrophenol	ND		2000	950	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,4-Dinitrotoluene	ND		210	42	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,6-Dichlorophenol	ND		400	75	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2,6-Dinitrotoluene	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Acetylaminofluorene	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Chloronaphthalene	ND		210	34	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Chlorophenol	ND		400	37	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Methylnaphthalene	ND		210	41	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Methylphenol	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Naphthylamine	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Nitroaniline	ND		400	30	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Nitrophenol	ND		210	58	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Picoline	ND		400	46	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
2-Toluidine	ND		400	98	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
3 & 4 Methylphenol	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
3,3'-Dichlorobenzidine	ND		400	240	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
3,3'-Dimethylbenzidine	ND		800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
3-Methylcholanthrene	ND		400	66	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
3-Methylphenol	ND		400	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
3-Nitroaniline	ND		400	57	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		400	210	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Aminobiphenyl	ND	*	400	83	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Bromophenyl phenyl ether	ND		210	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Chloro-3-methylphenol	ND		210	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Chloroaniline	ND		210	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Chlorophenyl phenyl ether	ND		210	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Methylphenol	ND		400	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Nitroaniline	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Nitrophenol	ND		400	140	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
4-Nitroquinoline-1-oxide	ND		800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
7,12-Dimethylbenz(a)anthracene	ND		400	59	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
a,a-Dimethylphenethylamine	ND		400	400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Acenaphthene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Acenaphthylene	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Acetophenone	ND		210	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Aniline	ND		400	50	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Anthracene	ND		210	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Aramite, Total	ND		400	190	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzidine	ND		6000	2600	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzo[a]anthracene	ND		210	21	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzo[a]pyrene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzo[b]fluoranthene	ND		210	33	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzo[g,h,i]perylene	ND		210	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzo[k]fluoranthene	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Benzyl alcohol	ND		400	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
bis (2-chloroisopropyl) ether	ND		210	41	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Bis(2-chloroethoxy)methane	ND		210	43	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Bis(2-chloroethyl)ether	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Bis(2-ethylhexyl) phthalate	ND		210	70	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Butyl benzyl phthalate	ND		210	34	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Chrysene	ND		210	46	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Diallate	ND		400	51	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Dibenz(a,h)anthracene	ND		210	36	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Dibenzofuran	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Diethyl phthalate	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Dimethoate	ND		400	50	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Dimethyl phthalate	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Di-n-butyl phthalate	**69**	**J**	210	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Di-n-octyl phthalate	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Dinoseb	ND		400	71	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Diphenylamine	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Disulfoton	ND		400	300	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Chlorobenzilate	ND		400	64	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Ethyl methanesulfonate	ND		400	88	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Famphur	ND	*	800	190	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	R 1
Fluoranthene	ND		210	22	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Fluorene	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Hexachlorobenzene	ND		210	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Hexachlorobutadiene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		210	28	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Hexachloroethane	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Hexachloropropene	ND		400	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Indeno[1,2,3-cd]pyrene	ND		210	25	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Isodrin	ND		400	70	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Isophorone	ND		210	43	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Isosafrole	ND		400	53	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Kepone	ND	*-	800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	R 1
Methapyrilene	ND		1800	400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Methyl methanesulfonate	ND		400	92	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Naphthalene	ND		210	27	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Nitrobenzene	ND		210	23	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitro-o-toluidine	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosodiethylamine	ND		400	93	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosodimethylamine	ND		400	87	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosodi-n-butylamine	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosodi-n-propylamine	ND		210	35	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosodiphenylamine	ND		210	170	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosomethylethylamine	ND		400	92	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosomorpholine	ND		400	89	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosopiperidine	ND		400	81	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
N-Nitrosopyrrolidine	ND		400	60	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
o,o',o''-Triethylphosphorothioate	ND		400	52	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Ethyl Parathion	ND		400	45	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Methyl parathion	ND		400	69	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
p-Dimethylamino azobenzene	ND		400	68	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Pentachlorobenzene	ND		400	83	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Pentachloronitrobenzene	ND		400	100	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Pentachlorophenol	ND	*+	400	210	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Phenacetin	ND		400	54	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Phenanthrene	ND		210	30	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Phenol	ND		210	31	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Phorate	ND		400	110	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
p-Phenylene diamine	ND		970	400	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Pronamide	ND		400	78	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Pyrene	ND		210	24	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Pyridine	ND		400	29	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Safrole	ND		400	54	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Sulfotepp	ND		400	64	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1
Thionazin	ND		400	70	ug/Kg	☼	05/06/22 15:42	05/09/22 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*05/06/22 15:42*	*05/09/22 22:54*	*1*
2-Fluorobiphenyl (Surr)	*96*		*60 - 120*	*05/06/22 15:42*	*05/09/22 22:54*	*1*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*05/06/22 15:42*	*05/09/22 22:54*	*1*
Nitrobenzene-d5 (Surr)	*88*		*53 - 120*	*05/06/22 15:42*	*05/09/22 22:54*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*05/06/22 15:42*	*05/09/22 22:54*	*1*
p-Terphenyl-d14 (Surr)	*110*		*79 - 130*	*05/06/22 15:42*	*05/09/22 22:54*	*1*

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Chlordane (technical)	ND		20	4.5	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Chlorobenzilate	ND		20	6.8	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Endosulfan I	~~0.67~~ ~~J B~~		2.0	U 0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Endosulfan sulfate	ND		2.0	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Endrin	ND		2.0	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Heptachlor	ND		2.0	0.44	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
Toxaphene	ND		20	12	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	05/06/22 15:52	05/09/22 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*05/06/22 15:52*	*05/09/22 15:42*	*1*
DCB Decachlorobiphenyl	*95*		*45 - 120*	*05/06/22 15:52*	*05/09/22 15:42*	*1*
Tetrachloro-m-xylene	*60*		*30 - 124*	*05/06/22 15:52*	*05/09/22 15:42*	*1*
Tetrachloro-m-xylene	*65*		*30 - 124*	*05/06/22 15:52*	*05/09/22 15:42*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.23	0.046	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1
PCB-1221	ND		0.23	0.046	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1
PCB-1232	ND		0.23	0.046	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1
PCB-1242	ND		0.23	0.046	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1
PCB-1248	ND		0.23	0.046	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1
PCB-1254	ND		0.23	0.11	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1
PCB-1260	ND		0.23	0.11	mg/Kg	☼	05/09/22 06:41	05/10/22 21:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*99*		*65 - 174*	*05/09/22 06:41*	*05/10/22 21:21*	*1*
DCB Decachlorobiphenyl	*98*		*65 - 174*	*05/09/22 06:41*	*05/10/22 21:21*	*1*
Tetrachloro-m-xylene	*112*		*60 - 154*	*05/09/22 06:41*	*05/10/22 21:21*	*1*
Tetrachloro-m-xylene	*103*		*60 - 154*	*05/09/22 06:41*	*05/10/22 21:21*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.4	ug/Kg	☼	05/09/22 06:36	05/13/22 00:46	1
2,4-D	ND		20	13	ug/Kg	☼	05/09/22 06:36	05/13/22 00:46	1

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		20	7.2	ug/Kg	☼	05/09/22 06:36	05/13/22 00:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*58*		*28 - 129*	*05/09/22 06:36*	*05/13/22 00:46*	*1*
2,4-Dichlorophenylacetic acid	*67*		*28 - 129*	*05/09/22 06:36*	*05/13/22 00:46*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1
Disulfoton	ND		40	27	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1
Famphur	ND		40	21	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1
Phorate	ND		40	14	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1
Sulfotepp	ND		40	16	ug/Kg	☼	05/09/22 10:30	05/10/22 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*95*		*20 - 135*	*05/09/22 10:30*	*05/10/22 21:51*	*1*
Tributyl phosphate	*94*		*20 - 135*	*05/09/22 10:30*	*05/10/22 21:51*	*1*
Triphenylphosphate	*103*		*33 - 168*	*05/09/22 10:30*	*05/10/22 21:51*	*1*
Triphenylphosphate	*105*		*33 - 168*	*05/09/22 10:30*	*05/10/22 21:51*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.64**	**J I B**	6.1	0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,4,6,7,8-HpCDF	**0.30**	**J B**	6.1 U	0.0042	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,4,7,8,9-HpCDF	**0.048**	**J I B**	6.1	0.0062	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,4,7,8-HxCDD	ND		6.1	0.0039	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,4,7,8-HxCDF	**0.069**	**J I B**	6.1 U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,6,7,8-HxCDD	ND		6.1	0.0040	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,6,7,8-HxCDF	**0.053**	**J I B**	6.1 U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,7,8,9-HxCDD	ND		6.1	0.0043	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,7,8,9-HxCDF	**0.049**	**J I B**	6.1 U	0.012	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,7,8-PeCDD	ND		6.1	0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
1,2,3,7,8-PeCDF	**0.063**	**J I B**	6.1	0.0049	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
2,3,4,6,7,8-HxCDF	**0.037**	**J B**	6.1 U	0.010	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
2,3,4,7,8-PeCDF	**0.078**	**J I B**	6.1	0.0034	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
2,3,7,8-TCDD	ND		1.2	0.0069	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
2,3,7,8-TCDF	ND		1.2	0.0049	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
OCDD	**2.1**	**J B**	12	0.0065	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
OCDF	**0.94**	**J B**	12 U	0.0078	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total HpCDD	**0.64**	**J I B**	6.1	0.014	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total HpCDF	**0.35**	**J I B**	6.1	0.0052	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total HxCDD	ND		6.1	0.0041	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total HxCDF	**0.21**	**J I B**	6.1 U	0.011	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total PeCDD	ND		6.1	0.0096	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total PeCDF	**0.14**	**J I B**	6.1 U	0.0041	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total TCDD	ND		1.2	0.0069	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1
Total TCDF	ND		1.2	0.0049	ng/Kg	☼	05/11/22 11:05	05/13/22 23:58	1

Client Sample ID: DUP-3-050422
Lab Sample ID: 480-197562-15

Date Collected: 05/04/22 00:00
Matrix: Solid

Date Received: 05/05/22 12:30
Percent Solids: 81.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	85		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,4,7,8,9-HpCDF	85		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,4,7,8-HxCDD	82		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,4,7,8-HxCDF	82		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,6,7,8-HxCDD	83		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,6,7,8-HxCDF	86		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,7,8,9-HxCDD	81		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,7,8,9-HxCDF	89		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,7,8-PeCDD	81		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-1,2,3,7,8-PeCDF	75		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-2,3,4,6,7,8-HxCDF	84		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-2,3,4,7,8-PeCDF	85		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-2,3,7,8-TCDD	76		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-2,3,7,8-TCDF	67		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-OCDD	70		40 - 135	05/11/22 11:05	05/13/22 23:58	1
13C-OCDF	73		40 - 135	05/11/22 11:05	05/13/22 23:58	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.50**	**J**	18.6	0.49	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Arsenic	**3.1**		2.5	0.49	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Barium	**14.0**		0.62	0.14	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Beryllium	**0.16**	**J**	0.25	0.035	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Cadmium	**0.080**	**J**	0.25	0.037	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Chromium	**4.2**		0.62	0.25	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Cobalt	**4.7**		0.62	0.062	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Copper	**5.2**		1.2	0.26	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Lead	**5.1**		1.2	0.30	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Nickel	**7.7**		6.2	0.28	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Selenium	ND		4.9	0.49	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Silver	ND		0.74	0.25	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Thallium	ND		7.4	0.37	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Tin	ND		2.5	0.53	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Vanadium	**4.9**		0.62	0.14	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1
Zinc	**24.7**		2.5	0.79	mg/Kg	☼	05/11/22 11:08	05/18/22 14:15	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0055	mg/Kg	☼	05/13/22 09:50	05/13/22 14:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	05/17/22 12:15	05/17/22 14:17	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		22.0	12.5	mg/Kg	☼		05/18/22 09:30	1

Client Sample ID: MW-2022-7 (58)
Date Collected: 05/04/22 13:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-16
Matrix: Solid
Percent Solids: 85.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	0.54	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,1,1-Trichloroethane	ND		5.4	0.39	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,1,2,2-Tetrachloroethane	ND		5.4	0.88	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,1,2-Trichloroethane	ND		5.4	0.71	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,1-Dichloroethane	ND		5.4	0.66	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,1-Dichloroethene	ND		5.4	0.67	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,2,3-Trichloropropane	ND		5.4	0.55	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,2-Dichloroethane	ND		5.4	0.27	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
1,2-Dichloropropane	ND		5.4	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
2-Butanone (MEK)	ND		27	2.0	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
2-Chloro-1,3-butadiene	ND		5.4	3.4	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
2-Chloroethyl vinyl ether	ND	*+	11	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
2-Hexanone	ND		27	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
3-Chloro-1-propene	ND		5.4	2.6	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
4-Methyl-2-pentanone (MIBK)	ND		27	1.8	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Acetone	ND		27	4.6	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Acetonitrile	ND		54	6.6	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Acrolein	ND		27	8.6	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Acrylonitrile	ND		27	4.9	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Benzene	ND		5.4	0.27	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Bromoform	ND		5.4	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Bromomethane	ND		5.4	0.49	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Carbon disulfide	ND		5.4	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Carbon tetrachloride	ND		5.4	0.53	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Chlorobenzene	ND		5.4	0.72	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Chlorodibromomethane	ND		5.4	0.70	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Chloroethane	ND		5.4	1.2	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Chloroform	**0.93**	**J**	5.4	0.34	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Chloromethane	ND		5.4	0.33	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
cis-1,3-Dichloropropene	ND		5.4	0.78	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Dibromomethane	ND		5.4	0.56	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Dichlorobromomethane	ND		5.4	0.73	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Dichlorodifluoromethane	ND		5.4	0.45	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Ethyl methacrylate	ND		5.4	1.9	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Ethylbenzene	ND		5.4	0.38	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Ethylene Dibromide	ND		5.4	0.70	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Iodomethane	ND		5.4	0.26	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Methacrylonitrile	ND		27	6.4	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Methyl methacrylate	ND		5.4	1.1	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Methylene Chloride	ND		5.4	2.5	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
m-Xylene & p-Xylene	ND		11	0.91	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
o-Xylene	ND		5.4	0.71	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Propionitrile	ND		54	30	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Styrene	ND		5.4	0.27	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Tetrachloroethene	ND		5.4	0.73	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Toluene	ND		5.4	0.41	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
trans-1,2-Dichloroethene	ND		5.4	0.56	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
trans-1,3-Dichloropropene	ND		5.4	2.4	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1

Client Sample ID: MW-2022-7 (58)
Date Collected: 05/04/22 13:20
Date Received: 05/05/22 12:30

Lab Sample ID: 480-197562-16
Matrix: Solid
Percent Solids: 85.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.4	1.2	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Trichloroethene	ND		5.4	1.2	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Trichlorofluoromethane	ND		5.4	0.51	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Vinyl acetate	ND		11	2.7	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1
Vinyl chloride	ND		5.4	0.66	ug/Kg	☼	05/05/22 17:30	05/09/22 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*64 - 126*	*05/05/22 17:30*	*05/09/22 00:12*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 126*	*05/05/22 17:30*	*05/09/22 00:12*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*05/05/22 17:30*	*05/09/22 00:12*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*05/05/22 17:30*	*05/09/22 00:12*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals and Miscellaneous Analyses

SDGs # 480-197622-1 and 480-197622-2

Analyses Performed By:
Eurofins Buffalo,
Amherst, New York, USA
,

Report #47709R
Review Level: Tier I/II
Project: 30150026.3000

Contents

1 Summary 4
1.1 Analytical Data Package Documentation 4
1.2 Data Validation Procedures 5
2 Volatile Organic Compound Analyses 7
2.1 Holding Times 7
2.2 System Performance and Overall Assessment 8
2.3 Data Validation Checklist 8
3 Semi-volatile Organic Compound Analyses 8
3.1 Holding Times 8
3.2 Laboratory Control Sample Analysis 9
3.3 System Performance and Overall Assessment 9
3.4 Data Validation Checklist 9
4 Polychlorinated Biphenyl Analyses 10
4.1 Holding Times 10
4.2 System Performance and Overall Assessment 10
4.3 Data Validation Checklist 11
5 Pesticide/Herbicide Analyses 11
5.1 Holding Times 11
5.2 Blank Contamination 11
5.3 System Performance and Overall Assessment 12
5.4 Data Validation Checklist 12
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 12
6.1 Holding Times 12
6.2 Blank Contamination 13
6.3 Compound Identification 14
6.4 System Performance and Overall Assessment 14
6.5 Data Validation Checklist 14
7 Metals Analyses 15
7.1 Holding Times 15
7.2 Blank Contamination 15
7.3 System Performance and Overall Assessment 16
7.4 Data Validation Checklist 16

8 General Chemistry Analyses 17
8.1 Holding Times 17
8.2 System Performance and Overall Assessment 18
8.3 Data Validation Checklist for General Chemistry 18
9 Overall Data Usability 18

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 4
Table 2. Evaluation of Data Package Completeness 4
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 7
Table 4. Holding Time for Method SW-846 8260C 7
Table 5. Holding Time for Method SW-846 8270D 8
Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits 9
Table 7. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications 9
Table 8. Holding Time for Method SW-846 8082A 10
Table 9. Holding Time for Method SW-846 8081B/8141B/8151A 11
Table 10. Holding Time for Method SW-846 8290A 13
Table 11. Summary of Blank Contamination Qualifications 13
Table 12. Holding Time for Method SW-846 6010C/7471B 15
Table 13. Summary of Blank Contamination Qualifications 16
Table 14. Specified Holding Times 17
Table 15. Overall Summary of Data Usability 18

Appendices

Appendix A Chain of Custody
Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Groups (SDGs) 480-197622-1 and 480-197622-2 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample Location	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	MET	MISC
MW-2022-7 (80-84)	480-197622-1	Soil	5/5/2022			X	X	X	X	X
MW-2022-7 (80)	480-197622-2	Soil	5/5/2022		X					

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1. Performance was not acceptable for “requested analyses ad sample results” as the sample MW-2022-6 (28) (480-197562-4) was collected as per chain-of-custody (COC); however, the sample was not received by the laboratory. Hence, the analysis was cancelled.
2. The VOC analysis was marked on COC for sample MW-2022-7 (0-1) (480-197562-7) but the results were not included in the laboratory report.

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined

to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	0	0	0	0	1
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The LCS analysis exhibited acceptable recoveries with the exceptions noted in the table below.

Table 6. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Location	Compounds	LCS Recovery
MW-2022-7 (80-84)	Famphur	< 10%
	Kepone	< 10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 7. Laboratory Control Sample Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Laboratory Control Sample (LCS) %R		X	X		

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 8. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B / 8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Soil	7days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing

concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compound Endosulfan I was detected in method blank batch 624981. However, the associated sample result was non-detect. Hence, qualification was not required.

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment / Field blanks	X				X
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 10. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 11. Summary of Blank Contamination Qualifications

Sample Location	Compounds	Sample Result	Qualification
MW-2022-7 (80-84)	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF	Detected sample results <RL and <BAL	“U” at the RL

Note:
RL – Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment / Field blanks	X				X
Compound identification and quantitation		X	X		
Reporting limits (units)		X		X	
System performance and overall assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

The analyses that exceeded the holding time are presented in the following table.

Sample Location	Holding Time	Criteria
MW-2022-7 (80-84)	Sample was extracted and analyzed on 29th day from collection	28 days from collection to analysis

Sample results associated with sample locations analyzed by analytical method SW-846 7471B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample Location	Analyte	Sample Result	Qualification
MW-2022-7 (80-84)	Selenium	Detected sample results <RL and <BAL	"U" at the RL

Note:

RL = Reporting limit

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X	X		
Blanks		X		X	
A. Method Blanks		X	X		
B. Equipment / Field Blanks		X		X	

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

The analyses that exceeded the holding time are presented in the following table.

Sample Location	Method	Holding Time	Criteria
MW-2022-7 (80-84)	SW-846 9012B	Sample was extracted and analyzed on 40th day from collection	14 days from collection to analysis
	SM 4500 S2 F	Sample was analyzed on 36th day from collection	14 days from collection to analysis

Sample results associated with sample locations analyzed by analytical methods SW-846 9012B and SM4500 S2 -F were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X	X		
Reporting limits (units)		X		X	

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under Tier I data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

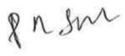
Table 15. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.4%	2
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0

Parameter	Percent Usability	Rejected Data
MISC	0%	2

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 24, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 25, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Syracuse

Client Information	Sampler: Evan Greco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-173480-37198.3
Client Contact: Mr. Daniel Meandro	Phone: 603-305-2692	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: #225	Page: Page 3 of 8
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30132437.001			
Email: daniel.meandro@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

SHORT HOLD

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Organophosphorous Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
MW-2022-7(80-84)	5/5/22	0930	G	S			X	X	X	X											
MW-2022-7(80)	5/5/22	0830	G	S							X										

480-197622 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, (IV) Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Evan Greco	5/5/22 1630	Arcadis	Carl Hale	5/6/22 1000	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	Ver: 06/08/2021
		#1 2.4	

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-7 (80-84)
Date Collected: 05/05/22 08:30
Date Received: 05/06/22 10:00

Lab Sample ID: 480-197622-1
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,2,4-Trichlorobenzene	ND		390	29	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,2-Diphenylhydrazine	ND		390	23	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,3-Dinitrobenzene	ND		390	48	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,4-Dioxane	ND		120	66	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1,4-Naphthoquinone	ND		390	74	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,3,4,6-Tetrachlorophenol	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,4,5-Trichlorophenol	ND		200	55	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,4,6-Trichlorophenol	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,4-Dimethylphenol	ND		200	49	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,6-Dichlorophenol	ND		390	74	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Methylnaphthalene	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Picoline	ND		390	45	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
2-Toluidine	ND		390	97	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
3,3'-Dimethylbenzidine	ND		790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
3-Methylcholanthrene	ND		390	66	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Aminobiphenyl	ND	*	390	82	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Bromophenyl phenyl ether	ND		200	29	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
4-Nitroquinoline-1-oxide	ND		790	390	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1

Client Sample ID: MW-2022-7 (80-84)
Date Collected: 05/05/22 08:30
Date Received: 05/06/22 10:00

Lab Sample ID: 480-197622-1
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Acetophenone	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Aniline	ND		390	49	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Anthracene	ND		200	50	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzidine	ND		6000	2500	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
bis (2-chloroisopropyl) ether	ND		200	41	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Bis(2-ethylhexyl) phthalate	ND		200	69	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Chrysene	ND		200	45	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Diallate	ND		390	50	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Dibenz(a,h)anthracene	ND		200	36	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Dimethoate	ND		390	49	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Di-n-butyl phthalate	**54**	**J**	200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Dinoseb	ND		390	70	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Disulfoton	ND		390	300	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Ethyl methanesulfonate	ND		390	87	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
~~Famphur~~	~~ND~~	~~*-~~	~~790~~	~~190~~	~~ug/Kg~~	~~☼~~	~~05/06/22 15:42~~	~~05/09/22 23:18~~	R 1
Fluoranthene	ND		200	21	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Fluorene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Hexachloropropene	ND		390	100	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Isodrin	ND		390	69	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Isophorone	ND		200	43	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Isosafrole	ND		390	52	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
~~Kepone~~	~~ND~~	~~*-~~	~~790~~	~~390~~	~~ug/Kg~~	~~☼~~	~~05/06/22 15:42~~	~~05/09/22 23:18~~	R 1
Methapyrilene	ND		1800	390	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Methyl methanesulfonate	ND		390	91	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Naphthalene	ND		200	26	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Nitrobenzene	ND		200	23	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1

Client Sample ID: MW-2022-7 (80-84)
Lab Sample ID: 480-197622-1

Date Collected: 05/05/22 08:30
Matrix: Solid

Date Received: 05/06/22 10:00
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	92	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosodimethylamine	ND		390	86	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosodi-n-propylamine	ND		200	35	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosomethylethylamine	ND		390	91	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosomorpholine	ND		390	88	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosopiperidine	ND		390	80	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
N-Nitrosopyrrolidine	ND		390	60	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Methyl parathion	ND		390	68	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
p-Dimethylamino azobenzene	ND		390	67	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Pentachloronitrobenzene	ND		390	100	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Pentachlorophenol	ND	*+	390	200	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Phenacetin	ND		390	54	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Phenol	ND		200	31	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Phorate	ND		390	110	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Pronamide	ND		390	77	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Pyrene	ND		200	24	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Pyridine	ND		390	29	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Safrole	ND		390	54	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1
Thionazin	ND		390	69	ug/Kg	☼	05/06/22 15:42	05/09/22 23:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*103*		*54 - 120*	*05/06/22 15:42*	*05/09/22 23:18*	*1*
2-Fluorobiphenyl (Surr)	*98*		*60 - 120*	*05/06/22 15:42*	*05/09/22 23:18*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*05/06/22 15:42*	*05/09/22 23:18*	*1*
Nitrobenzene-d5 (Surr)	*93*		*53 - 120*	*05/06/22 15:42*	*05/09/22 23:18*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*05/06/22 15:42*	*05/09/22 23:18*	*1*
p-Terphenyl-d14 (Surr)	*122*		*79 - 130*	*05/06/22 15:42*	*05/09/22 23:18*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.39	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
4,4'-DDE	ND		2.0	0.42	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
4,4'-DDT	ND		2.0	0.47	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Aldrin	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
alpha-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
beta-BHC	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Chlorobenzilate	ND		20	6.7	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
cis-Chlordane	ND		2.0	1.0	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Dieldrin	ND		2.0	0.48	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1

Client Sample ID: MW-2022-7 (80-84)
Date Collected: 05/05/22 08:30
Date Received: 05/06/22 10:00

Lab Sample ID: 480-197622-1
Matrix: Solid
Percent Solids: 82.3

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.36	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Endrin	ND		2.0	0.40	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Endrin aldehyde	ND		2.0	0.51	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Endrin ketone	ND		2.0	0.49	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
gamma-BHC (Lindane)	ND		2.0	0.37	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Heptachlor epoxide	ND		2.0	0.52	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Methoxychlor	ND		2.0	0.41	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
Toxaphene	ND		20	12	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1
trans-Chlordane	ND		2.0	0.64	ug/Kg	☼	05/06/22 15:52	05/09/22 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*05/06/22 15:52*	*05/09/22 16:01*	*1*
DCB Decachlorobiphenyl	*95*		*45 - 120*	*05/06/22 15:52*	*05/09/22 16:01*	*1*
Tetrachloro-m-xylene	*59*		*30 - 124*	*05/06/22 15:52*	*05/09/22 16:01*	*1*
Tetrachloro-m-xylene	*67*		*30 - 124*	*05/06/22 15:52*	*05/09/22 16:01*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.30	0.058	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1
PCB-1221	ND		0.30	0.058	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1
PCB-1232	ND		0.30	0.058	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1
PCB-1242	ND		0.30	0.058	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1
PCB-1248	ND		0.30	0.058	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1
PCB-1254	ND		0.30	0.14	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1
PCB-1260	ND		0.30	0.14	mg/Kg	☼	05/09/22 06:41	05/10/22 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*65 - 174*	*05/09/22 06:41*	*05/10/22 21:47*	*1*
DCB Decachlorobiphenyl	*94*		*65 - 174*	*05/09/22 06:41*	*05/10/22 21:47*	*1*
Tetrachloro-m-xylene	*103*		*60 - 154*	*05/09/22 06:41*	*05/10/22 21:47*	*1*
Tetrachloro-m-xylene	*98*		*60 - 154*	*05/09/22 06:41*	*05/10/22 21:47*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/09/22 06:36	05/13/22 02:15	1
2,4-D	ND		20	12	ug/Kg	☼	05/09/22 06:36	05/13/22 02:15	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/09/22 06:36	05/13/22 02:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*55*		*28 - 129*	*05/09/22 06:36*	*05/13/22 02:15*	*1*
2,4-Dichlorophenylacetic acid	*76*		*28 - 129*	*05/09/22 06:36*	*05/13/22 02:15*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		40	23	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1
Disulfoton	ND	~~F2 F1~~	40	27	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1
Famphur	ND		40	21	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1
Methyl parathion	ND		40	23	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1
Ethyl Parathion	ND		40	22	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1

Client Sample ID: MW-2022-7 (80-84)
Date Collected: 05/05/22 08:30
Date Received: 05/06/22 10:00

Lab Sample ID: 480-197622-1
Matrix: Solid
Percent Solids: 82.3

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		40	14	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1
Sulfotepp	ND		40	16	ug/Kg	☼	05/11/22 18:00	05/16/22 11:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*58*		*20 - 135*	*05/11/22 18:00*	*05/16/22 11:39*	*1*
Tributyl phosphate	*57*		*20 - 135*	*05/11/22 18:00*	*05/16/22 11:39*	*1*
Triphenylphosphate	*68*		*33 - 168*	*05/11/22 18:00*	*05/16/22 11:39*	*1*
Triphenylphosphate	*72*		*33 - 168*	*05/11/22 18:00*	*05/16/22 11:39*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.83**	**J I B**	6.1	U	0.058	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,4,6,7,8-HpCDF	**0.49**	**J B**	6.1	U	0.016	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,4,7,8,9-HpCDF	**0.11**	**J I B**	6.1	U	0.020	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,4,7,8-HxCDD	ND		6.1		0.017	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,4,7,8-HxCDF	**0.22**	**J I B**	6.1	U	0.025	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,6,7,8-HxCDD	**0.19**	**J I B**	6.1	U	0.017	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,6,7,8-HxCDF	**0.18**	**J B**	6.1	U	0.025	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,7,8,9-HxCDD	**0.16**	**J I B**	6.1	U	0.017	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,7,8,9-HxCDF	**0.14**	**J I B**	6.1	U	0.029	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,7,8-PeCDD	**0.24**	**J I** JNX	6.1		0.028	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
1,2,3,7,8-PeCDF	**0.24**	**J B**	6.1	U	0.039	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
2,3,4,6,7,8-HxCDF	**0.12**	**J I B**	6.1	U	0.022	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
2,3,4,7,8-PeCDF	**0.22**	**J I B**	6.1	U	0.029	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
2,3,7,8-TCDD	**0.042**	**J**	1.2		0.028	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
2,3,7,8-TCDF	**0.068**	**J I** JNX	1.2		0.028	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
OCDD	**3.1**	**J B**	12	U	0.095	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
OCDF	**1.3**	**J B**	12	U	0.12	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total HpCDD	**0.83**	**J I B**	6.1	U	0.058	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total HpCDF	**0.60**	**J I B**	6.1	U	0.018	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total HxCDD	**0.35**	**J I B**	6.1	U	0.017	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total HxCDF	**0.66**	**J I B**	6.1	U	0.025	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total PeCDD	**0.24**	**J I** JNX	6.1		0.028	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total PeCDF	**0.46**	**J I B**	6.1	U	0.034	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total TCDD	**0.042**	**J I** JNX	1.2		0.028	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1
Total TCDF	**0.068**	**J I** JNX	1.2		0.028	ng/Kg	☼	05/12/22 15:00	05/14/22 03:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*59*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*59*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*62*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,7,8,9-HxCDD	*71*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*68*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*70*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*

Client Sample ID: MW-2022-7 (80-84)
Lab Sample ID: 480-197622-1

Date Collected: 05/05/22 08:30
Matrix: Solid
Date Received: 05/06/22 10:00
Percent Solids: 82.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*71*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-2,3,7,8-TCDF	*65*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-OCDD	*55*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*
13C-OCDF	*52*		*40 - 135*	*05/12/22 15:00*	*05/14/22 03:22*	*1*

Client Sample ID: MW-2022-7 (80)
Lab Sample ID: 480-197622-2

Date Collected: 05/05/22 08:30
Matrix: Solid
Date Received: 05/06/22 10:00
Percent Solids: 74.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,1,1-Trichloroethane	ND		5.2	0.38	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.84	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,1,2-Trichloroethane	ND		5.2	0.67	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,1-Dichloroethane	ND		5.2	0.63	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,1-Dichloroethene	ND		5.2	0.63	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,2,3-Trichloropropane	ND		5.2	0.53	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
2-Chloro-1,3-butadiene	ND		5.2	3.2	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
2-Chloroethyl vinyl ether	ND		10	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Acetone	ND		26	4.4	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Acetonitrile	ND		52	6.3	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Acrolein	ND		26	8.2	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Benzene	ND		5.2	0.25	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Bromomethane	ND		5.2	0.47	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Carbon tetrachloride	ND		5.2	0.50	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Chlorobenzene	ND		5.2	0.68	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Chlorodibromomethane	ND		5.2	0.66	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Chloroform	ND		5.2	0.32	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Chloromethane	ND		5.2	0.31	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
cis-1,3-Dichloropropene	ND		5.2	0.74	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Dibromomethane	ND		5.2	0.53	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Dichlorobromomethane	ND		5.2	0.69	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Ethylene Dibromide	ND		5.2	0.66	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1

Client Sample ID: MW-2022-7 (80)
Date Collected: 05/05/22 08:30
Date Received: 05/06/22 10:00

Lab Sample ID: 480-197622-2
Matrix: Solid
Percent Solids: 74.0

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methacrylonitrile	ND		26	6.1	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Methyl methacrylate	ND		5.2	1.1	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
m-Xylene & p-Xylene	ND		10	0.87	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
o-Xylene	ND		5.2	0.68	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Propionitrile	ND		52	29	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Styrene	ND		5.2	0.26	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Tetrachloroethene	ND		5.2	0.69	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Toluene	ND		5.2	0.39	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
trans-1,2-Dichloroethene	ND		5.2	0.53	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1
Vinyl chloride	ND		5.2	0.63	ug/Kg	☼	05/06/22 16:30	05/10/22 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*05/06/22 16:30*	*05/10/22 02:52*	*1*
4-Bromofluorobenzene (Surr)	*83*		*72 - 126*	*05/06/22 16:30*	*05/10/22 02:52*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*05/06/22 16:30*	*05/10/22 02:52*	*1*
Toluene-d8 (Surr)	*101*		*71 - 125*	*05/06/22 16:30*	*05/10/22 02:52*	*1*

Client Sample ID: MW-2022-7 (80-84)
Lab Sample ID: 480-197622-1

Date Collected: 05/05/22 08:30
Matrix: Solid

Date Received: 05/06/22 10:00
Percent Solids: 82.3

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.7**	**J**	17.9	0.48	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Arsenic	**4.1**		2.4	0.48	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Barium	**17.4**		0.60	0.13	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Beryllium	**0.20**	**J**	0.24	0.033	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Cadmium	**0.054**	**J**	0.24	0.036	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Chromium	**5.1**		0.60	0.24	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Cobalt	**5.0**		0.60	0.060	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Copper	**7.7**		1.2	0.25	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Lead	**5.5**		1.2	0.29	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Nickel	**9.3**		6.0	0.27	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Selenium	~~**1.0**~~	~~**J B**~~	4.8 U	0.48	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Silver	ND		0.71	0.24	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Thallium	ND		7.1	0.36	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Tin	**0.53**	**J**	2.4	0.51	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Vanadium	**6.3**		0.60	0.13	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1
Zinc	**28.2**	~~**+**~~	2.4	0.76	mg/Kg	☼	06/03/22 10:50	06/06/22 15:44	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	~~H~~ UJ	0.025	0.0056	mg/Kg	☼	06/03/22 12:01	06/03/22 13:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Cyanide, Total~~	~~ND~~	~~H~~	~~0.10~~	~~0.049~~	~~mg/Kg~~	☼	~~06/14/22 13:20~~	~~06/14/22 15:27~~	R 1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
~~Sulfide~~	~~ND~~		~~22.5~~	~~12.8~~	~~mg/Kg~~	☼		~~06/10/22 11:08~~	R 1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Client Sample ID: DUP-3-051222

Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11

Matrix: Solid
Percent Solids: 92.6

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	80		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,6,7,8-HpCDF	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,7,8,9-HpCDF	79		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,7,8-HxCDD	77		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,7,8-HxCDF	75		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,6,7,8-HxCDD	90		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,6,7,8-HxCDF	86		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8,9-HxCDD	82		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8,9-HxCDF	79		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8-PeCDD	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8-PeCDF	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,4,6,7,8-HxCDF	79		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,4,7,8-PeCDF	78		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,7,8-TCDD	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,7,8-TCDF	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-OCDD	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-OCDF	72		40 - 135	05/21/22 09:58	05/26/22 19:05	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.5	J	15.9	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Arsenic	3.6		2.1	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Barium	19.4		0.53	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Beryllium	0.21		0.21	0.030	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Cadmium	0.063	J	0.21	0.032	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Chromium	5.2		0.53	0.21	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Cobalt	5.6		0.53	0.053	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Copper	7.1		1.1	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Lead	6.0		1.1	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Nickel	9.5		5.3	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Selenium	0.85	J	4.2	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Silver	ND		0.63	0.21	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Thallium	ND		6.3	0.32	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Tin	ND		2.1	0.45	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Vanadium	6.7		0.53	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Zinc	31.4		2.1	0.68	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0077	J	0.021	0.0047	mg/Kg	☼	05/18/22 11:48	05/18/22 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.090	0.043	mg/Kg	☼	05/25/22 14:40	05/25/22 16:02	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.4	11.6	mg/Kg	☼		05/23/22 15:50	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-197946-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Lancaster, Pennsylvania, USA
Eurofins Pittsburgh, Pennsylvania, USA

Report # 47714R
Review Level: Tier I
Project: 30150026.3000

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 6
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 Field Duplicate Analysis 9
2.3 System Performance and Overall Assessment 9
2.4 Data Validation Checklist 10
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 10
3.3 Laboratory Control Sample Analysis 11
3.4 Field Duplicate Analysis 12
3.5 System Performance and Overall Assessment 13
3.6 Data Validation Checklist 13
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 Field Duplicate Analysis 14
4.3 System Performance and Overall Assessment 14
4.4 Data Validation Checklist 14
5 Pesticide/Herbicide Analyses 15
5.1 Holding Times 15
5.2 Field Duplicate Analysis 15
5.3 System Performance and Overall Assessment 16
5.4 Data Validation Checklist 16
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 17
6.1 Holding Times 17
6.2 Blank Contamination 17
6.3 Field Duplicate Analysis 20
6.4 Compound Identification 21
6.5 System Performance and Overall Assessment 21
6.6 Data Validation Checklist 22

7 Metals Analyses 22
7.1 Holding Times 22
7.2 Field Duplicate Analysis 23
7.3 System Performance and Overall Assessment 24
7.4 Data Validation Checklist 24
8 General Chemistry Analyses 24
8.1 Holding Times 24
8.2 Field Duplicate Analysis 25
8.3 System Performance and Overall Assessment 25
8.4 Data Validation Checklist for General Chemistry 25
9 Overall Data Usability 26

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Field Duplicate Sample Results 9
Table 6. Data validation checklist for VOCs 10
Table 7. Holding Time for Method SW-846 8270D 10
Table 8. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 11
Table 9. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 11
Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits 12
Table 11. Laboratory Control Sample Recovery Criteria and Qualifications 12
Table 12. Field Duplicate Sample Results 12
Table 13. Data validation checklist for SVOCs 13
Table 14. Holding Time for Method SW-846 8082A 13
Table15. Summary of Field Duplicate Analysis 14
Table 16. Data validation checklist for PCBs 14
Table 17. Holding Time for Method SW-846 8081B/8141B/8151A 15
Table18. Summary of Field Duplicate Analysis 16
Table 19. Data validation checklist for SW-846 8081B/8141B/8151A 16
Table 20. Holding Time for Method SW-846 8290A 17

Table 21. Summary of Blank Contamination Qualifications 17
Table22. Summary of Field Duplicate Analysis 20
Table 23. Data validation checklist for PCDD/PCDF 22
Table 24. Holding Time for Method SW-846 6010C/7471B 22
Table 25. Summary of Field Duplicate Analysis 23
Table 26. Data validation checklist for Metals 24
Table 27. Specified Holding Times 24
Table28. Summary of Field Duplicate Analysis 25
Table 29. Data validation checklist for General Chemistry 25
Table 30. Overall Summary of Data Usability 26

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-197946-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOCs	SVOCs	PEST/PCBs/HERB/OPC	PCDD/PCDF	MET	MISC
B-2022-2 (0.0-1.0)	480-197946-1	Soil	05/12/22			X	X	X	X	X
B-2022-2 (0.5)	480-197946-2	Soil	05/12/22		X					
B-2022-2 (12.0-16.0)	480-197946-3	Soil	05/12/22			X	X	X	X	X
B-2022-2 (14.0)	480-197946-4	Soil	05/12/22		X					
B-2022-2 (26.0-30.0)	480-197946-5	Soil	05/12/22			X	X	X	X	X
B-2022-2 (29.0)	480-197946-6	Soil	05/12/22		X					
B-2022-2 (43.0-47.0)	480-197946-7	Soil	05/12/22			X	X	X	X	X
B-2022-2 (44.0)	480-197946-8	Soil	05/12/22		X					
B-2022-2 (58.0-62.0)	480-197946-9	Soil	05/12/22			X	X	X	X	X
B-2022-2 (59.0)	480-197946-10	Soil	05/12/22		X					
DUP-3-051222	480-197946-11	Soil	05/12/22	B-2022-2 (0.5) & B-2022-2 (0-0-1.0)	X	X	X	X	X	X

Notes:

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC- Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	5	1	0	0	0	0	6
SVOCs	5	1	0	0	0	0	6
PCBs	5	1	0	0	0	0	6
PEST	5	1	0	0	0	0	6
OPC	5	1	0	0	0	0	6
HERB	5	1	0	0	0	0	6
PCDD/PCDF	5	1	0	0	0	0	6
Metals	5	1	0	0	0	0	6
MISC	5	1	0	0	0	0	6

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 5. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
B-2022-2 (0.5) / DUP-3-051222	All target compounds	U	U	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

Table 6. Data validation checklist for VOCs

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 7. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis performed on sample B-2022-2 (12.0-16.0) exhibiting recoveries outside of the control limits are presented in the following table.

Table 8. Samples with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Compounds	MS Recovery	MSD Recovery
B-2022-2 (12.0-16.0)	Benzidine	<10%	<10%
	Kepone	<10%	<10%
	p-Phenylene diamine	< 10%	< 10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 9. Matrix Spike / Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
B-2022-2 (0.0-1.0) B-2022-2 (12.0-16.0) B-2022-2 (26.0-30.0) B-2022-2 (43.0-47.0) B-2022-2 (58.0-62.0) DUP-3-051222	Prep Batch: 626297	Famphur	<10%
		Kepone	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 11. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 12. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
B-2022-2 (0.0-1.0) / DUP-3-051222	Bis(2-ethylhexyl) phthalate	190 U	120 J	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

3.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.6 Data Validation Checklist

Table 13. Data validation checklist for SVOCs

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate (MSD)		X	X		
Field/Lab Duplicate (RPD)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

Results for duplicate samples are summarized in the following table.

Table15. Summary of Field Duplicate Analysis

Sample ID/Duplicate ID	Compounds	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD
B-2022-2 (0.0-1.0) / DUP-3-051222	All target compounds	U	U	AC

Note:

AC = Acceptable

The results between the parent sample and field duplicate were acceptable.

4.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.4 Data Validation Checklist

Table 16. Data validation checklist for PCBs

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Table18. Summary of Field Duplicate Analysis

Sample ID/Duplicate ID	Method	Compounds	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	RPD
B-2022-2 (0.0-1.0) / DUP-3-051222	8081B /8151A/8141B	All target compounds	U	U	AC

Note:

AC = Acceptable

The results between the parent sample and field duplicate were acceptable

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

Table 19. Data validation checklist for SW-846 8081B/8141B/8151A

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 20. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 21. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
B-2022-2 (0.0-1.0)	1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB) 2,3,7,8-TCDF (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)		
B-2022-2 (12.0-16.0)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
B-2022-2 (43.0-47.0)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,7,8-PeCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB)		
B-2022-2 (58.0-62.0)	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
480-197946-11	1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,7,8-PeCDF (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
B-2022-2 (26.0-30.0)	2,3,4,6,7,8-HxCDF (MB) OCDD (MB) OCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HxCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Table22. Summary of Field Duplicate Analysis

Sample ID/Duplicate ID	Compounds	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	RPD
B-2022-2 (0.0-1.0) / DUP-3-051222	1,2,3,4,6,7,8-HpCDD	5.1 J	4.3 J	AC
	1,2,3,4,6,7,8-HpCDF	0.92 J	0.95 J	AC
	1,2,3,4,7,8,9-HpCDF	0.10 J	5.4 U	AC
	1,2,3,4,7,8-HxCDD	0.10 J	0.060 J	AC
	1,2,3,4,7,8-HxCDF	0.12 J	0.17 J	AC
	1,2,3,6,7,8-HxCDD	0.22 J	0.059 J	AC
	1,2,3,6,7,8-HxCDF	0.081 J	5.4 U	AC
	1,2,3,7,8,9-HxCDD	0.36 J	0.12 J	AC
	1,2,3,7,8,9-HxCDF	0.099 J	5.4 U	AC
	1,2,3,7,8-PeCDD	0.078 J	5.4 U	AC
	1,2,3,7,8-PeCDF	0.087 J	0.083 J	AC
	2,3,4,6,7,8-HxCDF	0.11 J	0.18 J	AC
	2,3,4,7,8-PeCDF	0.082 J	5.4 U	AC
	2,3,7,8-TCDD	0.034 J	1.1 U	AC
	2,3,7,8-TCDF	0.043 J	1.1 U	AC
	OCDD	50	32	AC

Sample ID/Duplicate ID	Compounds	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	RPD
	OCDF	2.6 J	3.8 J	AC
	Total HpCDD	5.1 J	4.3 J	AC
	Total HpCDF	1.0 J	0.95 J	AC
	Total HxCDD	0.68 J	0.24 J	AC
	Total HxCDF	0.41 J	0.35 J	AC
	Total PeCDD	0.078 J	5.4 U	AC
	Total PeCDF	0.17 J	0.083 J	AC
	Total TCDD	0.034 J	1.1 U	AC
	Total TCDF	0.043 J	1.1 U	AC

Note:

AC = Acceptable

The results between the parent sample and field duplicate were acceptable

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.6 Data Validation Checklist

Table 23. Data validation checklist for PCDD/PCDF

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Compound identification and quantitation		X	X		
Field/Lab Duplicate (RPD)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Metals Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 24. Holding Time for Method SW-846 6010C/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Soil	180 days from collection to analysis	Cool to <6 °C.
SW-846 7471B	Soil	28 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Table 25. Summary of Field Duplicate Analysis

Sample ID/Duplicate ID	Method	Compounds	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	RPD
B-2022-2 (0.0-1.0) / DUP-3-051222	6020	Antimony	1.5 J	2.5 J	AC
		Arsenic	3.1	3.6	AC
		Barium	13.5	19.4	35.9%
		Beryllium	0.16 J	0.21	AC
		Cadmium	0.11 J	0.063 J	AC
		Chromium	3.9	5.2	28.6%
		Cobalt	4.3	5.6	26.3%
		Copper	6.5	7.1	8.8%
		Lead	4.7	6.0	AC
		Nickel	7.7	9.5	AC
		Selenium	0.65 J	0.85 J	AC
		Vanadium	5.3	6.7	23.3%
		Zinc	22.8	31.4	31.7%
	7471B	Mercury	0.0094 J	0.0077 J	AC

Note:

AC = Acceptable

The results between the parent sample and field duplicate were acceptable

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

Table 26. Data validation checklist for Metals

METALS; SW-846 6010C/7471B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Field/Lab Duplicate (RPD)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 General Chemistry Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 27. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Soil	14 days from collection to analysis	Cool to <6 °C.
Sulfide by SM 4500 S2 F	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

8.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Table28. Summary of Field Duplicate Analysis

Sample ID/Duplicate ID	Method	Compounds	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	RPD
B-2022-2 (0.0-1.0) / DUP-3-051222	9012B	Cyanide, Total	0.99 U	0.99 U	AC
	SM 4500 S2 F	Sulfide	20.4 U	20.4 U	AC

Note:

AC = Acceptable

The results between the parent sample and field duplicate were acceptable

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist for General Chemistry

Table 29. Data validation checklist for General Chemistry

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

General Chemistry: SW-846 9012B/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Field/Lab Duplicate (RPD)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 30. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	100%	0
SVOCs	98.1%	14
PCBs	100%	0
PEST	100%	0
OPC	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample

analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Vinayak Hegde

SIGNATURE: 

DATE: November 25, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 28, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information
Client Contact: Mr. Daniel Meandro
Company: ARCADIS U.S. Inc
Address: One Lincoln Center 110 West Fayette St, Suite 300
City: Syracuse
State, Zip: NY, 13202
Phone: 315-671-9374(Tel)
Email: daniel.meandro@arcadis.com
Project Name: GE Woods Pond Parcel
Site: GE Lee

Sampler: R. McDermott
Phone: 551-237-1409
PWSID:
Due Date Requested:
TAT Requested (days): Standard
Compliance Project: Δ Yes Δ No
PO #: 30132437.001
WO #: WA-EUROFINS-30103563-2022-
Project #: 48024970
SSOW#:

Lab PM: Schove, John R
E-Mail: John.Schove@et.eurofinsus.com
Carrier Tracking No(s): Syracuse
State of Origin: MA #225

COC No: 480-173480-37198.4
Page: Page 1 of 1
Job #:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

SHORT HOLD

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B, 8082A, 8151A, 8270D	6010C, 7471B, 9012B, SM4500_S2_F	8141B - Appendix IX Organophosphorous Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8260C - Appendix IX Volatiles	8260C - Appendix IX Volatiles	8270D - Appendix IX Semi-Volatiles	6010C, 7470A	9012B - Cyanide, Total	8081B - Appendix IX Pesticides	8151A - Appendix IX Herbicides	8082A - Appendix IX PCBs	SM4500_S2_F - Sulfide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	A	N	D	B	N	N	N	CB		
B-2022-2(0.0-1.0)	5-12-2022	0815	C	S			X	X	X	X										4	
B-2022-2(0.5)	5-12-2022	0815	G	S							X									4	
B-2022-2(12.0-16.0)	5-12-2022	1010	C	S			X	X	X	X										4	
B-2022-2(14.0)	5-12-2022	1010	G	S							X									4	
B-2022-2(26.0-30.0)	5-12-2022	1100	C	S			X	X	X	X										4	
B-2022-2(29.0)	5-12-2022	1100	G	S							X									4	
B-2022-2(43.0-47.0)	5-12-2022	1310	C	S			X	X	X	X										4	
B-2022-2(44.0)	5-12-2022	1310	G	S							X									4	
B-2022-2(58.0-62.0)	5-12-2022	1420	C	S			X	X	X	X										4	
B-2022-2(59.0)	5-12-2022	1420	G	S							X									4	
DUP-3-051222	5-12-2022	—	G	S			X	X	X	X	X									4	

480-197946 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained lor
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	R. McDermott	5-12-2022/1600	ARCADIS	[illegible]	5/13/22/1000	TAB
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: #1 2.7

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: B-2022-2 (0.0-1.0)

Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-1

Matrix: Solid
Percent Solids: 89.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		190	32	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,2,4-Trichlorobenzene	ND	*3	370	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,2-Dichlorobenzene	ND	*3	370	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,2-Diphenylhydrazine	ND		370	21	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,3,5-Trinitrobenzene	ND		370	15	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,3-Dichlorobenzene	ND	*3	370	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,3-Dinitrobenzene	ND	*3	370	44	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,4-Dichlorobenzene	ND	*3	370	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,4-Dioxane	ND	*3	110	61	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1,4-Naphthoquinone	ND	*3	370	69	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
1-Naphthylamine	ND		370	130	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,3,4,6-Tetrachlorophenol	ND		190	39	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,4,5-Trichlorophenol	ND		190	51	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,4,6-Trichlorophenol	ND		190	38	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,4-Dichlorophenol	ND	*3	190	20	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,4-Dimethylphenol	ND	*3	190	45	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,4-Dinitrophenol	ND		1800	870	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,4-Dinitrotoluene	ND		190	39	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,6-Dichlorophenol	ND	*3	370	69	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2,6-Dinitrotoluene	ND		190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Acetylaminofluorene	ND		370	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Chloronaphthalene	ND		190	31	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Chlorophenol	ND	*3	370	34	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Methylnaphthalene	ND	*3	190	38	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Methylphenol	ND	*3	190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Naphthylamine	ND		370	130	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Nitroaniline	ND		370	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Nitrophenol	ND	*3	190	53	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Picoline	ND	*3	370	42	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
2-Toluidine	ND	*3	370	90	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
3 & 4 Methylphenol	ND	*3	370	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
3,3'-Dichlorobenzidine	ND		370	220	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
3,3'-Dimethylbenzidine	ND		730	370	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
3-Methylcholanthrene	ND		370	61	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
3-Methylphenol	ND	*3	370	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
3-Nitroaniline	ND		370	52	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4,6-Dinitro-2-methylphenol	ND		370	190	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Aminobiphenyl	ND		370	76	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Bromophenyl phenyl ether	ND		190	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Chloro-3-methylphenol	ND	*3	190	47	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Chloroaniline	ND	*3	190	47	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Chlorophenyl phenyl ether	ND		190	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Methylphenol	ND	*3	370	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Nitroaniline	ND		370	99	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Nitrophenol	ND		370	130	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
4-Nitroquinoline-1-oxide	ND		730	370	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
7,12-Dimethylbenz(a)anthracene	ND		370	54	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
a,a-Dimethylphenethylamine	ND	*3	370	370	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Acenaphthene	ND		190	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1

Client Sample ID: B-2022-2 (0.0-1.0)

Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-1

Matrix: Solid
Percent Solids: 89.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		190	24	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Acetophenone	ND	*3	190	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Aniline	ND	*3	370	45	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Anthracene	ND		190	47	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Aramite, Total	ND		370	180	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzidine	ND		5500	2300	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Benzyl alcohol	ND	*3	370	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
bis (2-chloroisopropyl) ether	ND	*3	190	38	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Bis(2-chloroethoxy)methane	ND	*3	190	40	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Bis(2-chloroethyl)ether	ND	*3	190	24	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Bis(2-ethylhexyl) phthalate	ND		190	64	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Butyl benzyl phthalate	ND		190	31	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Chrysene	ND		190	42	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Diallate	ND		370	47	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Dibenzofuran	ND		190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Diethyl phthalate	ND		190	24	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Dimethoate	ND		370	45	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Dimethyl phthalate	ND		190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Di-n-octyl phthalate	ND		190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Dinoseb	ND		370	65	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Diphenylamine	ND		370	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Disulfoton	ND		370	280	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Chlorobenzilate	ND		370	59	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Ethyl methanesulfonate	ND	*3	370	81	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Famphur	ND	*	730	180	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	R
Fluoranthene	ND		190	20	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Fluorene	ND		190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Hexachlorobenzene	ND		190	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Hexachlorobutadiene	ND	*3	190	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Hexachlorocyclopentadiene	ND		190	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Hexachloroethane	ND	*3	190	24	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Hexachloropropene	ND	*3	370	93	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Isodrin	ND		370	64	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Isophorone	ND	*3	190	40	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Isosafrole	ND	*3	370	49	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Kepone	ND	*	730	370	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	R
Methapyrilene	ND		1700	370	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Methyl methanesulfonate	ND	*3	370	84	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Naphthalene	ND	*3	190	24	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
Nitrobenzene	ND	*3	190	21	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	
N-Nitro-o-toluidine	ND		370	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1	

Client Sample ID: B-2022-2 (0.0-1.0)

Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-1

Matrix: Solid
Percent Solids: 89.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	*3	370	85	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosodimethylamine	ND	*3	370	80	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosodi-n-butylamine	ND	*3	370	100	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosodi-n-propylamine	ND	*3	190	32	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosodiphenylamine	ND		190	150	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosomethylethylamine	ND	*3	370	84	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosomorpholine	ND	*3	370	82	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosopiperidine	ND	*3	370	74	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
N-Nitrosopyrrolidine	ND	*3	370	55	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
o,o',o''-Triethylphosphorothioate	ND	*3	370	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Ethyl Parathion	ND		370	41	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Methyl parathion	ND		370	63	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
p-Dimethylamino azobenzene	ND		370	62	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Pentachlorobenzene	ND		370	76	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Pentachloronitrobenzene	ND		370	93	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Pentachlorophenol	ND		370	190	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Phenacetin	ND		370	50	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Phenanthrene	ND		190	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Phenol	ND	*3	190	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Phorate	ND		370	100	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
p-Phenylene diamine	ND	*3	890	370	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Pronamide	ND		370	72	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Pyrene	ND		190	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Pyridine	ND	*3	370	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Safrole	ND	*3	370	50	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Sulfotepp	ND		370	59	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1
Thionazin	ND		370	64	ug/Kg	☼	05/16/22 15:21	05/17/22 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*05/16/22 15:21*	*05/17/22 20:16*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*05/16/22 15:21*	*05/17/22 20:16*	*1*
2-Fluorophenol (Surr)	*65*	*3*	*52 - 120*	*05/16/22 15:21*	*05/17/22 20:16*	*1*
Nitrobenzene-d5 (Surr)	*84*	*3*	*53 - 120*	*05/16/22 15:21*	*05/17/22 20:16*	*1*
Phenol-d5 (Surr)	*71*	*3*	*54 - 120*	*05/16/22 15:21*	*05/17/22 20:16*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*05/16/22 15:21*	*05/17/22 20:16*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
4,4'-DDE	ND		1.8	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
4,4'-DDT	ND		1.8	0.43	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Aldrin	ND		1.8	0.45	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
alpha-BHC	ND		1.8	0.33	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
beta-BHC	ND		1.8	0.33	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Chlordane (technical)	ND		18	4.1	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Chlorobenzilate	ND		18	6.1	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
cis-Chlordane	ND		1.8	0.91	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
delta-BHC	ND		1.8	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Dieldrin	ND		1.8	0.44	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Endosulfan I	ND		1.8	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1

Client Sample ID: B-2022-2 (0.0-1.0)

Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-1

Matrix: Solid
Percent Solids: 89.0

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.8	0.33	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Endosulfan sulfate	ND		1.8	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Endrin	ND		1.8	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Endrin aldehyde	ND		1.8	0.47	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Endrin ketone	ND		1.8	0.45	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
gamma-BHC (Lindane)	ND		1.8	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Heptachlor	ND		1.8	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Heptachlor epoxide	ND		1.8	0.47	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Methoxychlor	ND		1.8	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
Toxaphene	ND		18	11	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1
trans-Chlordane	ND		1.8	0.58	ug/Kg	☼	05/16/22 15:30	05/17/22 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*69*		*45 - 120*	*05/16/22 15:30*	*05/17/22 15:34*	*1*
DCB Decachlorobiphenyl	*89*		*45 - 120*	*05/16/22 15:30*	*05/17/22 15:34*	*1*
Tetrachloro-m-xylene	*98*		*30 - 124*	*05/16/22 15:30*	*05/17/22 15:34*	*1*
Tetrachloro-m-xylene	*77*		*30 - 124*	*05/16/22 15:30*	*05/17/22 15:34*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	05/13/22 17:12	05/16/22 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*100*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:15*	*1*
DCB Decachlorobiphenyl	*103*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:15*	*1*
Tetrachloro-m-xylene	*109*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:15*	*1*
Tetrachloro-m-xylene	*106*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:15*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.9	ug/Kg	☼	05/18/22 07:09	05/23/22 23:23	1
2,4-D	ND		18	12	ug/Kg	☼	05/18/22 07:09	05/23/22 23:23	1
Silvex (2,4,5-TP)	ND		18	6.6	ug/Kg	☼	05/18/22 07:09	05/23/22 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*05/18/22 07:09*	*05/23/22 23:23*	*1*
2,4-Dichlorophenylacetic acid	*83*		*28 - 129*	*05/18/22 07:09*	*05/23/22 23:23*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		37	21	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1
Disulfoton	ND	~~F1~~	37	25	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1
Famphur	ND		37	20	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1
Methyl parathion	ND		37	21	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1
Ethyl Parathion	ND		37	21	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1

Client Sample ID: B-2022-2 (0.0-1.0)

Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-1

Matrix: Solid
Percent Solids: 89.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		37	13	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1
Sulfotepp	ND		37	14	ug/Kg	☼	05/19/22 09:45	05/23/22 07:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*98*		*20 - 135*	*05/19/22 09:45*	*05/23/22 07:10*	*1*
Tributyl phosphate	*95*		*20 - 135*	*05/19/22 09:45*	*05/23/22 07:10*	*1*
Triphenylphosphate	*103*		*33 - 168*	*05/19/22 09:45*	*05/23/22 07:10*	*1*
Triphenylphosphate	*104*		*33 - 168*	*05/19/22 09:45*	*05/23/22 07:10*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	5.1	J B	5.4	0.038	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,4,6,7,8-HpCDF	0.92	J B	5.4	0.0095	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,4,7,8,9-HpCDF	0.10	J I B	5.4 U	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,4,7,8-HxCDD	0.10	J B	5.4 U	0.0068	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,4,7,8-HxCDF	0.12	J I	5.4	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,6,7,8-HxCDD	0.22	J I B	5.4 U	0.0071	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,6,7,8-HxCDF	0.081	J I B	5.4 U	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,7,8,9-HxCDD	0.36	J	5.4	0.0075	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,7,8,9-HxCDF	0.099	J B	5.4 U	0.016	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,7,8-PeCDD	0.076	J I B	5.4 U	0.0051	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
1,2,3,7,8-PeCDF	0.087	J B	5.4 U	0.0055	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
2,3,4,6,7,8-HxCDF	0.11	J I	5.4	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
2,3,4,7,8-PeCDF	0.082	J I B	5.4 U	0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
2,3,7,8-TCDD	0.034	J I	1.1	0.0047	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
2,3,7,8-TCDF	0.043	J I B	1.1 U	0.0035	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
OCDD	50	B	11	0.036	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
OCDF	2.6	J B	11	0.011	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total HpCDD	5.1	J B	5.4	0.038	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total HpCDF	1.0	J I B	5.4 U	0.012	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total HxCDD	0.68	J I B	5.4	0.0071	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total HxCDF	0.41	J I B	5.4	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total PeCDD	0.078	J I B	5.4	0.0051	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total PeCDF	0.17	J I B	5.4	0.0046	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total TCDD	0.034	J I	1.1	0.0047	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1
Total TCDF	0.043	J I B	1.1 U	0.0035	ng/Kg	☼	05/21/22 09:58	05/25/22 12:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*82*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,7,8,9-HxCDD	*82*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*40 - 135*	*05/21/22 09:58*	*05/25/22 12:16*	*1*

Client Sample ID: B-2022-2 (0.0-1.0)

Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-1

Matrix: Solid
Percent Solids: 89.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	77		40 - 135	05/21/22 09:58	05/25/22 12:16	1
13C-2,3,7,8-TCDD	79		40 - 135	05/21/22 09:58	05/25/22 12:16	1
13C-2,3,7,8-TCDF	70		40 - 135	05/21/22 09:58	05/25/22 12:16	1
13C-OCDD	80		40 - 135	05/21/22 09:58	05/25/22 12:16	1
13C-OCDF	83		40 - 135	05/21/22 09:58	05/25/22 12:16	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.5	J	16.8	0.45	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Arsenic	3.1		2.2	0.45	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Barium	13.5		0.56	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Beryllium	0.16	J	0.22	0.031	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Cadmium	0.11	J	0.22	0.034	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Chromium	3.9		0.56	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Cobalt	4.3		0.56	0.056	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Copper	6.5		1.1	0.23	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Lead	4.7		1.1	0.27	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Nickel	7.7		5.6	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Selenium	0.65	J	4.5	0.45	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Silver	ND		0.67	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Thallium	ND		6.7	0.34	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Tin	ND		2.2	0.48	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Vanadium	5.3		0.56	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1
Zinc	22.8		2.2	0.72	mg/Kg	☼	05/19/22 12:46	05/24/22 14:13	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0094	J	0.021	0.0047	mg/Kg	☼	05/18/22 11:48	05/18/22 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.99	0.48	mg/Kg	☼	05/17/22 12:15	05/17/22 14:25	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND	~~F1~~	20.2	11.5	mg/Kg	☼		05/23/22 15:50	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (0.5)
Date Collected: 05/12/22 08:15
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-2
Matrix: Solid
Percent Solids: 98.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	0.54	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,1,1-Trichloroethane	ND		5.4	0.39	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,1,2,2-Tetrachloroethane	ND		5.4	0.88	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,1,2-Trichloroethane	ND		5.4	0.70	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,1-Dichloroethane	ND		5.4	0.66	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,1-Dichloroethene	ND		5.4	0.66	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,2,3-Trichloropropane	ND		5.4	0.55	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,2-Dichloroethane	ND		5.4	0.27	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
1,2-Dichloropropane	ND		5.4	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
2-Butanone (MEK)	ND		27	2.0	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
2-Chloro-1,3-butadiene	ND		5.4	3.4	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
2-Chloroethyl vinyl ether	ND		11	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
2-Hexanone	ND		27	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
3-Chloro-1-propene	ND		5.4	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
4-Methyl-2-pentanone (MIBK)	ND		27	1.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Acetone	ND		27	4.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Acetonitrile	ND		54	6.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Acrolein	ND		27	8.5	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Acrylonitrile	ND		27	4.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Benzene	ND		5.4	0.27	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Bromoform	ND		5.4	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Bromomethane	ND		5.4	0.49	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Carbon disulfide	ND		5.4	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Carbon tetrachloride	ND		5.4	0.52	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Chlorobenzene	ND		5.4	0.71	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Chlorodibromomethane	ND		5.4	0.69	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Chloroethane	ND		5.4	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Chloroform	ND		5.4	0.33	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Chloromethane	ND		5.4	0.33	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
cis-1,3-Dichloropropene	ND		5.4	0.78	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Dibromomethane	ND		5.4	0.56	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Dichlorobromomethane	ND		5.4	0.72	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Dichlorodifluoromethane	ND		5.4	0.45	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Ethyl methacrylate	ND		5.4	1.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Ethylbenzene	ND		5.4	0.37	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Ethylene Dibromide	ND		5.4	0.69	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Iodomethane	ND		5.4	0.26	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Methacrylonitrile	ND		27	6.4	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Methyl methacrylate	ND		5.4	1.1	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Methylene Chloride	ND		5.4	2.5	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
m-Xylene & p-Xylene	ND		11	0.91	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
o-Xylene	ND		5.4	0.71	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Propionitrile	ND		54	30	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Styrene	ND		5.4	0.27	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Tetrachloroethene	ND		5.4	0.73	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Toluene	ND		5.4	0.41	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
trans-1,2-Dichloroethene	ND		5.4	0.56	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
trans-1,3-Dichloropropene	ND		5.4	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1

Client: ARCADIS U.S. Inc
Job ID: 480-197946-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: B-2022-2 (0.5)
Lab Sample ID: 480-197946-2
Date Collected: 05/12/22 08:15
Matrix: Solid
Date Received: 05/13/22 10:00
Percent Solids: 98.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.4	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Trichloroethene	ND		5.4	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Trichlorofluoromethane	ND		5.4	0.51	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Vinyl acetate	ND		11	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1
Vinyl chloride	ND		5.4	0.66	ug/Kg	☼	05/13/22 16:40	05/16/22 22:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*64 - 126*	*05/13/22 16:40*	*05/16/22 22:08*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*05/13/22 16:40*	*05/16/22 22:08*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*05/13/22 16:40*	*05/16/22 22:08*	*1*
Toluene-d8 (Surr)	*95*		*71 - 125*	*05/13/22 16:40*	*05/16/22 22:08*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (12.0-16.0)
Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-3
Matrix: Solid
Percent Solids: 85.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,2,4-Trichlorobenzene	ND		380	28	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,2-Dichlorobenzene	ND		380	27	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,2-Diphenylhydrazine	ND		380	22	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,3,5-Trinitrobenzene	ND		380	16	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,3-Dichlorobenzene	ND		380	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,3-Dinitrobenzene	ND		380	46	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,4-Dichlorobenzene	ND		380	30	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,4-Dioxane	ND		120	64	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1,4-Naphthoquinone	ND		380	72	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
1-Naphthylamine	ND		380	130	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,3,4,6-Tetrachlorophenol	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,4,5-Trichlorophenol	ND		200	53	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,4,6-Trichlorophenol	ND		200	39	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,4-Dinitrophenol	ND		1900	910	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,4-Dinitrotoluene	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,6-Dichlorophenol	ND		380	72	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Acetylaminofluorene	ND		380	50	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Chloronaphthalene	ND		200	32	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Chlorophenol	ND		380	36	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Methylnaphthalene	ND		200	39	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Methylphenol	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Naphthylamine	ND		380	130	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Nitroaniline	ND		380	29	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Nitrophenol	ND		200	55	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Picoline	ND		380	44	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
2-Toluidine	ND		380	94	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
3 & 4 Methylphenol	ND		380	30	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
3,3'-Dichlorobenzidine	ND		380	230	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
3,3'-Dimethylbenzidine	ND		760	380	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
3-Methylphenol	ND		380	30	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
3-Nitroaniline	ND		380	54	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4,6-Dinitro-2-methylphenol	ND		380	200	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Aminobiphenyl	ND		380	80	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Chlorophenyl phenyl ether	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Methylphenol	ND		380	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Nitroaniline	ND		380	100	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Nitrophenol	ND		380	140	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
4-Nitroquinoline-1-oxide	ND		760	380	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
a,a-Dimethylphenethylamine	ND		380	380	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Acenaphthene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1

Client Sample ID: B-2022-2 (12.0-16.0)
Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-3
Matrix: Solid
Percent Solids: 85.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Acetophenone	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Aniline	ND		380	47	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Anthracene	ND		200	49	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Aramite, Total	ND		380	180	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Benzidine	ND	F1	5800	2400	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	R
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Benzyl alcohol	ND		380	27	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
bis (2-chloroisopropyl) ether	ND		200	39	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Bis(2-chloroethyl)ether	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Butyl benzyl phthalate	ND	F1	200	32	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Chrysene	ND		200	44	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Diallate	ND		380	49	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Dibenzofuran	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Diethyl phthalate	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Dimethoate	ND		380	47	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Dimethyl phthalate	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Dinoseb	ND		380	68	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Diphenylamine	ND		380	50	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Disulfoton	ND		380	290	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Chlorobenzilate	ND		380	61	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Ethyl methanesulfonate	ND		380	84	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Famphur	ND	F2 *-	760	180	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	R
Fluoranthene	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Fluorene	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Hexachloroethane	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Hexachloropropene	ND		380	97	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Isodrin	ND		380	67	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Isophorone	ND		200	42	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Isosafrole	ND		380	51	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Kepone	ND	F1 *-	760	380	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	R
Methapyrilene	ND		1700	380	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Methyl methanesulfonate	ND		380	88	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Naphthalene	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
Nitrobenzene	ND		200	22	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	
N-Nitro-o-toluidine	ND		380	50	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1	

Client Sample ID: B-2022-2 (12.0-16.0)

Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-3

Matrix: Solid
Percent Solids: 85.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		380	89	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosodimethylamine	ND		380	83	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosodi-n-butylamine	ND		380	100	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosodi-n-propylamine	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosomethylethylamine	ND		380	88	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosomorpholine	ND		380	85	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosopiperidine	ND		380	77	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
N-Nitrosopyrrolidine	ND		380	58	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
o,o',o''-Triethylphosphorothioate	ND		380	50	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Ethyl Parathion	ND		380	43	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Methyl parathion	ND		380	66	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
p-Dimethylamino azobenzene	ND		380	65	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Pentachlorobenzene	ND		380	80	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Pentachloronitrobenzene	ND		380	97	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Pentachlorophenol	ND		380	200	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Phenacetin	ND		380	52	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Phenanthrene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Phenol	ND		200	30	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Phorate	ND		380	110	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
p-Phenylene diamine	ND	F1	920	380	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Pronamide	ND		380	75	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Pyrene	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Pyridine	ND		380	28	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Safrole	ND		380	52	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Sulfotepp	ND		380	61	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1
Thionazin	ND		380	67	ug/Kg	☼	05/16/22 15:21	05/17/22 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*05/16/22 15:21*	*05/17/22 19:52*	*1*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*05/16/22 15:21*	*05/17/22 19:52*	*1*
2-Fluorophenol (Surr)	*63*		*52 - 120*	*05/16/22 15:21*	*05/17/22 19:52*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*05/16/22 15:21*	*05/17/22 19:52*	*1*
Phenol-d5 (Surr)	*70*		*54 - 120*	*05/16/22 15:21*	*05/17/22 19:52*	*1*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*05/16/22 15:21*	*05/17/22 19:52*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
4,4'-DDE	ND		1.9	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
4,4'-DDT	ND		1.9	0.44	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Aldrin	ND		1.9	0.47	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
alpha-BHC	ND		1.9	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
beta-BHC	ND		1.9	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Chlordane (technical)	ND		19	4.2	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Chlorobenzilate	ND		19	6.4	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
cis-Chlordane	ND		1.9	0.95	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
delta-BHC	ND		1.9	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Dieldrin	ND		1.9	0.46	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Endosulfan I	ND		1.9	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (12.0-16.0)
Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-3
Matrix: Solid
Percent Solids: 85.2

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Endosulfan sulfate	ND		1.9	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Endrin	ND		1.9	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Endrin aldehyde	ND		1.9	0.49	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Endrin ketone	ND		1.9	0.47	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
gamma-BHC (Lindane)	ND		1.9	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Heptachlor	ND		1.9	0.41	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Heptachlor epoxide	ND		1.9	0.49	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Methoxychlor	ND		1.9	0.39	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
Toxaphene	ND		19	11	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1
trans-Chlordane	ND		1.9	0.60	ug/Kg	☼	05/16/22 15:30	05/17/22 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*71*		*45 - 120*	*05/16/22 15:30*	*05/17/22 15:54*	*1*
DCB Decachlorobiphenyl	*78*		*45 - 120*	*05/16/22 15:30*	*05/17/22 15:54*	*1*
Tetrachloro-m-xylene	*85*		*30 - 124*	*05/16/22 15:30*	*05/17/22 15:54*	*1*
Tetrachloro-m-xylene	*65*		*30 - 124*	*05/16/22 15:30*	*05/17/22 15:54*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.26	0.051	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1
PCB-1221	ND		0.26	0.051	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1
PCB-1232	ND		0.26	0.051	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1
PCB-1242	ND		0.26	0.051	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1
PCB-1248	ND		0.26	0.051	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1
PCB-1254	ND		0.26	0.12	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1
PCB-1260	ND		0.26	0.12	mg/Kg	☼	05/13/22 17:12	05/16/22 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*102*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:29*	*1*
DCB Decachlorobiphenyl	*99*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:29*	*1*
Tetrachloro-m-xylene	*120*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:29*	*1*
Tetrachloro-m-xylene	*108*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:29*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		19	6.2	ug/Kg	☼	05/18/22 07:09	05/23/22 23:53	1
2,4-D	ND		19	12	ug/Kg	☼	05/18/22 07:09	05/23/22 23:53	1
Silvex (2,4,5-TP)	ND		19	6.9	ug/Kg	☼	05/18/22 07:09	05/23/22 23:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*71*		*28 - 129*	*05/18/22 07:09*	*05/23/22 23:53*	*1*
2,4-Dichlorophenylacetic acid	*75*		*28 - 129*	*05/18/22 07:09*	*05/23/22 23:53*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1
Disulfoton	ND		39	26	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1
Famphur	ND		39	21	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1
Methyl parathion	ND		39	22	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1

Client Sample ID: B-2022-2 (12.0-16.0)

Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-3

Matrix: Solid
Percent Solids: 85.2

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		39	13	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1
Sulfotepp	ND		39	15	ug/Kg	☼	05/19/22 09:45	05/23/22 08:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*20 - 135*	*05/19/22 09:45*	*05/23/22 08:44*	*1*
Tributyl phosphate	*85*		*20 - 135*	*05/19/22 09:45*	*05/23/22 08:44*	*1*
Triphenylphosphate	*90*		*33 - 168*	*05/19/22 09:45*	*05/23/22 08:44*	*1*
Triphenylphosphate	*91*		*33 - 168*	*05/19/22 09:45*	*05/23/22 08:44*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.35~~	~~J I B~~	5.8	U	0.028	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,4,6,7,8-HpCDF	~~0.24~~	~~J B~~	5.8	U	0.0043	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,4,7,8,9-HpCDF	~~0.040~~	~~J I B~~	5.8	U	0.0058	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,4,7,8-HxCDD	~~0.054~~	~~J B~~	5.8	U	0.0027	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,4,7,8-HxCDF	0.13	~~J I~~ JNX	5.8		0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,6,7,8-HxCDD	ND		5.8		0.0029	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,6,7,8-HxCDF	~~0.13~~	~~J I B~~	5.8	U	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,7,8,9-HxCDD	0.075	~~J I~~ JNX	5.8		0.0029	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,7,8,9-HxCDF	ND		5.8		0.018	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,7,8-PeCDD	ND		5.8		0.010	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
1,2,3,7,8-PeCDF	~~0.069~~	~~J I B~~	5.8	U	0.0089	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
2,3,4,6,7,8-HxCDF	0.13	~~J I~~ JNX	5.8		0.015	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
2,3,4,7,8-PeCDF	~~0.071~~	~~J I B~~	5.8	U	0.0063	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
2,3,7,8-TCDD	0.023	~~J I~~ JNX	1.2		0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
2,3,7,8-TCDF	~~0.023~~	~~J I B~~	1.2	U	0.0056	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
OCDD	~~1.7~~	~~J B~~	12	U	0.022	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
OCDF	~~0.25~~	~~J I B~~	12	U	0.0036	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total HpCDD	~~0.35~~	~~J I B~~	5.8	U	0.028	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total HpCDF	~~0.26~~	~~J I B~~	5.8		0.0050	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total HxCDD	~~0.13~~	~~J I B~~	5.8		0.0028	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total HxCDF	~~0.39~~	~~J I B~~	5.8		0.015	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total PeCDD	ND		5.8		0.010	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total PeCDF	~~0.14~~	~~J I B~~	5.8	U	0.0076	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total TCDD	0.023	~~J I~~ JNX	1.2		0.0038	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1
Total TCDF	~~0.023~~	~~J I B~~	1.2	U	0.0056	ng/Kg	☼	05/21/22 09:58	05/25/22 13:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,6,7,8-HxCDF	*83*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,7,8,9-HxCDD	*80*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,7,8,9-HxCDF	*78*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*40 - 135*	*05/21/22 09:58*	*05/25/22 13:05*	*1*

Client Sample ID: B-2022-2 (12.0-16.0)

Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-3

Matrix: Solid
Percent Solids: 85.2

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	74		40 - 135	05/21/22 09:58	05/25/22 13:05	1
13C-2,3,7,8-TCDD	76		40 - 135	05/21/22 09:58	05/25/22 13:05	1
13C-2,3,7,8-TCDF	67		40 - 135	05/21/22 09:58	05/25/22 13:05	1
13C-OCDD	72		40 - 135	05/21/22 09:58	05/25/22 13:05	1
13C-OCDF	76		40 - 135	05/21/22 09:58	05/25/22 13:05	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.4	J	18.2	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Arsenic	4.2		2.4	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Barium	13.4		0.61	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Beryllium	0.18	J	0.24	0.034	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Cadmium	0.064	J	0.24	0.036	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Chromium	4.3		0.61	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Cobalt	6.3		0.61	0.061	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Copper	7.0		1.2	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Lead	5.3		1.2	0.29	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Nickel	9.7		6.1	0.28	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Selenium	ND		4.9	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Silver	ND		0.73	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Thallium	ND		7.3	0.36	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Tin	ND		2.4	0.52	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Vanadium	5.6		0.61	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1
Zinc	31.1		2.4	0.78	mg/Kg	☼	05/19/22 12:46	05/24/22 14:17	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0054	mg/Kg	☼	05/18/22 11:48	05/18/22 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.51	mg/Kg	☼	05/17/22 12:15	05/17/22 14:27	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.5	12.2	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-2 (14.0)
Date Collected: 05/12/22 10:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-4
Matrix: Solid
Percent Solids: 91.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.8	0.58	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,1,1-Trichloroethane	ND		5.8	0.42	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,1,2,2-Tetrachloroethane	ND		5.8	0.95	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,1,2-Trichloroethane	ND		5.8	0.76	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,1-Dichloroethane	ND		5.8	0.71	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,1-Dichloroethene	ND		5.8	0.71	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,2,3-Trichloropropane	ND		5.8	0.59	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,2-Dibromo-3-Chloropropane	ND		5.8	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,2-Dichloroethane	ND		5.8	0.29	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
1,2-Dichloropropane	ND		5.8	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
2-Butanone (MEK)	ND		29	2.1	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
2-Chloro-1,3-butadiene	ND		5.8	3.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
2-Chloroethyl vinyl ether	ND		12	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
2-Hexanone	ND		29	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
3-Chloro-1-propene	ND		5.8	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
4-Methyl-2-pentanone (MIBK)	ND		29	1.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Acetone	ND		29	4.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Acetonitrile	ND		58	7.1	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Acrolein	ND		29	9.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Acrylonitrile	ND		29	5.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Benzene	ND		5.8	0.29	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Bromoform	ND		5.8	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Bromomethane	ND		5.8	0.53	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Carbon disulfide	ND		5.8	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Carbon tetrachloride	ND		5.8	0.57	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Chlorobenzene	ND		5.8	0.77	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Chlorodibromomethane	ND		5.8	0.75	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Chloroethane	ND		5.8	1.3	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Chloroform	ND		5.8	0.36	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Chloromethane	ND		5.8	0.35	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
cis-1,3-Dichloropropene	ND		5.8	0.84	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Dibromomethane	ND		5.8	0.60	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Dichlorobromomethane	ND		5.8	0.78	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Dichlorodifluoromethane	ND		5.8	0.48	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Ethyl methacrylate	ND		5.8	2.0	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Ethylbenzene	ND		5.8	0.40	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Ethylene Dibromide	ND		5.8	0.75	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Iodomethane	ND		5.8	0.28	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Methacrylonitrile	ND		29	6.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Methyl methacrylate	ND		5.8	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Methylene Chloride	ND		5.8	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
m-Xylene & p-Xylene	ND		12	0.98	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
o-Xylene	ND		5.8	0.76	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Propionitrile	ND		58	33	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Styrene	ND		5.8	0.29	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Tetrachloroethene	ND		5.8	0.78	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Toluene	ND		5.8	0.44	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
trans-1,2-Dichloroethene	ND		5.8	0.60	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
trans-1,3-Dichloropropene	ND		5.8	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1

Client: ARCADIS U.S. Inc
Job ID: 480-197946-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: B-2022-2 (14.0)
Lab Sample ID: 480-197946-4
Date Collected: 05/12/22 10:10
Matrix: Solid
Date Received: 05/13/22 10:00
Percent Solids: 91.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.8	1.3	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Trichloroethene	ND		5.8	1.3	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Trichlorofluoromethane	ND		5.8	0.55	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Vinyl acetate	ND		12	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1
Vinyl chloride	ND		5.8	0.71	ug/Kg	☼	05/13/22 16:40	05/16/22 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/13/22 16:40*	*05/16/22 22:32*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 126*	*05/13/22 16:40*	*05/16/22 22:32*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*	*05/13/22 16:40*	*05/16/22 22:32*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/13/22 16:40*	*05/16/22 22:32*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (26.0-30.0)
Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-5
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,3-Dichlorobenzene	ND		390	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1,4-Naphthoquinone	ND		390	73	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,4-Dinitrophenol	ND		2000	920	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,6-Dichlorophenol	ND		390	73	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2,6-Dinitrotoluene	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Chlorophenol	ND		390	36	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Methylphenol	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Nitroaniline	ND		390	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Nitrophenol	ND		200	56	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Picoline	ND		390	45	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
2-Toluidine	ND		390	95	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
3,3'-Dichlorobenzidine	ND		390	230	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
3-Nitroaniline	ND		390	55	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Aminobiphenyl	ND		390	81	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Chloro-3-methylphenol	ND		200	49	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Chloroaniline	ND		200	49	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Methylphenol	ND		390	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Nitroaniline	ND		390	100	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Acenaphthene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1

Client Sample ID: B-2022-2 (26.0-30.0)

Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-5

Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Acetophenone	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Aniline	ND		390	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Anthracene	ND		200	49	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Aramite, Total	ND		390	190	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzidine	ND		5900	2500	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Bis(2-chloroethoxy)methane	ND		200	42	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Bis(2-ethylhexyl) phthalate	ND		200	68	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Chrysene	ND		200	45	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Diallate	ND		390	49	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Dibenzofuran	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Dimethoate	ND		390	48	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Dimethyl phthalate	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Di-n-octyl phthalate	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Dinoseb	ND		390	69	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Diphenylamine	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Disulfoton	ND		390	290	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Chlorobenzilate	ND		390	62	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Ethyl methanesulfonate	ND		390	86	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Famphur	ND	*-	780	190	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	R
Fluoranthene	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Fluorene	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Hexachlorobutadiene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Hexachloroethane	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Hexachloropropene	ND		390	99	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Isodrin	ND		390	68	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Isophorone	ND		200	42	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Isosafrole	ND		390	52	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Kepone	ND	*-	780	390	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	R
Methapyrilene	ND		1800	390	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Methyl methanesulfonate	ND		390	89	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Naphthalene	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
Nitrobenzene	ND		200	22	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1	

Client Sample ID: B-2022-2 (26.0-30.0)
Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-5
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	90	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosomethylethylamine	ND		390	89	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosomorpholine	ND		390	87	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosopiperidine	ND		390	79	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Ethyl Parathion	ND		390	43	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Methyl parathion	ND		390	67	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Pentachlorobenzene	ND		390	81	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Pentachloronitrobenzene	ND		390	99	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Phenacetin	ND		390	53	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Phenanthrene	ND		200	29	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Phenol	ND		200	31	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Phorate	ND		390	110	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
p-Phenylene diamine	ND		940	390	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Pronamide	ND		390	76	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Pyrene	ND		200	23	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Pyridine	ND		390	28	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Safrole	ND		390	53	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Sulfotepp	ND		390	62	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1
Thionazin	ND		390	68	ug/Kg	☼	05/16/22 15:21	05/17/22 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*05/16/22 15:21*	*05/17/22 20:41*	*1*
2-Fluorobiphenyl (Surr)	*76*		*60 - 120*	*05/16/22 15:21*	*05/17/22 20:41*	*1*
2-Fluorophenol (Surr)	*65*		*52 - 120*	*05/16/22 15:21*	*05/17/22 20:41*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*05/16/22 15:21*	*05/17/22 20:41*	*1*
Phenol-d5 (Surr)	*74*		*54 - 120*	*05/16/22 15:21*	*05/17/22 20:41*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*05/16/22 15:21*	*05/17/22 20:41*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		2.0	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
4,4'-DDE	ND		2.0	0.41	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
4,4'-DDT	ND		2.0	0.46	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Aldrin	ND		2.0	0.48	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
alpha-BHC	ND		2.0	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
beta-BHC	ND		2.0	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Chlordane (technical)	ND		20	4.4	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Chlorobenzilate	ND		20	6.6	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
cis-Chlordane	ND		2.0	0.98	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
delta-BHC	ND		2.0	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Dieldrin	ND		2.0	0.47	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Endosulfan I	ND		2.0	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (26.0-30.0)
Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-5
Matrix: Solid
Percent Solids: 83.0

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		2.0	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Endosulfan sulfate	ND		2.0	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Endrin	ND		2.0	0.39	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Endrin aldehyde	ND		2.0	0.50	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Endrin ketone	ND		2.0	0.48	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
gamma-BHC (Lindane)	ND		2.0	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Heptachlor	ND		2.0	0.43	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Heptachlor epoxide	ND		2.0	0.51	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Methoxychlor	ND		2.0	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
Toxaphene	ND		20	11	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1
trans-Chlordane	ND		2.0	0.63	ug/Kg	☼	05/16/22 15:30	05/17/22 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*72*		*45 - 120*	*05/16/22 15:30*	*05/17/22 16:14*	*1*
DCB Decachlorobiphenyl	*83*		*45 - 120*	*05/16/22 15:30*	*05/17/22 16:14*	*1*
Tetrachloro-m-xylene	*74*		*30 - 124*	*05/16/22 15:30*	*05/17/22 16:14*	*1*
Tetrachloro-m-xylene	*70*		*30 - 124*	*05/16/22 15:30*	*05/17/22 16:14*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.044	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1
PCB-1221	ND		0.22	0.044	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1
PCB-1232	ND		0.22	0.044	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1
PCB-1242	ND		0.22	0.044	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1
PCB-1248	ND		0.22	0.044	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	05/13/22 17:12	05/16/22 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*112*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:42*	*1*
DCB Decachlorobiphenyl	*115*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:42*	*1*
Tetrachloro-m-xylene	*133*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:42*	*1*
Tetrachloro-m-xylene	*120*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:42*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/18/22 07:09	05/24/22 00:23	1
2,4-D	ND		20	12	ug/Kg	☼	05/18/22 07:09	05/24/22 00:23	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/18/22 07:09	05/24/22 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*68*		*28 - 129*	*05/18/22 07:09*	*05/24/22 00:23*	*1*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*05/18/22 07:09*	*05/24/22 00:23*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		39	22	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1
Disulfoton	ND		39	26	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1
Famphur	ND		39	21	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1
Methyl parathion	ND		39	22	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1
Ethyl Parathion	ND		39	22	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1

Client Sample ID: B-2022-2 (26.0-30.0)

Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-5

Matrix: Solid
Percent Solids: 83.0

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		39	13	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1
Sulfotepp	ND		39	15	ug/Kg	☼	05/19/22 09:45	05/23/22 09:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*97*		*20 - 135*	*05/19/22 09:45*	*05/23/22 09:15*	*1*
Tributyl phosphate	*95*		*20 - 135*	*05/19/22 09:45*	*05/23/22 09:15*	*1*
Triphenylphosphate	*150*		*33 - 168*	*05/19/22 09:45*	*05/23/22 09:15*	*1*
Triphenylphosphate	*153*		*33 - 168*	*05/19/22 09:45*	*05/23/22 09:15*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.37**	~~J+~~ JNX	6.0	0.12	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,4,6,7,8-HpCDF	ND		6.0	0.058	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,4,7,8,9-HpCDF	ND		6.0	0.079	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,4,7,8-HxCDD	ND		6.0	0.044	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,4,7,8-HxCDF	**0.097**	~~J~~ JNX	6.0	0.084	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,6,7,8-HxCDD	ND		6.0	0.044	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,6,7,8-HxCDF	ND		6.0	0.075	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,7,8,9-HxCDD	ND		6.0	0.049	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,7,8,9-HxCDF	ND		6.0	0.088	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,7,8-PeCDD	ND		6.0	0.19	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
1,2,3,7,8-PeCDF	ND		6.0	0.031	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
2,3,4,6,7,8-HxCDF	~~0.10~~ ~~J+B~~		6.0 U	0.067	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
2,3,4,7,8-PeCDF	ND		6.0	0.022	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
2,3,7,8-TCDD	**0.062**	~~J~~ JNX	1.2	0.019	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
2,3,7,8-TCDF	ND		1.2	0.010	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
OCDD	~~3.0~~ ~~J+B~~		12 U	0.12	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
OCDF	~~0.48~~ ~~J+B~~		12 U	0.037	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total HpCDD	**0.37**	~~J+~~ JNX	6.0	0.12	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total HpCDF	ND		6.0	0.068	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total HxCDD	ND		6.0	0.049	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total HxCDF	~~0.20~~ ~~J+B~~		6.0 U	0.078	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total PeCDD	ND		6.0	0.19	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total PeCDF	ND		6.0	0.027	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total TCDD	**0.062**	~~J+~~ JNX	1.2	0.019	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1
Total TCDF	ND		1.2	0.010	ng/Kg	☼	05/26/22 15:20	05/27/22 22:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*51*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*56*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*61*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,4,7,8-HxCDD	*61*	*I*	*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,6,7,8-HxCDF	*54*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,7,8,9-HxCDD	*61*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,7,8,9-HxCDF	*69*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,7,8-PeCDD	*39*	**5-*	*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-1,2,3,7,8-PeCDF	*41*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*
13C-2,3,4,6,7,8-HxCDF	*68*		*40 - 135*	*05/26/22 15:20*	*05/27/22 22:44*	*1*

Client Sample ID: B-2022-2 (26.0-30.0)

Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-5

Matrix: Solid
Percent Solids: 83.0

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	43		40 - 135	05/26/22 15:20	05/27/22 22:44	1
13C-2,3,7,8-TCDD	46		40 - 135	05/26/22 15:20	05/27/22 22:44	1
13C-2,3,7,8-TCDF	57		40 - 135	05/26/22 15:20	05/27/22 22:44	1
13C-OCDD	41		40 - 135	05/26/22 15:20	05/27/22 22:44	1
13C-OCDF	44		40 - 135	05/26/22 15:20	05/27/22 22:44	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.0	J	18.6	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Arsenic	3.6		2.5	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Barium	16.1		0.62	0.14	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Beryllium	0.18	J	0.25	0.035	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Cadmium	0.096	J	0.25	0.037	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Chromium	3.8		0.62	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Cobalt	4.9		0.62	0.062	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Copper	6.6		1.2	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Lead	4.8		1.2	0.30	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Nickel	7.9		6.2	0.28	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Selenium	ND		4.9	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Silver	ND		0.74	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Thallium	ND		7.4	0.37	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Tin	ND		2.5	0.53	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Vanadium	4.7		0.62	0.14	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1
Zinc	23.8		2.5	0.79	mg/Kg	☼	05/19/22 12:46	05/24/22 14:21	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0052	mg/Kg	☼	05/18/22 11:48	05/18/22 14:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.54	mg/Kg	☼	05/17/22 12:15	05/17/22 14:28	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	26.6		22.2	12.7	mg/Kg	☼		05/23/22 15:50	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (29.0)
Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-6
Matrix: Solid
Percent Solids: 96.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.6	0.56	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,1,1-Trichloroethane	ND		5.6	0.41	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,1,2,2-Tetrachloroethane	ND		5.6	0.91	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,1,2-Trichloroethane	ND		5.6	0.73	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,1-Dichloroethane	ND		5.6	0.68	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,1-Dichloroethene	ND		5.6	0.69	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,2,3-Trichloropropane	ND		5.6	0.57	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,2-Dibromo-3-Chloropropane	ND		5.6	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,2-Dichloroethane	ND		5.6	0.28	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
1,2-Dichloropropane	ND		5.6	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
2-Butanone (MEK)	ND		28	2.0	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
2-Chloro-1,3-butadiene	ND		5.6	3.5	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
2-Chloroethyl vinyl ether	ND		11	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
2-Hexanone	ND		28	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
3-Chloro-1-propene	ND		5.6	2.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
4-Methyl-2-pentanone (MIBK)	ND		28	1.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Acetone	ND		28	4.7	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Acetonitrile	ND		56	6.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Acrolein	ND		28	8.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Acrylonitrile	ND		28	5.0	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Benzene	ND		5.6	0.27	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Bromoform	ND		5.6	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Bromomethane	ND		5.6	0.50	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Carbon disulfide	ND		5.6	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Carbon tetrachloride	ND		5.6	0.54	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Chlorobenzene	ND		5.6	0.74	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Chlorodibromomethane	ND		5.6	0.72	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Chloroethane	ND		5.6	1.3	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Chloroform	ND		5.6	0.35	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Chloromethane	ND		5.6	0.34	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
cis-1,3-Dichloropropene	ND		5.6	0.81	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Dibromomethane	ND		5.6	0.58	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Dichlorobromomethane	ND		5.6	0.75	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Dichlorodifluoromethane	ND		5.6	0.46	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Ethyl methacrylate	ND		5.6	1.9	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Ethylbenzene	ND		5.6	0.39	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Ethylene Dibromide	ND		5.6	0.72	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Iodomethane	ND		5.6	0.27	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Methacrylonitrile	ND		28	6.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Methyl methacrylate	ND		5.6	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Methylene Chloride	ND		5.6	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
m-Xylene & p-Xylene	ND		11	0.94	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
o-Xylene	ND		5.6	0.73	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Propionitrile	ND		56	31	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Styrene	ND		5.6	0.28	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Tetrachloroethene	ND		5.6	0.75	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Toluene	ND		5.6	0.42	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
trans-1,2-Dichloroethene	ND		5.6	0.58	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
trans-1,3-Dichloropropene	ND		5.6	2.5	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (29.0)
Date Collected: 05/12/22 11:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-6
Matrix: Solid
Percent Solids: 96.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.6	1.3	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Trichloroethene	ND		5.6	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Trichlorofluoromethane	ND		5.6	0.53	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Vinyl acetate	ND		11	2.8	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1
Vinyl chloride	ND		5.6	0.68	ug/Kg	☼	05/13/22 16:40	05/16/22 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*64 - 126*	*05/13/22 16:40*	*05/16/22 22:56*	*1*
4-Bromofluorobenzene (Surr)	*96*		*72 - 126*	*05/13/22 16:40*	*05/16/22 22:56*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*05/13/22 16:40*	*05/16/22 22:56*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/13/22 16:40*	*05/16/22 22:56*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (43.0-47.0)
Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-7
Matrix: Solid
Percent Solids: 83.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		200	34	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,2,4-Trichlorobenzene	ND		390	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,2-Dichlorobenzene	ND		390	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,2-Diphenylhydrazine	ND		390	22	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,3,5-Trinitrobenzene	ND		390	16	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,3-Dichlorobenzene	ND		390	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,3-Dinitrobenzene	ND		390	47	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,4-Dichlorobenzene	ND		390	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,4-Dioxane	ND		120	65	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1,4-Naphthoquinone	ND		390	73	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
1-Naphthylamine	ND		390	140	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,3,4,6-Tetrachlorophenol	ND		200	41	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,4,5-Trichlorophenol	ND		200	54	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,4,6-Trichlorophenol	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,4-Dichlorophenol	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,4-Dinitrophenol	ND		2000	930	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,4-Dinitrotoluene	ND		200	41	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,6-Dichlorophenol	ND		390	73	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2,6-Dinitrotoluene	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Acetylaminofluorene	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Chloronaphthalene	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Chlorophenol	ND		390	37	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Methylnaphthalene	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Methylphenol	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Naphthylamine	ND		390	130	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Nitroaniline	ND		390	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Nitrophenol	ND		200	57	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Picoline	ND		390	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
2-Toluidine	ND		390	96	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
3 & 4 Methylphenol	ND		390	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
3,3'-Dichlorobenzidine	ND		390	240	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
3,3'-Dimethylbenzidine	ND		780	390	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
3-Methylcholanthrene	ND		390	65	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
3-Methylphenol	ND		390	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
3-Nitroaniline	ND		390	56	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4,6-Dinitro-2-methylphenol	ND		390	200	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Aminobiphenyl	ND		390	82	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Bromophenyl phenyl ether	ND		200	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Chloro-3-methylphenol	ND		200	50	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Chloroaniline	ND		200	50	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Chlorophenyl phenyl ether	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Methylphenol	ND		390	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Nitroaniline	ND		390	110	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Nitrophenol	ND		390	140	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
4-Nitroquinoline-1-oxide	ND		780	390	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
7,12-Dimethylbenz(a)anthracene	ND		390	58	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
a,a-Dimethylphenethylamine	ND		390	390	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Acenaphthene	ND		200	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1

Client Sample ID: B-2022-2 (43.0-47.0)

Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-7

Matrix: Solid
Percent Solids: 83.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Acetophenone	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Aniline	ND		390	48	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Anthracene	ND		200	50	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Aramite, Total	ND		390	190	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzidine	ND		5900	2500	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzo[a]pyrene	ND		200	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzo[b]fluoranthene	ND		200	32	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzo[k]fluoranthene	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Benzyl alcohol	ND		390	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
bis (2-chloroisopropyl) ether	ND		200	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Bis(2-chloroethoxy)methane	ND		200	43	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Bis(2-chloroethyl)ether	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Bis(2-ethylhexyl) phthalate	**170**	**J**	200	69	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Butyl benzyl phthalate	ND		200	33	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Chrysene	ND		200	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Diallate	ND		390	50	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Dibenzofuran	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Diethyl phthalate	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Dimethoate	ND		390	48	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Dimethyl phthalate	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Di-n-octyl phthalate	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Dinoseb	ND		390	70	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Diphenylamine	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Disulfoton	ND		390	300	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Chlorobenzilate	ND		390	63	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Ethyl methanesulfonate	ND		390	86	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
~~Famphur~~	~~ND~~	~~*-~~	~~780~~	~~190~~	~~ug/Kg~~	☼	~~05/16/22 15:21~~	~~05/17/22 21:05~~	~~1~~ R
Fluoranthene	ND		200	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Fluorene	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Hexachlorobenzene	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Hexachlorobutadiene	ND		200	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Hexachlorocyclopentadiene	ND		200	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Hexachloroethane	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Hexachloropropene	ND		390	99	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Indeno[1,2,3-cd]pyrene	ND		200	25	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Isodrin	ND		390	69	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Isophorone	ND		200	43	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Isosafrole	ND		390	52	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
~~Kepone~~	~~ND~~	~~*~~	~~780~~	~~390~~	~~ug/Kg~~	☼	~~05/16/22 15:21~~	~~05/17/22 21:05~~	~~1~~ R
Methapyrilene	ND		1800	390	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Methyl methanesulfonate	ND		390	90	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Naphthalene	ND		200	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Nitrobenzene	ND		200	22	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitro-o-toluidine	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1

Client Sample ID: B-2022-2 (43.0-47.0)
Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-7
Matrix: Solid
Percent Solids: 83.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		390	91	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosodimethylamine	ND		390	85	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosodi-n-butylamine	ND		390	110	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosodi-n-propylamine	ND		200	34	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosodiphenylamine	ND		200	160	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosomethylethylamine	ND		390	90	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosomorpholine	ND		390	87	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosopiperidine	ND		390	79	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
N-Nitrosopyrrolidine	ND		390	59	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
o,o',o''-Triethylphosphorothioate	ND		390	51	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Ethyl Parathion	ND		390	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Methyl parathion	ND		390	67	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
p-Dimethylamino azobenzene	ND		390	66	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Pentachlorobenzene	ND		390	82	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Pentachloronitrobenzene	ND		390	99	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Pentachlorophenol	ND		390	200	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Phenacetin	ND		390	53	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Phenanthrene	ND		200	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Phenol	ND		200	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Phorate	ND		390	110	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
p-Phenylene diamine	ND		950	390	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Pronamide	ND		390	77	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Pyrene	ND		200	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Pyridine	ND		390	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Safrole	ND		390	53	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Sulfotepp	ND		390	63	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1
Thionazin	ND		390	69	ug/Kg	☼	05/16/22 15:21	05/17/22 21:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*05/16/22 15:21*	*05/17/22 21:05*	*1*
2-Fluorobiphenyl (Surr)	*79*		*60 - 120*	*05/16/22 15:21*	*05/17/22 21:05*	*1*
2-Fluorophenol (Surr)	*61*		*52 - 120*	*05/16/22 15:21*	*05/17/22 21:05*	*1*
Nitrobenzene-d5 (Surr)	*75*		*53 - 120*	*05/16/22 15:21*	*05/17/22 21:05*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*05/16/22 15:21*	*05/17/22 21:05*	*1*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*05/16/22 15:21*	*05/17/22 21:05*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.9	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
4,4'-DDE	ND		1.9	0.41	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
4,4'-DDT	ND		1.9	0.45	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Aldrin	ND		1.9	0.48	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
alpha-BHC	ND		1.9	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
beta-BHC	ND		1.9	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Chlordane (technical)	ND		19	4.3	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Chlorobenzilate	ND		19	6.5	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
cis-Chlordane	ND		1.9	0.96	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
delta-BHC	ND		1.9	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Dieldrin	ND		1.9	0.47	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Endosulfan I	ND		1.9	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (43.0-47.0)
Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-7
Matrix: Solid
Percent Solids: 83.7

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.9	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Endosulfan sulfate	ND		1.9	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Endrin	ND		1.9	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Endrin aldehyde	ND		1.9	0.50	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Endrin ketone	ND		1.9	0.48	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
gamma-BHC (Lindane)	ND		1.9	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Heptachlor	ND		1.9	0.42	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Heptachlor epoxide	ND		1.9	0.50	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Methoxychlor	ND		1.9	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
Toxaphene	ND		19	11	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1
trans-Chlordane	ND		1.9	0.62	ug/Kg	☼	05/16/22 15:30	05/17/22 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*45 - 120*	*05/16/22 15:30*	*05/17/22 16:33*	*1*
DCB Decachlorobiphenyl	*81*		*45 - 120*	*05/16/22 15:30*	*05/17/22 16:33*	*1*
Tetrachloro-m-xylene	*84*		*30 - 124*	*05/16/22 15:30*	*05/17/22 16:33*	*1*
Tetrachloro-m-xylene	*69*		*30 - 124*	*05/16/22 15:30*	*05/17/22 16:33*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	05/13/22 17:12	05/16/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*114*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:55*	*1*
DCB Decachlorobiphenyl	*112*		*65 - 174*	*05/13/22 17:12*	*05/16/22 17:55*	*1*
Tetrachloro-m-xylene	*136*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:55*	*1*
Tetrachloro-m-xylene	*119*		*60 - 154*	*05/13/22 17:12*	*05/16/22 17:55*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		20	6.3	ug/Kg	☼	05/18/22 07:09	05/24/22 00:52	1
2,4-D	ND		20	12	ug/Kg	☼	05/18/22 07:09	05/24/22 00:52	1
Silvex (2,4,5-TP)	ND		20	7.1	ug/Kg	☼	05/18/22 07:09	05/24/22 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*64*		*28 - 129*	*05/18/22 07:09*	*05/24/22 00:52*	*1*
2,4-Dichlorophenylacetic acid	*70*		*28 - 129*	*05/18/22 07:09*	*05/24/22 00:52*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		38	22	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1
Disulfoton	ND		38	26	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1
Famphur	ND		38	21	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1
Methyl parathion	ND		38	22	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1
Ethyl Parathion	ND		38	21	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1

Client Sample ID: B-2022-2 (43.0-47.0)

Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-7

Matrix: Solid
Percent Solids: 83.7

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		38	13	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1
Sulfotepp	ND		38	15	ug/Kg	☼	05/19/22 09:45	05/23/22 09:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*20 - 135*	*05/19/22 09:45*	*05/23/22 09:47*	*1*
Tributyl phosphate	*80*		*20 - 135*	*05/19/22 09:45*	*05/23/22 09:47*	*1*
Triphenylphosphate	*86*		*33 - 168*	*05/19/22 09:45*	*05/23/22 09:47*	*1*
Triphenylphosphate	*89*		*33 - 168*	*05/19/22 09:45*	*05/23/22 09:47*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.32	J I B	5.9	U	0.024	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,4,6,7,8-HpCDF	0.15	J B	5.9	U	0.0039	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,4,7,8,9-HpCDF	0.052	J I B	5.9	U	0.0055	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,4,7,8-HxCDD	0.12	J I B	5.9	U	0.0033	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,4,7,8-HxCDF	0.079	J I JNX	5.9		0.016	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,6,7,8-HxCDD	0.065	J I B	5.9	U	0.0033	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,6,7,8-HxCDF	0.075	J B	5.9	U	0.017	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,7,8,9-HxCDD	ND		5.9		0.0036	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,7,8,9-HxCDF	0.048	J I B	5.9	U	0.021	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,7,8-PeCDD	0.062	J I B	5.9	U	0.016	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
1,2,3,7,8-PeCDF	0.052	J I B	5.9	U	0.0035	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
2,3,4,6,7,8-HxCDF	0.087	J I JNX	5.9		0.015	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
2,3,4,7,8-PeCDF	0.050	J I B	5.9	U	0.0025	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
2,3,7,8-TCDD	ND		1.2		0.0045	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
2,3,7,8-TCDF	ND		1.2		0.0033	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
OCDD	1.2	J B	12	U	0.019	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
OCDF	0.34	J I B	12	U	0.0042	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total HpCDD	0.32	J I B	5.9	U	0.024	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total HpCDF	0.20	J I B	5.9		0.0047	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total HxCDD	0.19	J I B	5.9		0.0034	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total HxCDF	0.29	J I B	5.9		0.017	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total PeCDD	0.062	J I B	5.9		0.016	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total PeCDF	0.10	J I B	5.9		0.0030	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total TCDD	ND		1.2		0.0045	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1
Total TCDF	ND		1.2		0.0033	ng/Kg	☼	05/21/22 09:58	05/25/22 14:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*68*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,4,7,8-HxCDF	*66*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,7,8,9-HxCDD	*70*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,7,8,9-HxCDF	*68*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*
13C-2,3,4,6,7,8-HxCDF	*67*		*40 - 135*	*05/21/22 09:58*	*05/25/22 14:42*	*1*

Client Sample ID: B-2022-2 (43.0-47.0)

Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-7

Matrix: Solid
Percent Solids: 83.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	68		40 - 135	05/21/22 09:58	05/25/22 14:42	1
13C-2,3,7,8-TCDD	68		40 - 135	05/21/22 09:58	05/25/22 14:42	1
13C-2,3,7,8-TCDF	60		40 - 135	05/21/22 09:58	05/25/22 14:42	1
13C-OCDD	66		40 - 135	05/21/22 09:58	05/25/22 14:42	1
13C-OCDF	66		40 - 135	05/21/22 09:58	05/25/22 14:42	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.7	J	18.3	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Arsenic	3.5		2.4	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Barium	19.0		0.61	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Beryllium	0.19	J	0.24	0.034	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Cadmium	0.075	J	0.24	0.037	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Chromium	4.7		0.61	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Cobalt	5.2		0.61	0.061	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Copper	7.3		1.2	0.26	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Lead	5.5		1.2	0.29	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Nickel	8.7		6.1	0.28	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Selenium	ND		4.9	0.49	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Silver	ND		0.73	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Thallium	ND		7.3	0.37	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Tin	ND		2.4	0.52	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Vanadium	5.8		0.61	0.13	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1
Zinc	27.1		2.4	0.78	mg/Kg	☼	05/19/22 12:46	05/24/22 14:25	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.024	0.0056	mg/Kg	☼	05/18/22 11:48	05/18/22 14:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		1.1	0.52	mg/Kg	☼	05/17/22 12:15	05/17/22 14:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		21.9	12.5	mg/Kg	☼		05/23/22 15:50	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (44.0)
Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-8
Matrix: Solid
Percent Solids: 85.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.7	0.47	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,1,1-Trichloroethane	ND		4.7	0.34	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,1,2,2-Tetrachloroethane	ND		4.7	0.77	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,1,2-Trichloroethane	ND		4.7	0.62	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,1-Dichloroethane	ND		4.7	0.58	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,1-Dichloroethene	ND		4.7	0.58	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,2,3-Trichloropropane	ND		4.7	0.48	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,2-Dibromo-3-Chloropropane	ND		4.7	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,2-Dichloroethane	ND		4.7	0.24	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
1,2-Dichloropropane	ND		4.7	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
2-Butanone (MEK)	ND		24	1.7	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
2-Chloro-1,3-butadiene	ND		4.7	2.9	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
2-Chloroethyl vinyl ether	ND		9.5	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
2-Hexanone	ND		24	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
3-Chloro-1-propene	ND		4.7	2.3	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
4-Methyl-2-pentanone (MIBK)	ND		24	1.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Acetone	ND		24	4.0	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Acetonitrile	ND		47	5.8	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Acrolein	ND		24	7.5	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Acrylonitrile	ND		24	4.3	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Benzene	ND		4.7	0.23	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Bromoform	ND		4.7	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Bromomethane	ND		4.7	0.43	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Carbon disulfide	ND		4.7	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Carbon tetrachloride	ND		4.7	0.46	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Chlorobenzene	ND		4.7	0.63	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Chlorodibromomethane	ND		4.7	0.61	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Chloroethane	ND		4.7	1.1	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Chloroform	ND		4.7	0.29	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Chloromethane	ND		4.7	0.29	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
cis-1,3-Dichloropropene	ND		4.7	0.68	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Dibromomethane	ND		4.7	0.49	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Dichlorobromomethane	ND		4.7	0.64	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Dichlorodifluoromethane	ND		4.7	0.39	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Ethyl methacrylate	ND		4.7	1.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Ethylbenzene	ND		4.7	0.33	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Ethylene Dibromide	ND		4.7	0.61	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Iodomethane	ND		4.7	0.23	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Methacrylonitrile	ND		24	5.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Methyl methacrylate	ND		4.7	1.0	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Methylene Chloride	ND		4.7	2.2	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
m-Xylene & p-Xylene	ND		9.5	0.80	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
o-Xylene	ND		4.7	0.62	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Propionitrile	ND		47	27	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Styrene	ND		4.7	0.24	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Tetrachloroethene	ND		4.7	0.64	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Toluene	ND		4.7	0.36	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
trans-1,2-Dichloroethene	ND		4.7	0.49	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
trans-1,3-Dichloropropene	ND		4.7	2.1	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-197946-1

Client Sample ID: B-2022-2 (44.0)
Date Collected: 05/12/22 13:10
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-8
Matrix: Solid
Percent Solids: 85.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		4.7	1.1	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Trichloroethene	ND		4.7	1.0	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Trichlorofluoromethane	ND		4.7	0.45	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Vinyl acetate	ND		9.5	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1
Vinyl chloride	ND		4.7	0.58	ug/Kg	☼	05/13/22 16:40	05/16/22 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*05/13/22 16:40*	*05/16/22 23:20*	*1*
4-Bromofluorobenzene (Surr)	*95*		*72 - 126*	*05/13/22 16:40*	*05/16/22 23:20*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*	*05/13/22 16:40*	*05/16/22 23:20*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*05/13/22 16:40*	*05/16/22 23:20*	*1*

Client Sample ID: B-2022-2 (58.0-62.0)
Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-9
Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,2,4-Trichlorobenzene	ND		350	25	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,2-Dichlorobenzene	ND		350	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,3,5-Trinitrobenzene	ND		350	14	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,3-Dinitrobenzene	ND		350	42	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,4-Dichlorobenzene	ND		350	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,4-Dioxane	ND		100	58	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1,4-Naphthoquinone	ND		350	65	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,4,5-Trichlorophenol	ND		180	48	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,4-Dimethylphenol	ND		180	43	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,4-Dinitrophenol	ND		1700	820	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,6-Dichlorophenol	ND		350	65	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Acetylaminofluorene	ND		350	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Chloronaphthalene	ND		180	29	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Chlorophenol	ND		350	32	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Methylphenol	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Nitroaniline	ND		350	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Nitrophenol	ND		180	50	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Picoline	ND		350	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
2-Toluidine	ND		350	85	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
3 & 4 Methylphenol	ND		350	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
3,3'-Dimethylbenzidine	ND		690	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
3-Methylcholanthrene	ND		350	58	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
3-Methylphenol	ND		350	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
3-Nitroaniline	ND		350	49	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Aminobiphenyl	ND		350	72	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Bromophenyl phenyl ether	ND		180	25	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Chloro-3-methylphenol	ND		180	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Chloroaniline	ND		180	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Methylphenol	ND		350	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Nitroaniline	ND		350	93	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Nitrophenol	ND		350	120	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
4-Nitroquinoline-1-oxide	ND		690	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
7,12-Dimethylbenz(a)anthracene	ND		350	51	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Acenaphthene	ND		180	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1

Client Sample ID: B-2022-2 (58.0-62.0)

Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-9

Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Acetophenone	ND		180	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Aniline	ND		350	43	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Anthracene	ND		180	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Aramite, Total	ND		350	170	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzidine	ND		5200	2200	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzo[a]pyrene	ND		180	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzo[b]fluoranthene	ND		180	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Benzyl alcohol	ND		350	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Bis(2-ethylhexyl) phthalate	ND		180	61	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Butyl benzyl phthalate	ND		180	29	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Chrysene	ND		180	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Diallate	ND		350	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Dibenz(a,h)anthracene	ND		180	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Dibenzofuran	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Diethyl phthalate	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Dimethoate	ND		350	43	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Dimethyl phthalate	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Di-n-butyl phthalate	ND		180	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Dinoseb	ND		350	62	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Diphenylamine	ND		350	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Disulfoton	ND		350	260	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Chlorobenzilate	ND		350	55	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Ethyl methanesulfonate	ND		350	76	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
~~Famphur~~	~~ND~~	~~*-~~	~~690~~	~~170~~	~~ug/Kg~~	~~☼~~	~~05/16/22 15:21~~	~~05/17/22 21:30~~	~~1~~	R
Fluoranthene	ND		180	19	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Fluorene	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Hexachlorobenzene	ND		180	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Hexachlorobutadiene	ND		180	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Hexachloroethane	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Hexachloropropene	ND		350	88	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Isodrin	ND		350	61	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Isophorone	ND		180	38	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Isosafrole	ND		350	46	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
~~Kepone~~	~~ND~~	~~*-~~	~~690~~	~~350~~	~~ug/Kg~~	~~☼~~	~~05/16/22 15:21~~	~~05/17/22 21:30~~	~~1~~	R
Methapyrilene	ND		1600	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Methyl methanesulfonate	ND		350	80	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Naphthalene	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
Nitrobenzene	ND		180	20	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	
N-Nitro-o-toluidine	ND		350	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1	

Client Sample ID: B-2022-2 (58.0-62.0)
Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-9
Matrix: Solid
Percent Solids: 94.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		350	81	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosodimethylamine	ND		350	75	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosodi-n-butylamine	ND		350	94	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosodi-n-propylamine	ND		180	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosodiphenylamine	ND		180	140	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosomethylethylamine	ND		350	80	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosomorpholine	ND		350	77	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosopiperidine	ND		350	70	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
N-Nitrosopyrrolidine	ND		350	52	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
o,o',o''-Triethylphosphorothioate	ND		350	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Methyl parathion	ND		350	60	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
p-Dimethylamino azobenzene	ND		350	59	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Pentachlorobenzene	ND		350	72	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Pentachloronitrobenzene	ND		350	88	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Phenacetin	ND		350	47	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Phenanthrene	ND		180	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Phenol	ND		180	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Phorate	ND		350	95	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
p-Phenylene diamine	ND		840	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Pronamide	ND		350	68	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Pyrene	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Pyridine	ND		350	25	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Safrole	ND		350	47	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Sulfotepp	ND		350	55	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1
Thionazin	ND		350	61	ug/Kg	☼	05/16/22 15:21	05/17/22 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*05/16/22 15:21*	*05/17/22 21:30*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*05/16/22 15:21*	*05/17/22 21:30*	*1*
2-Fluorophenol (Surr)	*67*		*52 - 120*	*05/16/22 15:21*	*05/17/22 21:30*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*05/16/22 15:21*	*05/17/22 21:30*	*1*
Phenol-d5 (Surr)	*76*		*54 - 120*	*05/16/22 15:21*	*05/17/22 21:30*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*05/16/22 15:21*	*05/17/22 21:30*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.7	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
4,4'-DDE	ND		1.7	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
4,4'-DDT	ND		1.7	0.40	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Aldrin	ND		1.7	0.42	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
alpha-BHC	ND		1.7	0.31	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
beta-BHC	ND		1.7	0.31	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Chlordane (technical)	ND		17	3.8	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Chlorobenzilate	ND		17	5.8	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
cis-Chlordane	ND		1.7	0.86	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
delta-BHC	ND		1.7	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Dieldrin	ND		1.7	0.41	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Endosulfan I	ND		1.7	0.33	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1

Client Sample ID: B-2022-2 (58.0-62.0)
Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-9
Matrix: Solid
Percent Solids: 94.5

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		1.7	0.31	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Endosulfan sulfate	ND		1.7	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Endrin	ND		1.7	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Endrin aldehyde	ND		1.7	0.44	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Endrin ketone	ND		1.7	0.42	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
gamma-BHC (Lindane)	ND		1.7	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Heptachlor	ND		1.7	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Heptachlor epoxide	ND		1.7	0.45	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Methoxychlor	ND		1.7	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
Toxaphene	ND		17	10	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1
trans-Chlordane	ND		1.7	0.55	ug/Kg	☼	05/16/22 15:30	05/17/22 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*45 - 120*	*05/16/22 15:30*	*05/17/22 16:53*	*1*
DCB Decachlorobiphenyl	*81*		*45 - 120*	*05/16/22 15:30*	*05/17/22 16:53*	*1*
Tetrachloro-m-xylene	*73*		*30 - 124*	*05/16/22 15:30*	*05/17/22 16:53*	*1*
Tetrachloro-m-xylene	*71*		*30 - 124*	*05/16/22 15:30*	*05/17/22 16:53*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.20	0.039	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1
PCB-1221	ND		0.20	0.039	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1
PCB-1232	ND		0.20	0.039	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1
PCB-1242	ND		0.20	0.039	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1
PCB-1248	ND		0.20	0.039	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1
PCB-1254	ND		0.20	0.093	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1
PCB-1260	ND		0.20	0.093	mg/Kg	☼	05/13/22 17:12	05/16/22 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*121*		*65 - 174*	*05/13/22 17:12*	*05/16/22 18:09*	*1*
DCB Decachlorobiphenyl	*120*		*65 - 174*	*05/13/22 17:12*	*05/16/22 18:09*	*1*
Tetrachloro-m-xylene	*136*		*60 - 154*	*05/13/22 17:12*	*05/16/22 18:09*	*1*
Tetrachloro-m-xylene	*122*		*60 - 154*	*05/13/22 17:12*	*05/16/22 18:09*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		17	5.5	ug/Kg	☼	05/18/22 07:09	05/24/22 01:22	1
2,4-D	ND		17	11	ug/Kg	☼	05/18/22 07:09	05/24/22 01:22	1
Silvex (2,4,5-TP)	ND		17	6.2	ug/Kg	☼	05/18/22 07:09	05/24/22 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*57*		*28 - 129*	*05/18/22 07:09*	*05/24/22 01:22*	*1*
2,4-Dichlorophenylacetic acid	*74*		*28 - 129*	*05/18/22 07:09*	*05/24/22 01:22*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		34	19	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1
Disulfoton	ND		34	23	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1
Famphur	ND		34	18	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1
Methyl parathion	ND		34	20	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1
Ethyl Parathion	ND		34	19	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1

Client Sample ID: B-2022-2 (58.0-62.0)

Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-9

Matrix: Solid
Percent Solids: 94.5

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		34	12	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1
Sulfotepp	ND		34	13	ug/Kg	☼	05/19/22 09:45	05/23/22 10:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*105*		*20 - 135*	*05/19/22 09:45*	*05/23/22 10:18*	*1*
Tributyl phosphate	*102*		*20 - 135*	*05/19/22 09:45*	*05/23/22 10:18*	*1*
Triphenylphosphate	*109*		*33 - 168*	*05/19/22 09:45*	*05/23/22 10:18*	*1*
Triphenylphosphate	*112*		*33 - 168*	*05/19/22 09:45*	*05/23/22 10:18*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.31~~	~~J I B~~	5.2	U	0.022	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,4,6,7,8-HpCDF	~~0.075~~	~~J I B~~	5.2	U	0.0030	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,4,7,8,9-HpCDF	~~0.013~~	~~J I B~~	5.2	U	0.0040	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,4,7,8-HxCDD	~~0.026~~	~~J I B~~	5.2	U	0.0050	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,4,7,8-HxCDF	**0.035**	~~J I~~ JNX	5.2		0.018	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,6,7,8-HxCDD	ND		5.2		0.0051	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,6,7,8-HxCDF	~~0.031~~	~~J I B~~	5.2	U	0.018	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,7,8,9-HxCDD	ND		5.2		0.0057	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,7,8,9-HxCDF	~~0.029~~	~~J I B~~	5.2	U	0.023	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,7,8-PeCDD	~~0.013~~	~~J I B~~	5.2	U	0.011	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
1,2,3,7,8-PeCDF	~~0.016~~	~~J B~~	5.2	U	0.0069	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
2,3,4,6,7,8-HxCDF	**0.043**	~~J I~~ JNX	5.2		0.017	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
2,3,4,7,8-PeCDF	ND		5.2		0.0048	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
2,3,7,8-TCDD	ND		1.0		0.0067	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
2,3,7,8-TCDF	ND		1.0		0.0055	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
OCDD	~~1.1~~	~~J B~~	10	U	0.014	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
OCDF	~~0.11~~	~~J I B~~	10	U	0.0036	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total HpCDD	~~0.31~~	~~J I B~~	5.2	U	0.022	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total HpCDF	~~0.088~~	~~J I B~~	5.2		0.0035	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total HxCDD	~~0.026~~	~~J I B~~	5.2		0.0052	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total HxCDF	~~0.14~~	~~J I B~~	5.2		0.019	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total PeCDD	~~0.013~~	~~J I B~~	5.2		0.011	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total PeCDF	~~0.016~~	~~J I B~~	5.2		0.0058	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total TCDD	ND		1.0		0.0067	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1
Total TCDF	ND		1.0		0.0055	ng/Kg	☼	05/21/22 09:58	05/25/22 15:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*70*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,7,8,9-HxCDD	*66*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,7,8,9-HxCDF	*67*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-1,2,3,7,8-PeCDF	*58*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*
13C-2,3,4,6,7,8-HxCDF	*62*		*40 - 135*	*05/21/22 09:58*	*05/25/22 15:31*	*1*

Client Sample ID: B-2022-2 (58.0-62.0)
Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-9
Matrix: Solid
Percent Solids: 94.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	61		40 - 135	05/21/22 09:58	05/25/22 15:31	1
13C-2,3,7,8-TCDD	54		40 - 135	05/21/22 09:58	05/25/22 15:31	1
13C-2,3,7,8-TCDF	47		40 - 135	05/21/22 09:58	05/25/22 15:31	1
13C-OCDD	62		40 - 135	05/21/22 09:58	05/25/22 15:31	1
13C-OCDF	68		40 - 135	05/21/22 09:58	05/25/22 15:31	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.8	J	15.8	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Arsenic	3.6		2.1	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Barium	12.2		0.53	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Beryllium	0.17	J	0.21	0.029	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Cadmium	0.051	J	0.21	0.032	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Chromium	3.7		0.53	0.21	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Cobalt	6.0		0.53	0.053	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Copper	6.1		1.1	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Lead	4.8		1.1	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Nickel	8.2		5.3	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Selenium	0.90	J	4.2	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Silver	ND		0.63	0.21	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Thallium	ND		6.3	0.32	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Tin	ND		2.1	0.45	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Vanadium	4.3		0.53	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1
Zinc	25.7		2.1	0.67	mg/Kg	☼	05/19/22 12:46	05/24/22 14:29	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0047	mg/Kg	☼	05/18/22 11:48	05/18/22 14:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.088	0.043	mg/Kg	☼	05/25/22 14:40	05/25/22 16:00	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.2	11.5	mg/Kg	☼		05/23/22 15:50	1

Client Sample ID: B-2022-2 (59.0)

Date Collected: 05/12/22 14:20
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-10

Matrix: Solid
Percent Solids: 97.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.2	0.52	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,1,1-Trichloroethane	ND		5.2	0.37	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,1,2,2-Tetrachloroethane	ND		5.2	0.84	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,1,2-Trichloroethane	ND		5.2	0.67	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,1-Dichloroethane	ND		5.2	0.63	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,1-Dichloroethene	ND		5.2	0.63	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,2,3-Trichloropropane	ND		5.2	0.53	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,2-Dibromo-3-Chloropropane	ND		5.2	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,2-Dichloroethane	ND		5.2	0.26	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
1,2-Dichloropropane	ND		5.2	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
2-Butanone (MEK)	ND		26	1.9	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
2-Chloro-1,3-butadiene	ND		5.2	3.2	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
2-Chloroethyl vinyl ether	ND		10	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
2-Hexanone	ND		26	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
3-Chloro-1-propene	ND		5.2	2.5	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
4-Methyl-2-pentanone (MIBK)	ND		26	1.7	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Acetone	**7.4**	**J**	26	4.3	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Acetonitrile	ND		52	6.3	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Acrolein	ND		26	8.2	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Acrylonitrile	ND		26	4.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Benzene	ND		5.2	0.25	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Bromoform	ND		5.2	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Bromomethane	ND		5.2	0.46	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Carbon disulfide	ND		5.2	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Carbon tetrachloride	ND		5.2	0.50	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Chlorobenzene	ND		5.2	0.68	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Chlorodibromomethane	ND		5.2	0.66	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Chloroethane	ND		5.2	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Chloroform	ND		5.2	0.32	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Chloromethane	ND		5.2	0.31	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
cis-1,3-Dichloropropene	ND		5.2	0.74	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Dibromomethane	ND		5.2	0.53	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Dichlorobromomethane	ND		5.2	0.69	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Dichlorodifluoromethane	ND		5.2	0.43	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Ethyl methacrylate	ND		5.2	1.8	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Ethylbenzene	ND		5.2	0.36	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Ethylene Dibromide	ND		5.2	0.66	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Iodomethane	ND		5.2	0.25	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Methacrylonitrile	ND		26	6.1	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Methyl methacrylate	ND		5.2	1.1	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Methylene Chloride	ND		5.2	2.4	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
m-Xylene & p-Xylene	ND		10	0.87	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
o-Xylene	ND		5.2	0.67	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Propionitrile	ND		52	29	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Styrene	ND		5.2	0.26	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Tetrachloroethene	ND		5.2	0.69	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Toluene	ND		5.2	0.39	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
trans-1,2-Dichloroethene	ND		5.2	0.53	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
trans-1,3-Dichloropropene	ND		5.2	2.3	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1

Client: ARCADIS U.S. Inc
Job ID: 480-197946-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: B-2022-2 (59.0)
Lab Sample ID: 480-197946-10
Date Collected: 05/12/22 14:20
Matrix: Solid
Date Received: 05/13/22 10:00
Percent Solids: 97.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		5.2	1.2	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Trichloroethene	ND		5.2	1.1	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Trichlorofluoromethane	ND		5.2	0.49	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Vinyl acetate	ND		10	2.6	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1
Vinyl chloride	ND		5.2	0.63	ug/Kg	☼	05/13/22 16:40	05/16/22 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*64 - 126*	*05/13/22 16:40*	*05/16/22 23:44*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*	*05/13/22 16:40*	*05/16/22 23:44*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 140*	*05/13/22 16:40*	*05/16/22 23:44*	*1*
Toluene-d8 (Surr)	*93*		*71 - 125*	*05/13/22 16:40*	*05/16/22 23:44*	*1*

Client Sample ID: DUP-3-051222
Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.1	0.61	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,1,1-Trichloroethane	ND		6.1	0.44	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,1,2,2-Tetrachloroethane	ND		6.1	0.99	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,1,2-Trichloroethane	ND		6.1	0.79	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,1-Dichloroethane	ND		6.1	0.74	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,1-Dichloroethene	ND		6.1	0.74	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,2,3-Trichloropropane	ND		6.1	0.62	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,2-Dibromo-3-Chloropropane	ND		6.1	3.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,2-Dichloroethane	ND		6.1	0.31	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
1,2-Dichloropropane	ND		6.1	3.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
2-Butanone (MEK)	ND		30	2.2	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
2-Chloro-1,3-butadiene	ND		6.1	3.8	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
2-Chloroethyl vinyl ether	ND		12	3.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
2-Hexanone	ND		30	3.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
3-Chloro-1-propene	ND		6.1	2.9	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
4-Methyl-2-pentanone (MIBK)	ND		30	2.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Acetone	ND		30	5.1	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Acetonitrile	ND		61	7.4	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Acrolein	ND		30	9.6	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Acrylonitrile	ND		30	5.4	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Benzene	ND		6.1	0.30	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Bromoform	ND		6.1	3.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Bromomethane	ND		6.1	0.55	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Carbon disulfide	ND		6.1	3.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Carbon tetrachloride	ND		6.1	0.59	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Chlorobenzene	ND		6.1	0.80	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Chlorodibromomethane	ND		6.1	0.78	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Chloroethane	ND		6.1	1.4	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Chloroform	ND		6.1	0.38	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Chloromethane	ND		6.1	0.37	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
cis-1,3-Dichloropropene	ND		6.1	0.88	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Dibromomethane	ND		6.1	0.63	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Dichlorobromomethane	ND		6.1	0.81	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Dichlorodifluoromethane	ND		6.1	0.50	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Ethyl methacrylate	ND		6.1	2.1	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Ethylbenzene	ND		6.1	0.42	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Ethylene Dibromide	ND		6.1	0.78	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Iodomethane	ND		6.1	0.30	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Methacrylonitrile	ND		30	7.2	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Methyl methacrylate	ND		6.1	1.3	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Methylene Chloride	ND		6.1	2.8	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
m-Xylene & p-Xylene	ND		12	1.0	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
o-Xylene	ND		6.1	0.79	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Propionitrile	ND		61	34	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Styrene	ND		6.1	0.30	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Tetrachloroethene	ND		6.1	0.82	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Toluene	ND		6.1	0.46	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
trans-1,2-Dichloroethene	ND		6.1	0.63	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
trans-1,3-Dichloropropene	ND		6.1	2.7	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1

Client Sample ID: DUP-3-051222
Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11
Matrix: Solid
Percent Solids: 92.6

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		6.1	1.4	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Trichloroethene	ND		6.1	1.3	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Trichlorofluoromethane	ND		6.1	0.58	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Vinyl acetate	ND		12	3.1	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1
Vinyl chloride	ND		6.1	0.74	ug/Kg	☼	05/13/22 16:40	05/17/22 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*64 - 126*	*05/13/22 16:40*	*05/17/22 00:08*	*1*
4-Bromofluorobenzene (Surr)	*95*		*72 - 126*	*05/13/22 16:40*	*05/17/22 00:08*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 140*	*05/13/22 16:40*	*05/17/22 00:08*	*1*
Toluene-d8 (Surr)	*94*		*71 - 125*	*05/13/22 16:40*	*05/17/22 00:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		180	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,2,4-Trichlorobenzene	ND		350	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,2-Dichlorobenzene	ND		350	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,2-Diphenylhydrazine	ND		350	20	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,3,5-Trinitrobenzene	ND		350	15	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,3-Dichlorobenzene	ND		350	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,3-Dinitrobenzene	ND		350	43	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,4-Dichlorobenzene	ND		350	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,4-Dioxane	ND		110	59	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1,4-Naphthoquinone	ND		350	66	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
1-Naphthylamine	ND		350	120	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,3,4,6-Tetrachlorophenol	ND		180	37	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,4,5-Trichlorophenol	ND		180	49	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,4,6-Trichlorophenol	ND		180	36	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,4-Dichlorophenol	ND		180	19	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,4-Dinitrophenol	ND		1800	830	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,4-Dinitrotoluene	ND		180	37	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,6-Dichlorophenol	ND		350	66	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2,6-Dinitrotoluene	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Acetylaminofluorene	ND		350	46	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Chloronaphthalene	ND		180	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Chlorophenol	ND		350	33	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Methylnaphthalene	ND		180	36	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Methylphenol	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Naphthylamine	ND		350	120	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Nitroaniline	ND		350	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Nitrophenol	ND		180	51	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Picoline	ND		350	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
2-Toluidine	ND		350	86	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
3 & 4 Methylphenol	ND		350	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
3,3'-Dichlorobenzidine	ND		350	210	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
3,3'-Dimethylbenzidine	ND		700	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
3-Methylcholanthrene	ND		350	59	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
3-Methylphenol	ND		350	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
3-Nitroaniline	ND		350	50	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1

Client Sample ID: DUP-3-051222
Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11
Matrix: Solid
Percent Solids: 92.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		350	180	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Aminobiphenyl	ND		350	73	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Bromophenyl phenyl ether	ND		180	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Chloro-3-methylphenol	ND		180	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Chloroaniline	ND		180	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Chlorophenyl phenyl ether	ND		180	22	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Methylphenol	ND		350	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Nitroaniline	ND		350	95	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Nitrophenol	ND		350	130	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
4-Nitroquinoline-1-oxide	ND		700	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
7,12-Dimethylbenz(a)anthracene	ND		350	52	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
a,a-Dimethylphenethylamine	ND		350	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Acenaphthene	ND		180	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Acenaphthylene	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Acetophenone	ND		180	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Aniline	ND		350	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Anthracene	ND		180	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Aramite, Total	ND		350	170	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzidine	ND		5300	2300	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzo[a]anthracene	ND		180	18	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzo[a]pyrene	ND		180	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzo[b]fluoranthene	ND		180	29	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzo[g,h,i]perylene	ND		180	19	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzo[k]fluoranthene	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Benzyl alcohol	ND		350	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
bis (2-chloroisopropyl) ether	ND		180	36	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Bis(2-chloroethoxy)methane	ND		180	38	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Bis(2-chloroethyl)ether	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Bis(2-ethylhexyl) phthalate	**120**	**J**	180	62	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Butyl benzyl phthalate	ND		180	30	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Chrysene	ND		180	40	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Diallate	ND		350	45	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Dibenz(a,h)anthracene	ND		180	32	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Dibenzofuran	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Diethyl phthalate	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Dimethoate	ND		350	44	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Dimethyl phthalate	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Di-n-octyl phthalate	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Dinoseb	ND		350	63	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Diphenylamine	ND		350	46	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Disulfoton	ND		350	270	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Chlorobenzilate	ND		350	56	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Ethyl methanesulfonate	ND		350	78	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Famphur	ND	* -	700	170	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Fluoranthene	ND		180	19	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Fluorene	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Hexachlorobenzene	ND		180	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Hexachlorobutadiene	ND		180	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1

R

Client Sample ID: DUP-3-051222
Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11
Matrix: Solid
Percent Solids: 92.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		180	24	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Hexachloroethane	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Hexachloropropene	ND		350	89	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Indeno[1,2,3-cd]pyrene	ND		180	22	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Isodrin	ND		350	62	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Isophorone	ND		180	38	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Isosafrole	ND		350	47	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Kepone	ND	*-	700	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Methapyrilene	ND		1600	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Methyl methanesulfonate	ND		350	81	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Naphthalene	ND		180	23	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Nitrobenzene	ND		180	20	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitro-o-toluidine	ND		350	46	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosodiethylamine	ND		350	82	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosodimethylamine	ND		350	77	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosodi-n-butylamine	ND		350	96	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosodi-n-propylamine	ND		180	31	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosodiphenylamine	ND		180	150	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosomethylethylamine	ND		350	81	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosomorpholine	ND		350	79	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosopiperidine	ND		350	71	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
N-Nitrosopyrrolidine	ND		350	53	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
o,o',o''-Triethylphosphorothioate	ND		350	46	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Ethyl Parathion	ND		350	39	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Methyl parathion	ND		350	61	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
p-Dimethylamino azobenzene	ND		350	60	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Pentachlorobenzene	ND		350	73	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Pentachloronitrobenzene	ND		350	89	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Pentachlorophenol	ND		350	180	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Phenacetin	ND		350	48	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Phenanthrene	ND		180	27	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Phenol	ND		180	28	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Phorate	ND		350	97	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
p-Phenylene diamine	ND		850	350	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Pronamide	ND		350	69	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Pyrene	ND		180	21	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Pyridine	ND		350	26	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Safrole	ND		350	48	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Sulfotepp	ND		350	56	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1
Thionazin	ND		350	62	ug/Kg	☼	05/16/22 15:21	05/17/22 21:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*05/16/22 15:21*	*05/17/22 21:54*	*1*
2-Fluorobiphenyl (Surr)	*84*		*60 - 120*	*05/16/22 15:21*	*05/17/22 21:54*	*1*
2-Fluorophenol (Surr)	*62*		*52 - 120*	*05/16/22 15:21*	*05/17/22 21:54*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*05/16/22 15:21*	*05/17/22 21:54*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*05/16/22 15:21*	*05/17/22 21:54*	*1*
p-Terphenyl-d14 (Surr)	*93*		*79 - 130*	*05/16/22 15:21*	*05/17/22 21:54*	*1*

Client Sample ID: DUP-3-051222
Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11
Matrix: Solid
Percent Solids: 92.6

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		1.8	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
4,4'-DDE	ND		1.8	0.37	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
4,4'-DDT	ND		1.8	0.41	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Aldrin	ND		1.8	0.43	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
alpha-BHC	ND		1.8	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
beta-BHC	ND		1.8	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Chlordane (technical)	ND		18	3.9	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Chlorobenzilate	ND		18	5.9	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
cis-Chlordane	ND		1.8	0.88	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
delta-BHC	ND		1.8	0.33	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Dieldrin	ND		1.8	0.42	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Endosulfan I	ND		1.8	0.34	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Endosulfan II	ND		1.8	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Endosulfan sulfate	ND		1.8	0.33	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Endrin	ND		1.8	0.35	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Endrin aldehyde	ND		1.8	0.45	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Endrin ketone	ND		1.8	0.43	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
gamma-BHC (Lindane)	ND		1.8	0.32	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Heptachlor	ND		1.8	0.38	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Heptachlor epoxide	ND		1.8	0.46	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Methoxychlor	ND		1.8	0.36	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
Toxaphene	ND		18	10	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1
trans-Chlordane	ND		1.8	0.56	ug/Kg	☼	05/16/22 15:30	05/17/22 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*74*		*45 - 120*	*05/16/22 15:30*	*05/17/22 17:13*	*1*
DCB Decachlorobiphenyl	*86*		*45 - 120*	*05/16/22 15:30*	*05/17/22 17:13*	*1*
Tetrachloro-m-xylene	*78*		*30 - 124*	*05/16/22 15:30*	*05/17/22 17:13*	*1*
Tetrachloro-m-xylene	*80*		*30 - 124*	*05/16/22 15:30*	*05/17/22 17:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1
PCB-1221	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1
PCB-1232	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1
PCB-1242	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1
PCB-1248	ND		0.21	0.041	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1
PCB-1254	ND		0.21	0.097	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1
PCB-1260	ND		0.21	0.097	mg/Kg	☼	05/13/22 17:12	05/16/22 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*125*		*65 - 174*	*05/13/22 17:12*	*05/16/22 18:22*	*1*
DCB Decachlorobiphenyl	*122*		*65 - 174*	*05/13/22 17:12*	*05/16/22 18:22*	*1*
Tetrachloro-m-xylene	*140*		*60 - 154*	*05/13/22 17:12*	*05/16/22 18:22*	*1*
Tetrachloro-m-xylene	*127*		*60 - 154*	*05/13/22 17:12*	*05/16/22 18:22*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		18	5.6	ug/Kg	☼	05/18/22 07:09	05/24/22 01:52	1
2,4-D	ND		18	11	ug/Kg	☼	05/18/22 07:09	05/24/22 01:52	1

Client Sample ID: DUP-3-051222

Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11

Matrix: Solid
Percent Solids: 92.6

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		18	6.3	ug/Kg	☼	05/18/22 07:09	05/24/22 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*28 - 129*	*05/18/22 07:09*	*05/24/22 01:52*	*1*
2,4-Dichlorophenylacetic acid	*80*		*28 - 129*	*05/18/22 07:09*	*05/24/22 01:52*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		36	20	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1
Disulfoton	ND		36	24	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1
Famphur	ND		36	19	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1
Methyl parathion	ND		36	20	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1
Ethyl Parathion	ND		36	20	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1
Phorate	ND		36	12	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1
Sulfotepp	ND		36	14	ug/Kg	☼	05/19/22 09:45	05/23/22 10:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*79*		*20 - 135*	*05/19/22 09:45*	*05/23/22 10:50*	*1*
Tributyl phosphate	*78*		*20 - 135*	*05/19/22 09:45*	*05/23/22 10:50*	*1*
Triphenylphosphate	*83*		*33 - 168*	*05/19/22 09:45*	*05/23/22 10:50*	*1*
Triphenylphosphate	*84*		*33 - 168*	*05/19/22 09:45*	*05/23/22 10:50*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**4.3**	**J B**	5.4	0.082	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,4,6,7,8-HpCDF	**0.95**	**J B**	5.4	0.0092	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,4,7,8,9-HpCDF	ND		5.4	0.013	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,4,7,8-HxCDD	~~**0.060**~~	~~**J I B**~~	5.4 U	0.013	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,4,7,8-HxCDF	**0.17**	~~**J I**~~ JNX	5.4	0.022	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,6,7,8-HxCDD	~~**0.059**~~	~~**J I B**~~	5.4 U	0.012	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,6,7,8-HxCDF	ND		5.4	0.023	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,7,8,9-HxCDD	**0.12**	**J**	5.4	0.013	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,7,8,9-HxCDF	ND		5.4	0.028	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,7,8-PeCDD	ND		5.4	0.028	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
1,2,3,7,8-PeCDF	~~**0.083**~~	~~**J I B**~~	5.4 U	0.036	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
2,3,4,6,7,8-HxCDF	**0.18**	~~**J I**~~ JNX	5.4	0.020	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
2,3,4,7,8-PeCDF	ND		5.4	0.027	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
2,3,7,8-TCDD	ND		1.1	0.024	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
2,3,7,8-TCDF	ND		1.1	0.017	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
OCDD	**32**	~~**B**~~	11	0.043	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
OCDF	**3.8**	~~**J I B**~~ JNX	11	0.017	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total HpCDD	**4.3**	~~**J I B**~~ JNX	5.4	0.082	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total HpCDF	~~**0.95**~~	~~**J I B**~~	5.4 U	0.011	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total HxCDD	~~**0.24**~~	~~**J I B**~~	5.4 U	0.013	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total HxCDF	~~**0.35**~~	~~**J I B**~~	5.4 U	0.023	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total PeCDD	ND		5.4	0.028	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total PeCDF	~~**0.083**~~	~~**J I B**~~	5.4 U	0.031	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total TCDD	ND		1.1	0.024	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1
Total TCDF	ND		1.1	0.017	ng/Kg	☼	05/21/22 09:58	05/26/22 19:05	1

Client Sample ID: DUP-3-051222

Date Collected: 05/12/22 00:00
Date Received: 05/13/22 10:00

Lab Sample ID: 480-197946-11

Matrix: Solid
Percent Solids: 92.6

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	80		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,6,7,8-HpCDF	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,7,8,9-HpCDF	79		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,7,8-HxCDD	77		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,4,7,8-HxCDF	75		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,6,7,8-HxCDD	90		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,6,7,8-HxCDF	86		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8,9-HxCDD	82		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8,9-HxCDF	79		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8-PeCDD	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-1,2,3,7,8-PeCDF	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,4,6,7,8-HxCDF	79		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,4,7,8-PeCDF	78		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,7,8-TCDD	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-2,3,7,8-TCDF	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-OCDD	76		40 - 135	05/21/22 09:58	05/26/22 19:05	1
13C-OCDF	72		40 - 135	05/21/22 09:58	05/26/22 19:05	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.5	J	15.9	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Arsenic	3.6		2.1	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Barium	19.4		0.53	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Beryllium	0.21		0.21	0.030	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Cadmium	0.063	J	0.21	0.032	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Chromium	5.2		0.53	0.21	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Cobalt	5.6		0.53	0.053	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Copper	7.1		1.1	0.22	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Lead	6.0		1.1	0.25	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Nickel	9.5		5.3	0.24	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Selenium	0.85	J	4.2	0.42	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Silver	ND		0.63	0.21	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Thallium	ND		6.3	0.32	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Tin	ND		2.1	0.45	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Vanadium	6.7		0.53	0.12	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1
Zinc	31.4		2.1	0.68	mg/Kg	☼	05/19/22 12:46	05/24/22 14:33	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0077	J	0.021	0.0047	mg/Kg	☼	05/18/22 11:48	05/18/22 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.090	0.043	mg/Kg	☼	05/25/22 14:40	05/25/22 16:02	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		20.4	11.6	mg/Kg	☼		05/23/22 15:50	1

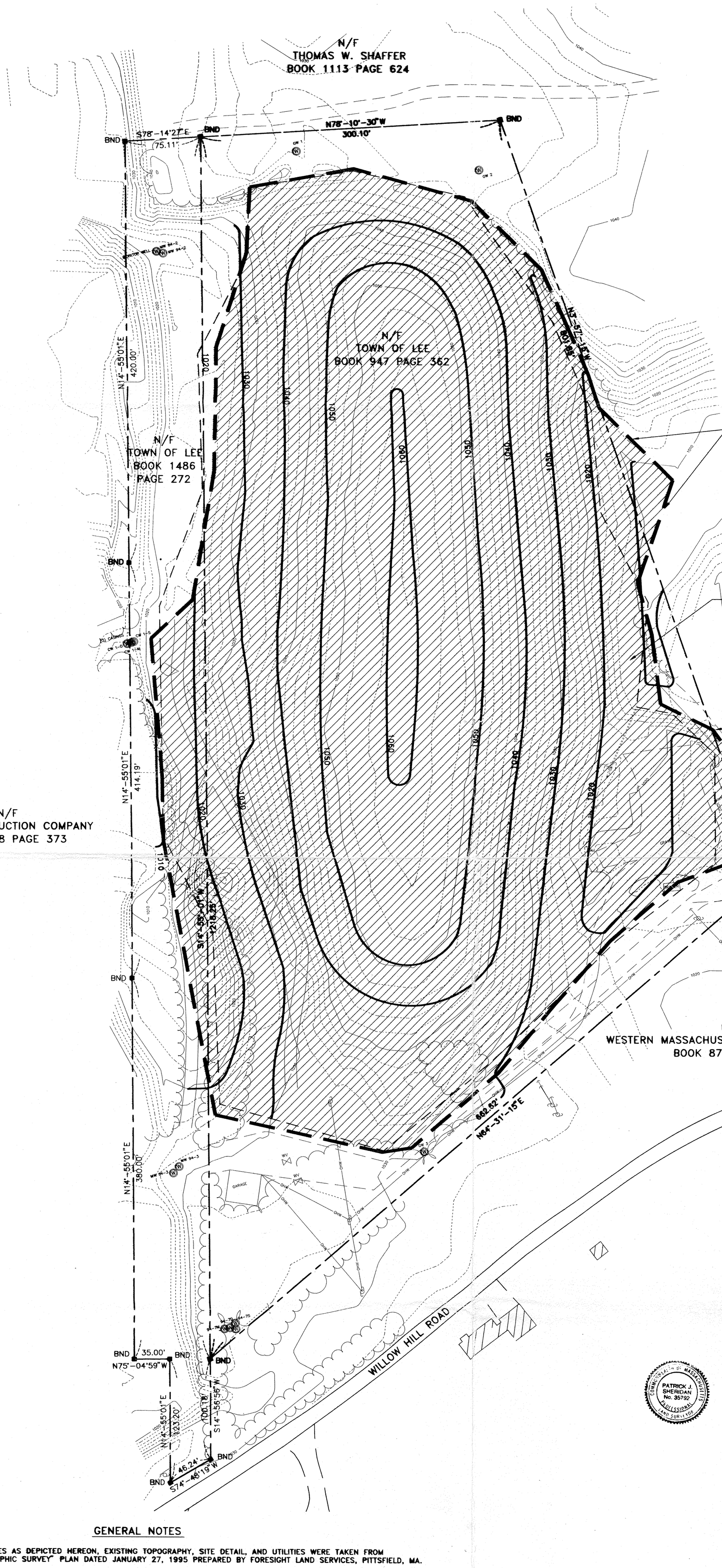
Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Appendix I

Piezometer and Monitoring Well Data

05/21/97 02:19
PLAN RECORDED
in Plat E, #86

RESERVED FOR REGISTRY



LEGEND

- PROPERTY LINE
- FINAL 10' CONTOUR
- LANDFILL CAPPED IN 1995
- BND — BOUND (DEED)
- GW 2 — SOIL GAS MONITORING WELL
- MW 84-2 — GROUND WATER MONITORING WELL

GENERAL NOTES

1. PROPERTY LINES AS DEPICTED HEREON, EXISTING TOPOGRAPHY, SITE DETAIL, AND UTILITIES WERE TAKEN FROM THE "TOPOGRAPHIC SURVEY" PLAN DATED JANUARY 27, 1995 PREPARED BY FORESIGHT LAND SERVICES, PITTSFIELD, MA.
2. PROPERTY LINES AS DEPICTED HEREON WERE TAKEN FROM DEEDS ON FILE WITH THE BERKSHIRE MIDDLE DISTRICT REGISTRY OF DEED – BOOK 1486 PAGE 272.

SPECIAL NOTATIONS

Ⓐ THE TOWN OF LEE PARCEL DESCRIBED HEREIN IS SUBJECT TO THE PROVISIONS OF M.G.L. C.111, S. 150A AND THE REGULATIONS AT 310 CMR 19.000. SAID PREMISES SHALL NOT BE USED FOR ANY USE OTHER THAN AS A LANDFILL WITHOUT PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION. CONTINUED OPERATION OF THE SITE AS A LANDFILL REQUIRES THE TRANSFER OF THE PERMIT IN ACCORDANCE WITH PART I, 310 CMR 19.044. THE PROCEDURE FOR DEPARTMENT APPROVAL FOR ANY USE OTHER THAN AS A LANDFILL IS SET FORTH AT PART II, 310 CMR 19.143. SUCH DEPARTMENT APPROVAL OF OTHER USE IS TRANSFERABLE OR ASSIGNABLE ONLY UPON WRITTEN APPROVAL OF THE DEPARTMENT.

Ⓑ A LANDFILL CLOSURE CERTIFICATION REPORT SUBMITTED TO DEP IN FEBRUARY 1997 CONTAINS CLOSURE DETAILS AS REQUIRED BY 310 CMR 19.141.

50 0 25 50 100
SCALE: 1"=50'

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED ACCORDING TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS AND I CERTIFY THAT THE PROPERTY LINES SHOWN ON THIS PLAN ARE THE LINES DIVIDING EXISTING OWNERSHIPS, AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. SHERIDAN
No. 35792
PROFESSIONAL LAND SURVEYOR

5/20/97 Patrick J. Sheridan # 35792
DATE: REGISTERED LAND SURVEYOR

RECORD NOTICE OF LANDFILL OPERATION
M.G.L. C.111, S.150A, 310 CMR 19.141
LEE SANITARY LANDFILL
WILLOW HILL ROAD
DEPARTMENT OF PUBLIC WORKS
TOWN OF LEE, MASSACHUSETTS

TIGHE & BOND, CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS 01085
DATE: MAY 20, 1997

RECORDED COPY 5/19/97 F:\P\L339\REGISTRY

Table 4-1
Lee Sanitary Landfill

1984 Record of Groundwater Elevations

Well Identification[1]	Date						
	5/18/84	6/6/84	7/9/84	7/25/84	8/21/84	10/2/84	10/31/84
MW-84-1 (MW-1)	965.70	970.25	964.30	963.05	960.50	957.50	955.40
MW-84 -2 (MW-2)	955.99	957.79	957.99	957.04	955.49	954.14	952.59
MW-84-3 (MW-3)	954.08	955.53	954.43	953.58	952.08	950.23	949.58

Notes:

(1) Parenthesis indicate the original well designations as referred to in the 1986 Tighe & Bond Report

(2) The groundwater elevations listed above are referenced from Mean Sea Level.

Table 4-2
Lee Sanitary Landfill

Groundwater Elevations Summary Sampling Rounds 1 & 2

Monitoring Well Location	Groundwater Elevations 1/24/95	4/18/95	Depth to Water[1] 1/24/95	4/18/95
MW 84-1	959.20	959.78	53.15	52.57
MW 94-1	958.90	960.00	53.18	52.08
MW 84-2	948.85	950.17	71.12	69.80
MW 94-2	949.69	951.69	71.40	69.40
MW 84-3	949.83	948.19	80.83	82.47
MW 94-3M	949.99	950.27	81.48	81.20
MW 94-7S	950.21	950.47	84.02	83.76
MW 94-7D	954.24	953.19	80.27	81.32
CW 88-1S	950.11	950.93	67.62	66.80
CW 88-1M	949.77	950.94	66.57	65.40
CW 88-1D	951.53	952.61	66.73	65.65

Notes:

(1) Depth to water is a relative distance measured from the PVC, i.e., PVC top = 0

(2) Groundwater elevations are not included for MW-94-7M due to inadequate recharge due to grout intrusion in the screened interval.

(3) The groundwater elevations listed above are referenced from Mean Sea Level.

1-0110

TIGHE & BOND

CONSULTING ENGINEERS
ENVIRONMENTAL SPECIALISTS

John W. Powers
David G. Healey
Ronald A. Michalski
Michael R. Parsons
Philip W. Sheridan

Dennis H. Bianchi
Thomas C. Couture
James S. O'Reilly

Emeriti
Edward J. Bayon
George H. McDonnell

L-234-1-29
February 1, 1989

Commonwealth of Massachusetts
Department of Environmental Quality
Engineering
436 Dwight Street - 4th floor
Springfield, MA 01103

Attn: Mr. Stephen Joyce

Re: Addendum to Hydrogeological
Study at Sanitary Landfill

Gentlemen:

On behalf of the Town of Lee, we are submitting to you herewith, our report entitled "Addendum to Hydrogeological Study of the Sanitary Landfill, Town of Lee" dated February, 1989.

The study was conducted to supplement and support information gathered in the 1986 Hydrogeological Study in response to DEQE's review and comments of the original report. Our basic conclusion from this Addendum is that the landfill has had little impact on the quality of the groundwater beneath and downgradient of the sanitary landfill when compared with other unlined municipal landfills. These results support the conclusions of the original study. The groundwater is not considered hazardous as defined in 310 CMR 30.00. Typically, for long term protection of groundwater, the remedial action will be conventional closure of the landfill at the end of its useful life.

Please refer to the report for details of the study which include information on: site history, bedrock and surficial geology, groundwater monitoring, analytical results and conclusions.

Please review the following report at your convenience. If you have any questions regarding this report please contact us.

Very truly yours,

TIGHE & BOND, INC.

David M. Lenart, P.E.

DML/CVS/lch/F23/EE

50 Payson Avenue
Easthampton, Mass. 01027
TEL. 413-527-5600
413-533-3991

3.3 Monitoring Wells

A Review of Report letter from the DEQE dated October 5, 1988 gave approval to the location of the cluster well proposed for this study. Subsequent to the approval from the DEQE regarding the location, one set of cluster wells was installed downgradient of the landfill to provide permanent groundwater sampling and water level measuring capabilities. The wells were located to intercept the potential contaminant plume during both high and low groundwater situations. It was determined in the original 1986 hydrogeological study that the low groundwater flow direction is in a southwesterly direction instead of a westerly direction. This 1988 cluster of wells was installed to acquire supplemental and supporting data for the six (6) monitoring wells installed during the original study.

The new monitoring wells were installed during October, 1988. The cluster well consisted of three (3) monitoring wells installed within close proximity to one another with screens set at different depths. The pertinent well data and reference elevations are summarized in Table 3.1.

TABLE 3.1
Monitoring Well Elevation Data

Well I.D.	Ground Elevation	Well Bottom Elevation	Depth of Well, ft.	Screen Length, ft.
MW-84-1	1009.94	951.31	58.6	10
MW-84-2	1008.02	940.42	67.6	10
MW-84-3	1029.34	939.45	89.9	10
CW-1S	1015.69	940.38	75.3	20
CW-1M	1015.75	931.41	84.3	5
CW-1D	1015.50	926.79	88.7	5

Monitoring well installation was accomplished with hollow stem auger equipment. Soil samples were collected at the surface and at five (5) foot intervals with a split spoon sampler. Since cluster wells were located within close proximity to each other, only samples from the deep well were collected. Samples were retained for detailed classification and an organic vapor scan.

Soil samples were stored in glass jars and capped with an aluminum foil seal. The air space above the sample was analyzed for organic vapors using a photoionization detector (PID). Results from the vapor scan are attached in Appendix B. No samples showed readings higher than background levels.

Monitoring well completion was accomplished using 2" diameter, Schedule 40 PVC riser and (.01) inch slotted well screen with flush joint threads. Each well was backfilled with clean Ottowa sand around the screen with a 4-foot bentonite seal above the sand to prevent migration along the disturbed materials. All three wells were furnished with a locking protective casing cemented at the surface.

Boring logs for the cluster wells installed for this project and well details are included in Appendix C. The following is a summary of the stratigraphy encountered during drilling.

Well Cluster CW-1 was located west (downgradient) of the active landfill site between wells MW-84-2 and MW-84-3 which were installed in 1984. The deep well, CW-1D, encountered fine to medium sand and gravel with some fill from 0 to 7 feet below grade. From 7 feet to 30 feet below grade a reddish brown, silty sand with trace gravel and cobbles was encountered. From 30 feet to 75 feet below grade a dry to moist gray, very fine, silty sand was encountered. Prominent mottling of the sand was noted between 55 and 60 feet below grade with the water table evident at approximately 71 feet below grade. A strata change occurred between 73 and 85 feet below grade where samples graded from fine to coarse

Date Start/Finish:	5/5/2022	**Northing:**	2,954,349.56 ft	**Well ID:**	**MW-2022-1D**
Drilling Company:	Cascade	**Easting:**	187,021.61 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,032.38 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,029.6 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	80.5 ft bgs		GE Parcel Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
0 / 1030	Locking J-Plug 4" Steel Protective Casing with Lock Clasp Cement Grout (0-1' bgs.)	See boring logs for material descriptions and sample intervals.
5 / 1025		
10 / 1020		
15 / 1015		
20 / 1010	2" Schedule 40 PVC Riser (2.54' ags-70.5' bgs)	
25 / 1005	Cement-Bentonite Grout (1-68.5' bgs)	
30 / 1000		
995		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-1D

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
40	950		
45	985		
50	980	2" Schedule 40 PVC Riser (2.54' ags-70.5' bgs)	
55	975	Cement-Bentonite Grout (1-68.5' bgs)	
			Water table as found during soil boring at 57.5' bgs.
60	970		
65	965	Bentonite Seal (66.5-68.5' bgs)	
70	960	#2 Silica Sand Pack (68.5-70.5' bgs)	
		2" Schedule 40 PVC 0.010" Slotted Screen (70.5-80.5' bgs)	
75	955	#2 Silica Sand Pack (68.5-80.5' bgs)	

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

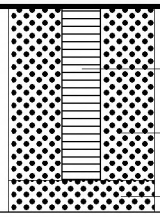
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-1D

Site Location:

GE Parcel
Lee, Massachusetts

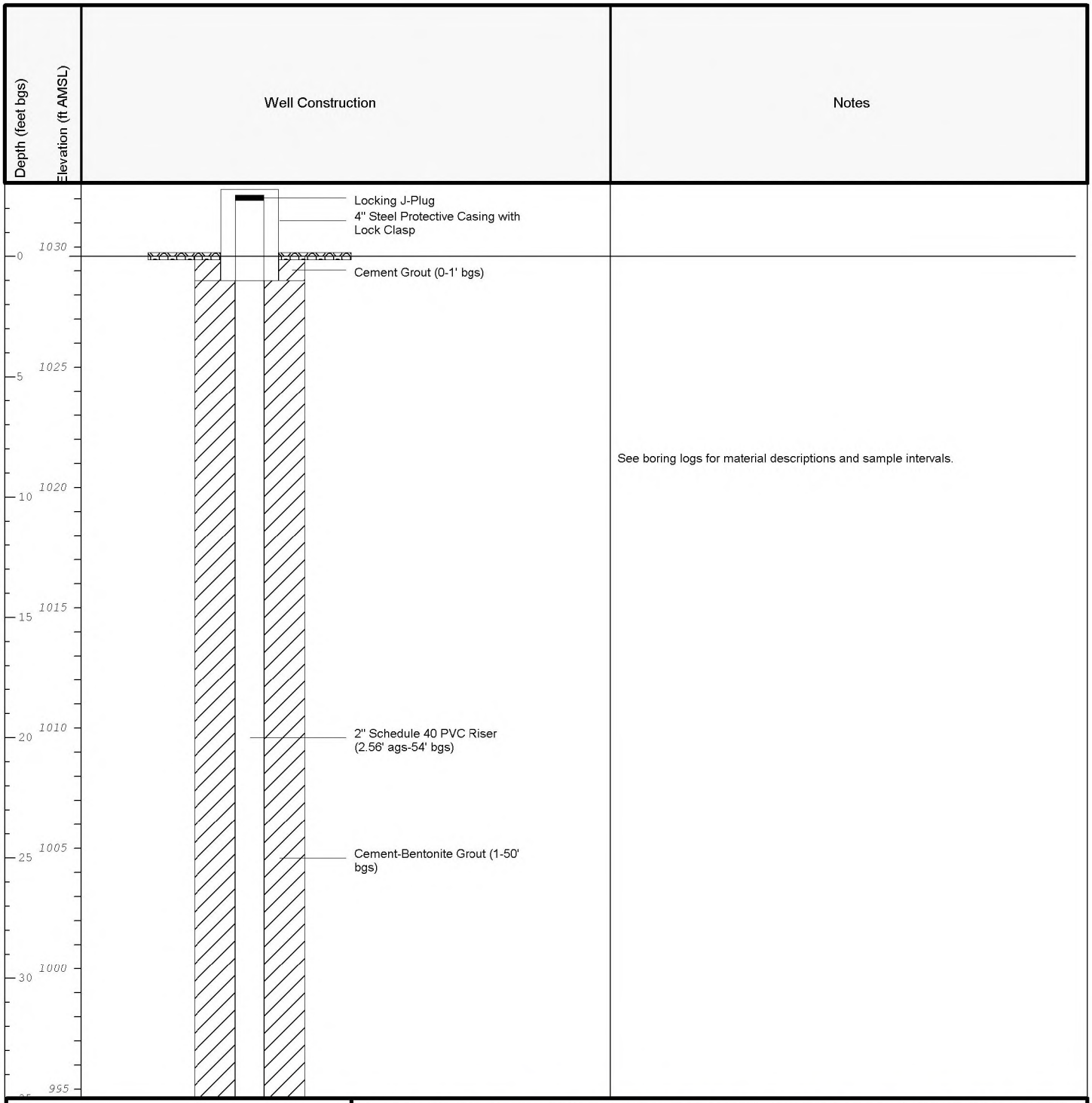
Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
80	950	 2" Schedule 40 PVC 0.010" Slotted Screen (70.5-80.5' bgs) #2 Silica Sand Pack (68.5-80.5' bgs) #2 Silica Sand (80.5-81.5' bgs)	
85	945		End of borehole at 81.5' bgs.
90	940		
95	935		
100	930		
105	925		
110	920		
115	915		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	6/17/2022	**Northing:**	2,954,356.0 ft	**Well ID:**	**MW-2022-1S**
Drilling Company:	Cascade	**Easting:**	187,012.0 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	1,032.89 ft		
Drilling Method:	Mud Rotary	**Surface Elevation:**	1,030.2 ft	**Location:**	GE Parcel Lee, Massachusetts
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	64 ft bgs		



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

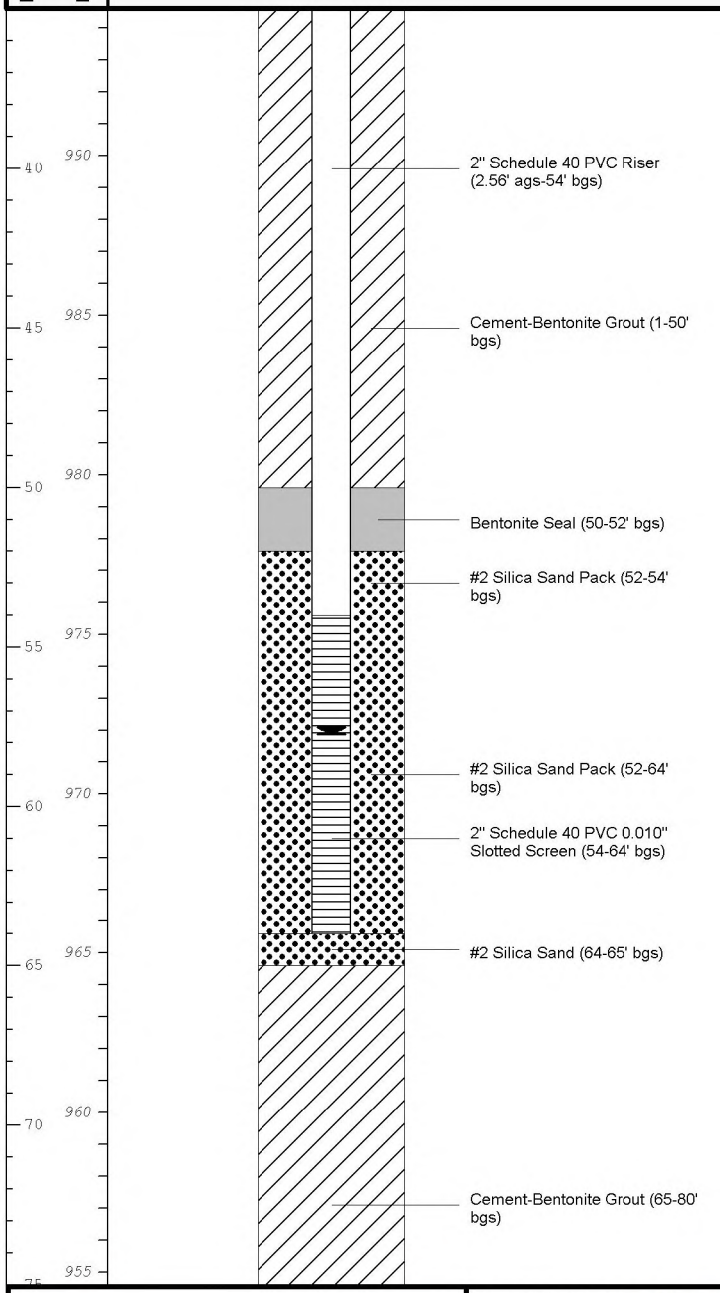
Client: General Electric Company

Well/Boring ID: MW-2022-1S

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes



Water table as found during soil boring at 57.5' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-1S

Site Location:

GE Parcel
Lee, Massachusetts

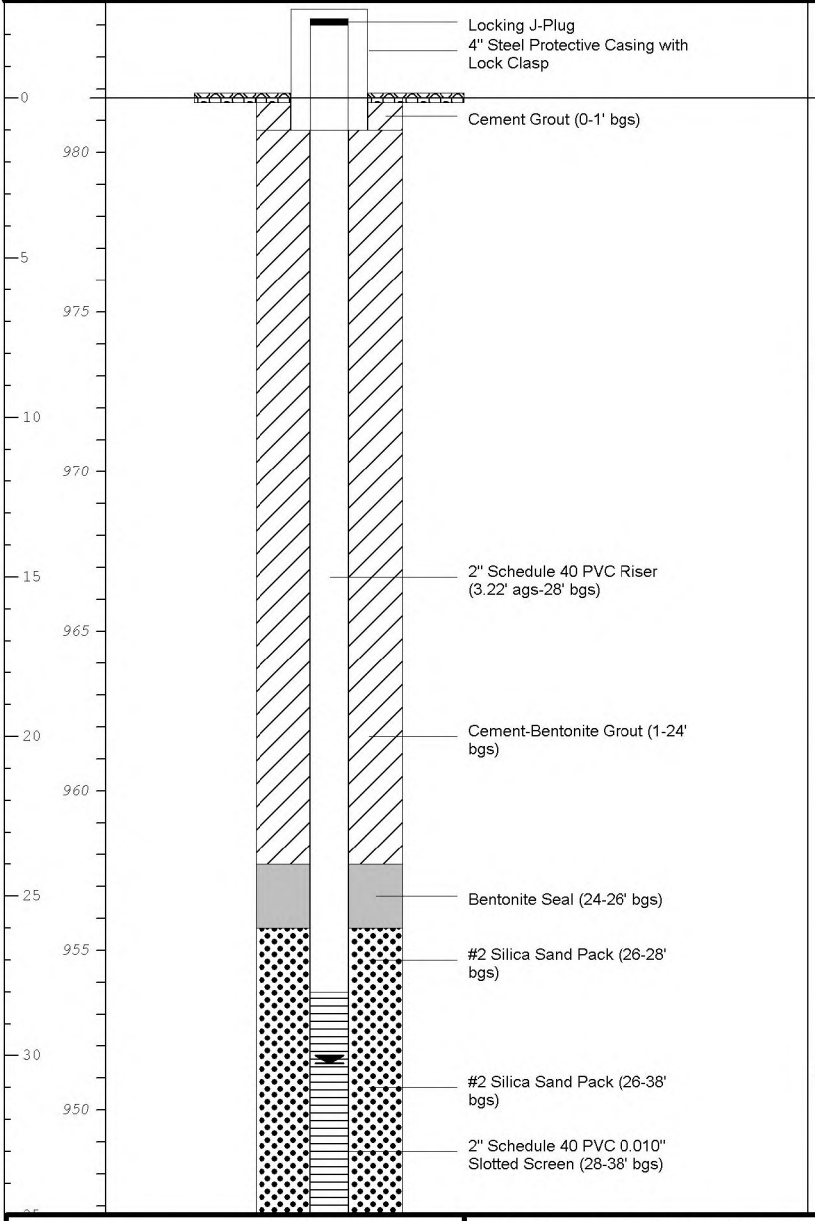
Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
80	950	Cement-Bentonite Grout (65-80' bgs)	End of borehole at 80' bgs.
85	945		
90	940		
95	935		
100	930		
105	925		
110	920		
115	915		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/26/22	**Northing:**	2,955,207.16 ft	**Well ID:**	**MW-2022-2**
Drilling Company:	Cascade	**Easting:**	186,249.63 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	985.13 ft		
Drilling Method:	Mud Rotary	**Surface Elevation:**	981.7 ft	**Location:**	GE Parcel Lee, Massachusetts
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	38 ft bgs		



Well Construction

Notes

See boring logs for material descriptions and sample intervals.

Water table as found during soil boring at 30' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

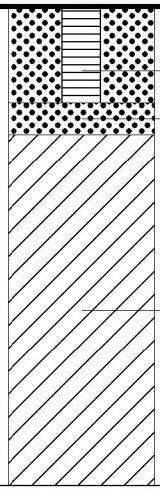
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-2

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
0 / 945		
40 / 940		
45 / 935		
50 / 930		End of borehole at 50' bgs.
55 / 925		
60 / 920		
65 / 915		
70 / 910		
75		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	6/1/22	**Northing:**	2,954,896.01 ft	**Well ID:**	**MW-2022-3**
Drilling Company:	Cascade	**Easting:**	186,066 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	956.71 ft		
Drilling Method:	Mud Rotary	**Surface Elevation:**	953.7 ft	**Location:**	
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	17.5 ft bgs	GE Parcel Lee, Massachusetts	

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
955 / 0	Locking J-Plug 4" Steel Protective Casing with Lock Clasp Cement Grout (0-1' bgs)	
950 / 5	Cement-Bentonite Grout (1-3.5' bgs) Bentonite Seal (3.5-5.5' bgs) 2" Schedule 40 PVC Riser (2.84' ags-7.5' bgs) #2 Silica Sand Pack (5.5-7.5' bgs)	Water table as found during soil boring at 7' bgs. See boring logs for material descriptions and sample intervals.
945 / 10	#2 Silica Sand Pack (5.5-17.5' bgs) 2" Schedule 40 PVC 0.010" Slotted Screen (7.5-17.5' bgs)	
940 / 15		
935 / 20	#2 Silica Sand (17.5-18.5' bgs)	
930 / 25		
925 / 30	Cement-Bentonite Grout (18.5-47' bgs)	
920		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

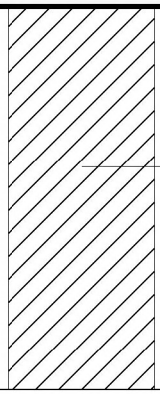
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-3

Site Location:

GE Parcel
Lee, Massachusetts

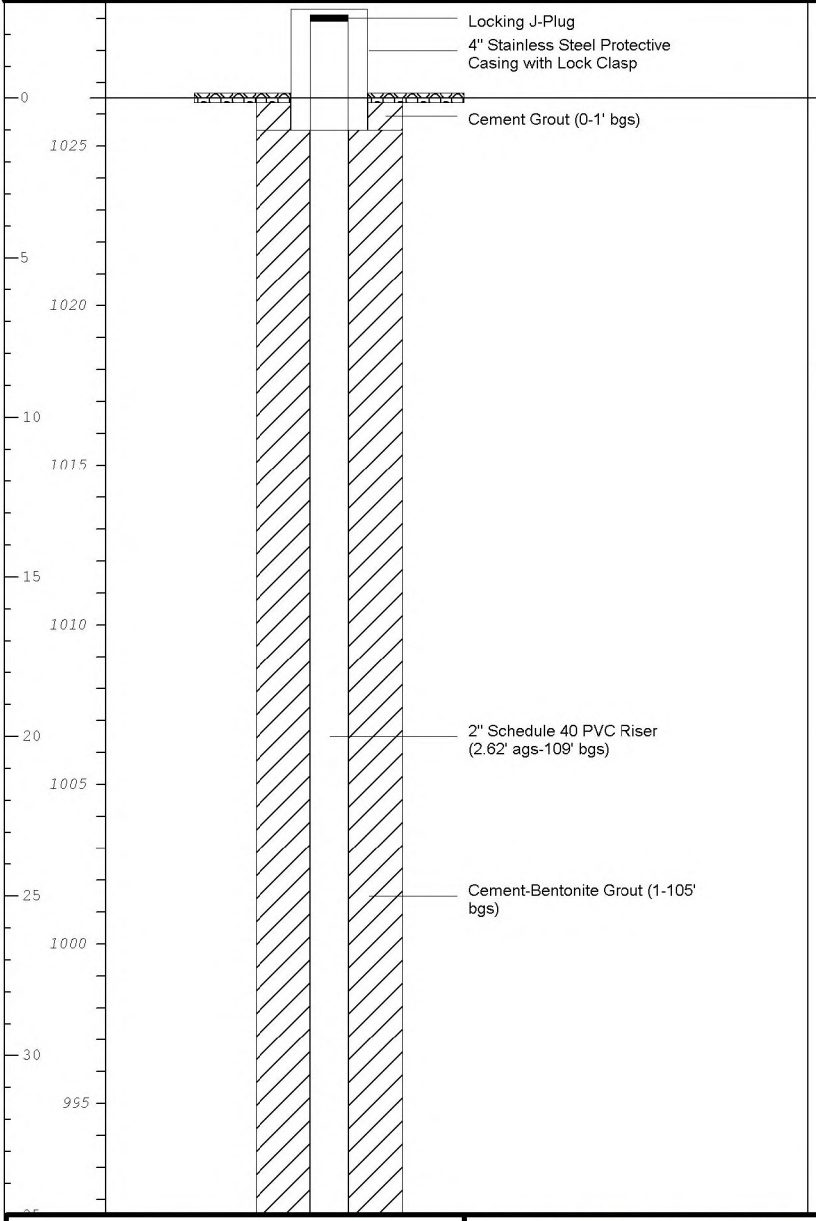
Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
915 / 40	 Cement-Bentonite Grout (18.5-47' bgs)	
910 / 45		
905 / 50		End of borehole at 47' bgs.
900 / 55		
895 / 60		
890 / 65		
885 / 70		
880 / 75		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/3/22	**Northing:**	2,954,329.39 ft	**Well ID:**	**MW-2022-4D**
Drilling Company:	Cascade	**Easting:**	185,922.2 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,029.27 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,026.5 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	119 ft bgs		GE Parcel Lee, Massachusetts
			985.13		



Notes

See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

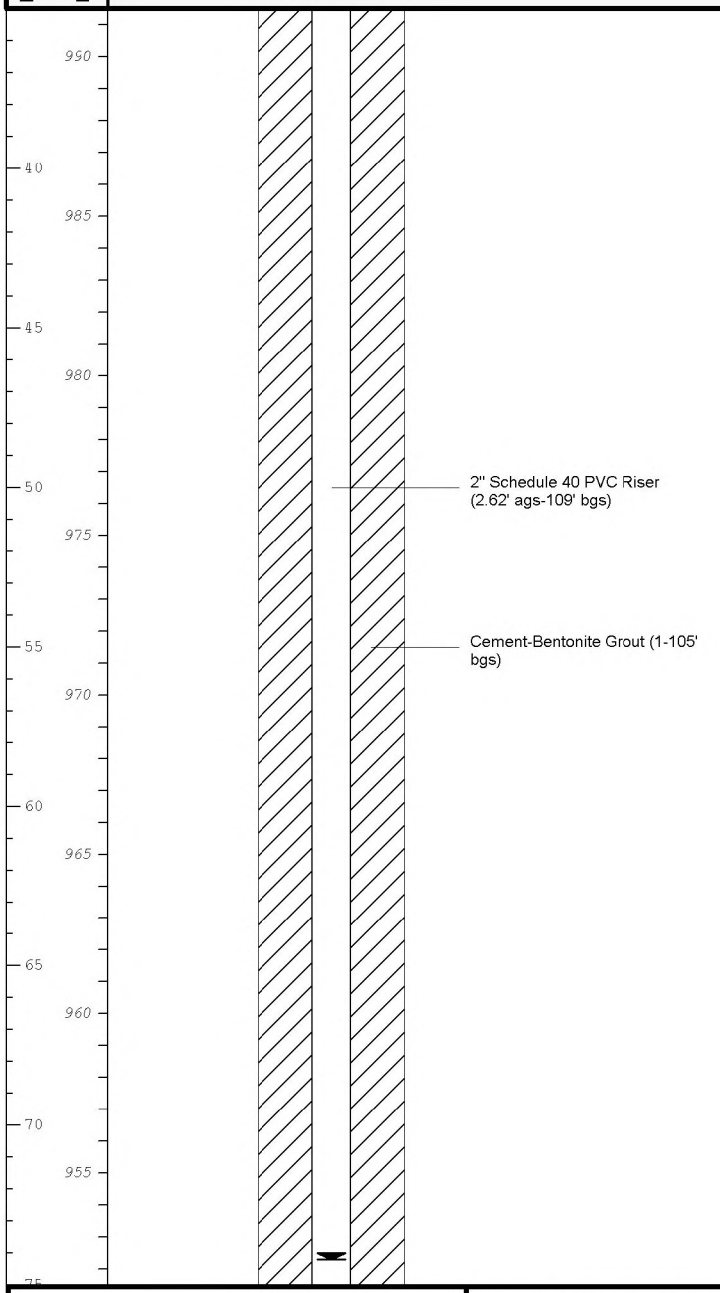
Client: General Electric Company

Well/Boring ID: MW-2022-4D

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



Water table as found during soil boring at 74' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

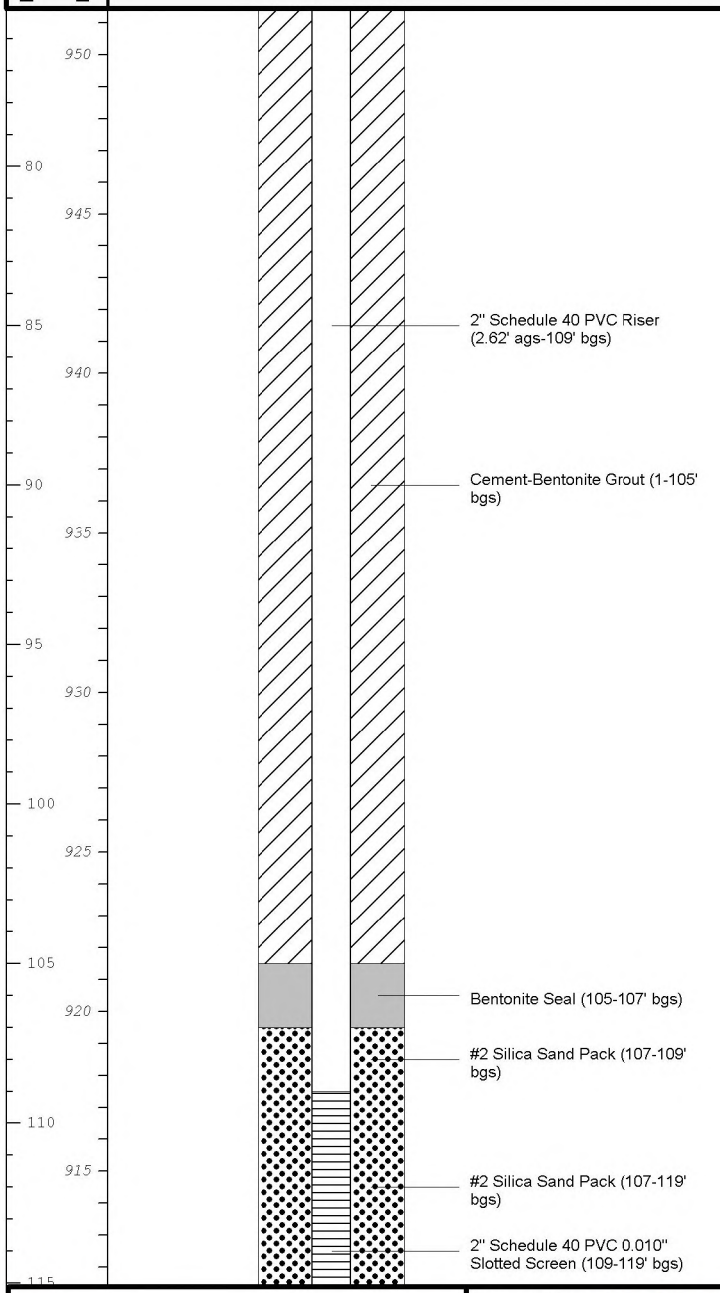
Client: General Electric Company

Well/Boring ID: MW-2022-4D

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

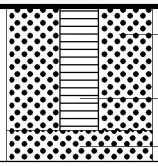
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-4D

Site Location:

GE Parcel
Lee, Massachusetts

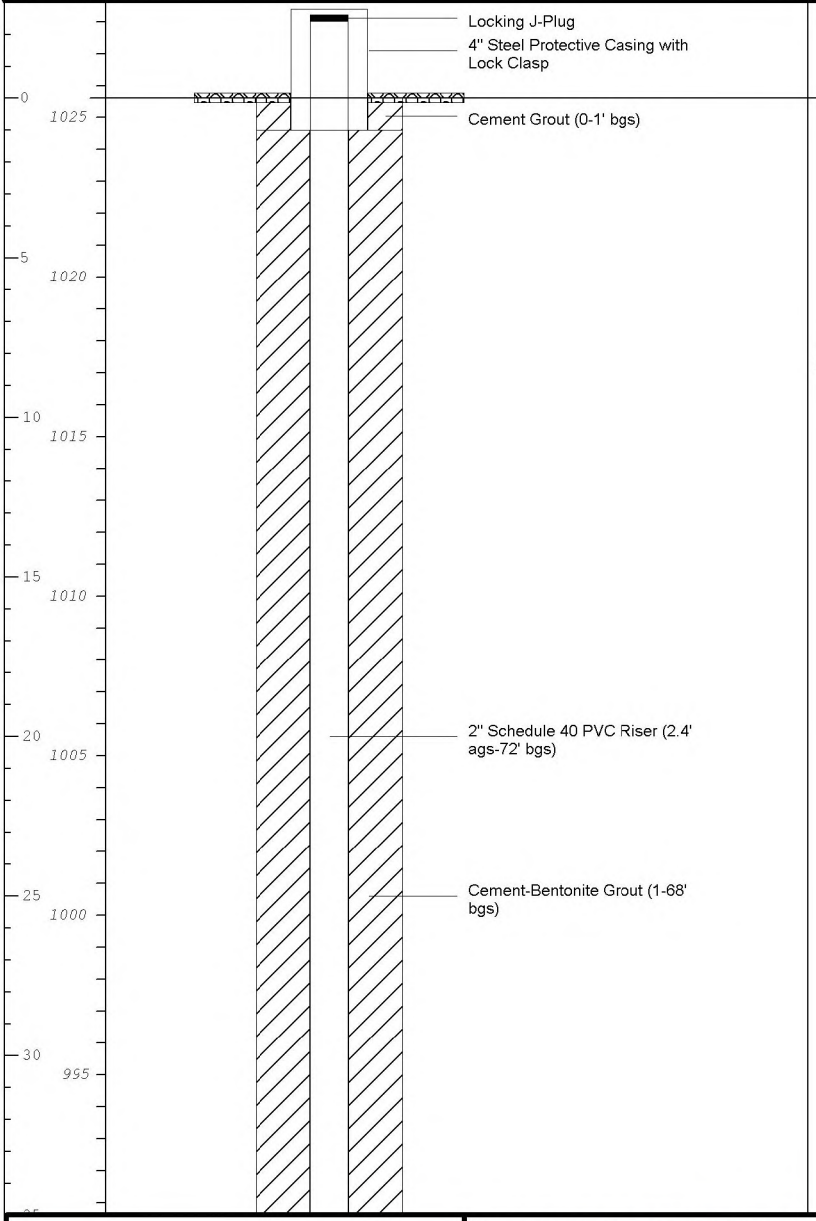
Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
910 / 120	 #2 Silica Sand Pack (107-119' bgs) 2" Schedule 40 PVC 0.010" Slotted Screen (109-119' bgs) #2 Silica Sand (119-120' bgs)	
905 / 125		End of borehole at 120' bgs.
900 / 130		
895 / 135		
890 / 140		
885 / 145		
880 / 150		
875 / 155		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/3/22	**Northing:**	2,954,313.76 ft	**Well ID:**	**MW-2022-4S**
Drilling Company:	Cascade	**Easting:**	185,914.75 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,028.13 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,025.60 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	82 ft bgs.		GE Parcel Lee, Massachusetts



Notes

See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-4S

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
0	950		
40	985		
45	980		
50	975	2" Schedule 40 PVC Riser (2.4' ags-72' bgs)	
55	970	Cement-Bentonite Grout (1-68' bgs)	
60	965		
65	960		
70	955	Bentonite Seal (68-70' bgs) #2 Silica Sand Pack (70-72' bgs) #2 Silica Sand Pack (70-82' bgs) 2" Schedule 40 PVC 0.010" Slotted Screen (72-82' bgs)	Water table as found during soil boring at 74' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

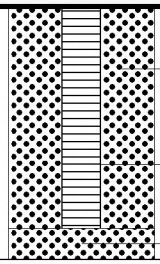
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-4S

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
0	950		
80	945		
85	940		End of borehole at 83' bgs.
90	935		
95	930		
100	925		
105	920		
110	915		
115			

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/3/2022	**Northing:**	2,953,973.09 ft	**Well ID:**	**MW-2022-5**
Drilling Company:	Cascade	**Easting:**	186,009.95 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,015.92 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,012.8 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	69 ft bgs.		GE Parcel Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
1015 / 0	Locking J-Plug 4" Steel Protective Casing with Locking Clasp Cement Grout (0-1' bgs.)	
1010 / 5		
1005 / 10		See boring logs for material descriptions and sample intervals.
1000 / 15		
995 / 20	2" Schedule 40 PVC Riser (2.95' ags-59' bgs)	
990 / 25	Cement-Bentonite Grout (1-55' bgs)	
985 / 30		
980		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

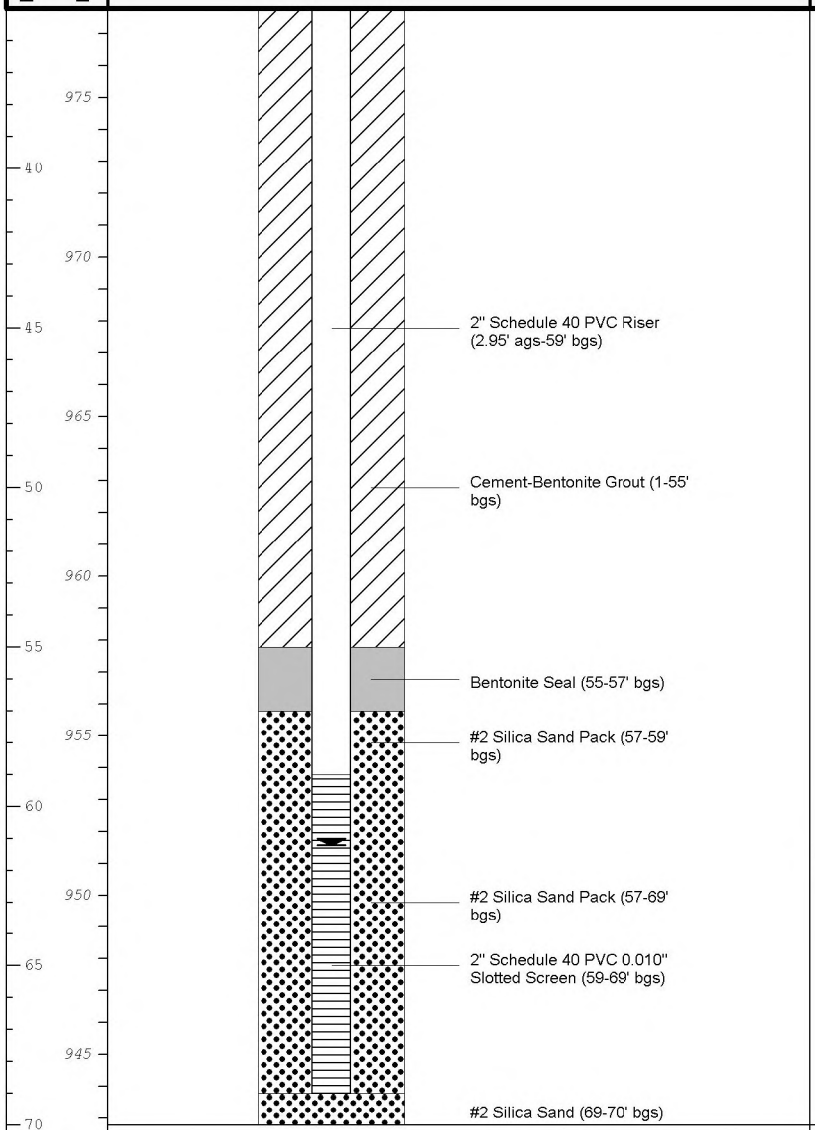
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-5

Site Location:

GE Parcel
Lee, Massachusetts



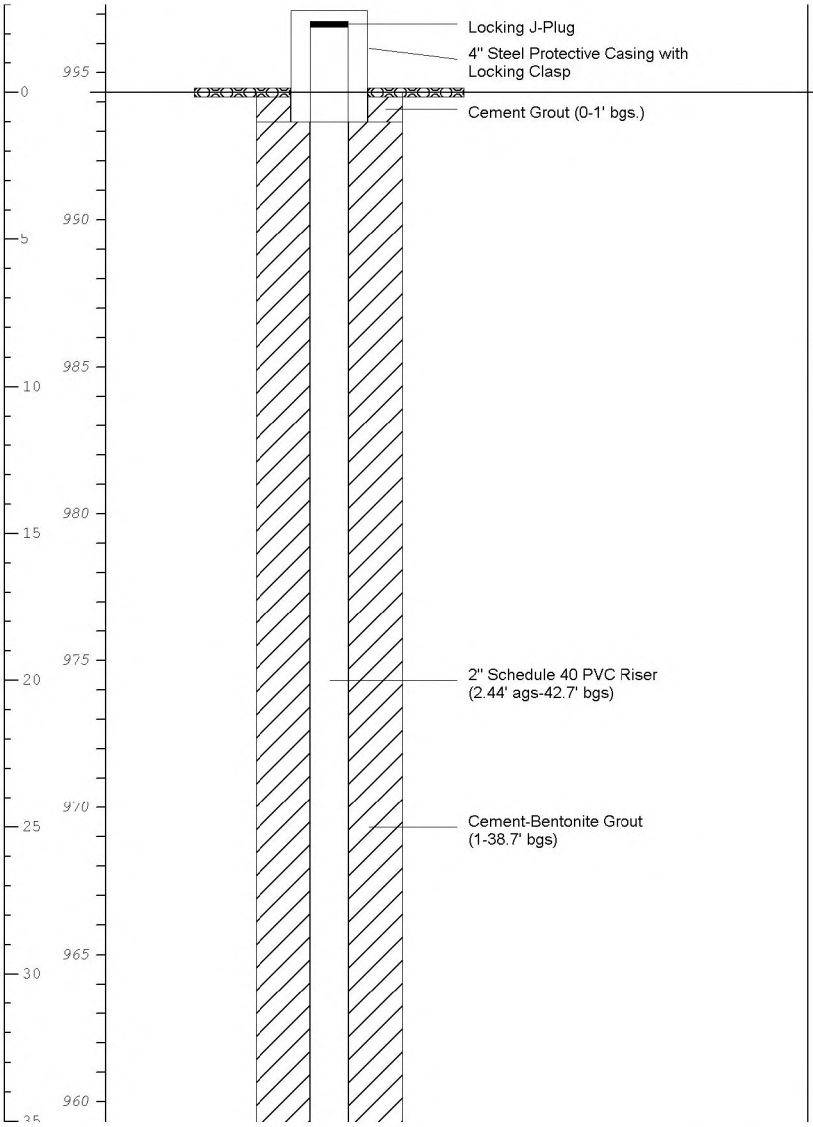
ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/4/2022	**Northing:**	2,953,510.76 ft	**Well ID:**	**MW-2022-6**
Drilling Company:	Cascade	**Easting:**	186,122.87 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	997.05 ft		
Drilling Method:	Sonic	**Surface Elevation:**	994.3 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	53.7 ft bgs		GE Parcel Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

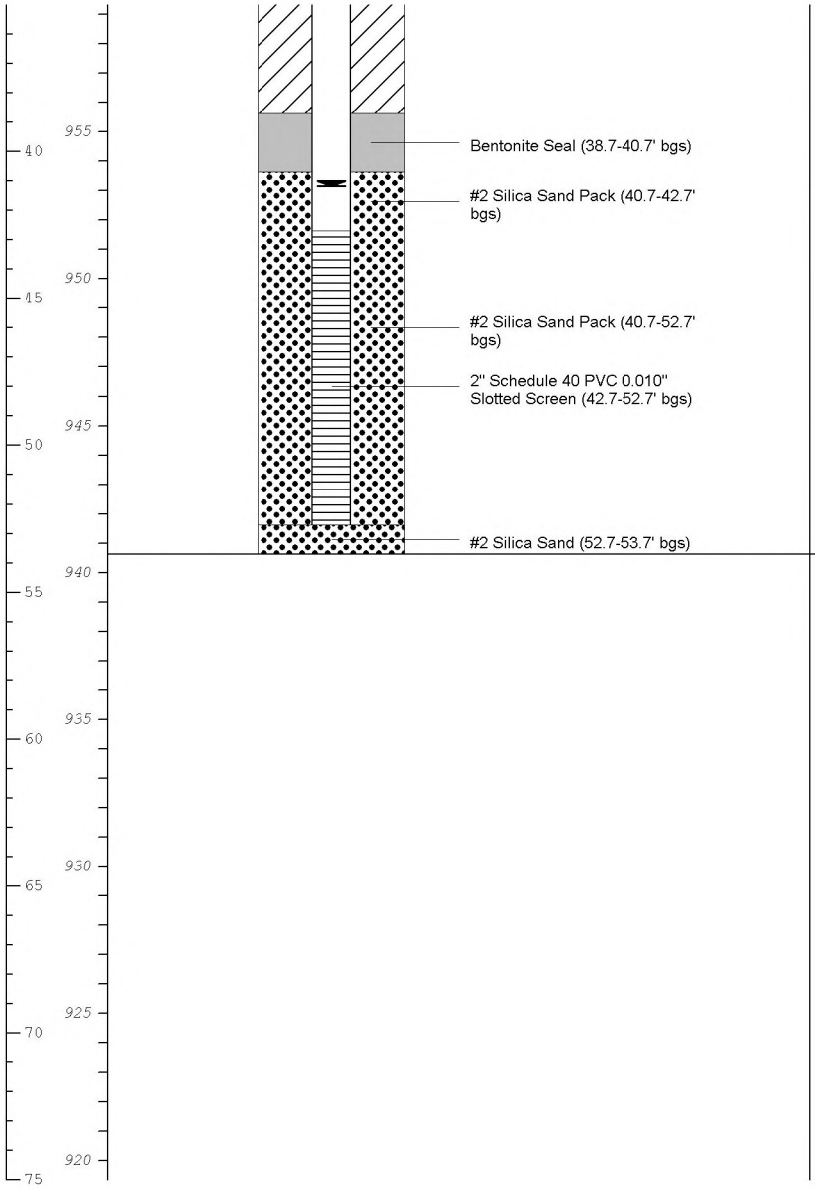
Client: General Electric Company

Well/Boring ID: MW-2022-6

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
40 / 955	Bentonite Seal (38.7-40.7' bgs)	
	#2 Silica Sand Pack (40.7-42.7' bgs)	Water table as found during soil boring at 41' bgs.
45 / 950	#2 Silica Sand Pack (40.7-52.7' bgs)	
	2" Schedule 40 PVC 0.010" Slotted Screen (42.7-52.7' bgs)	
50 / 945		
55 / 940	#2 Silica Sand (52.7-53.7' bgs)	End of borehole at 53.7' bgs.
60 / 935		
65 / 930		
70 / 925		
75 / 920		



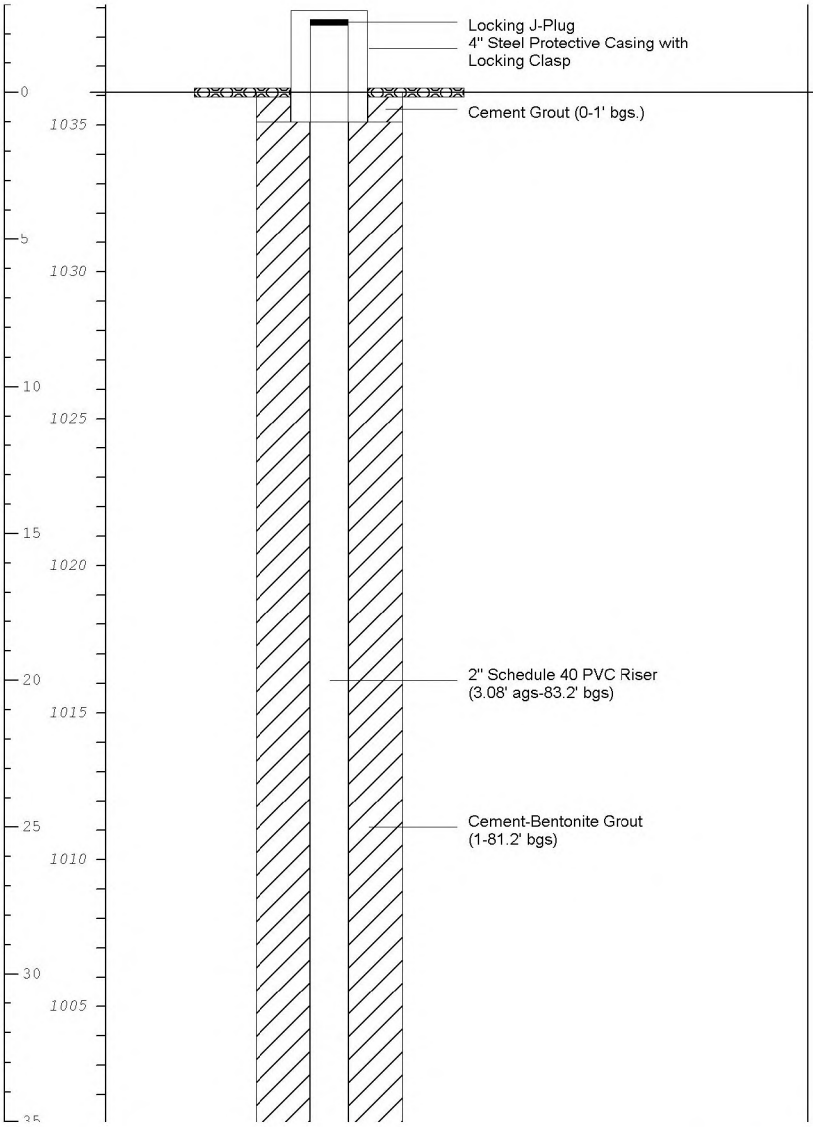
ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/9/2022	**Northing:**	2,953,337.69 ft	**Well ID:**	**MW-2022-7**
Drilling Company:	Cascade	**Easting:**	186,393.69 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,039.16 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,036.1 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	94.2 ft bgs		GE Parcel Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

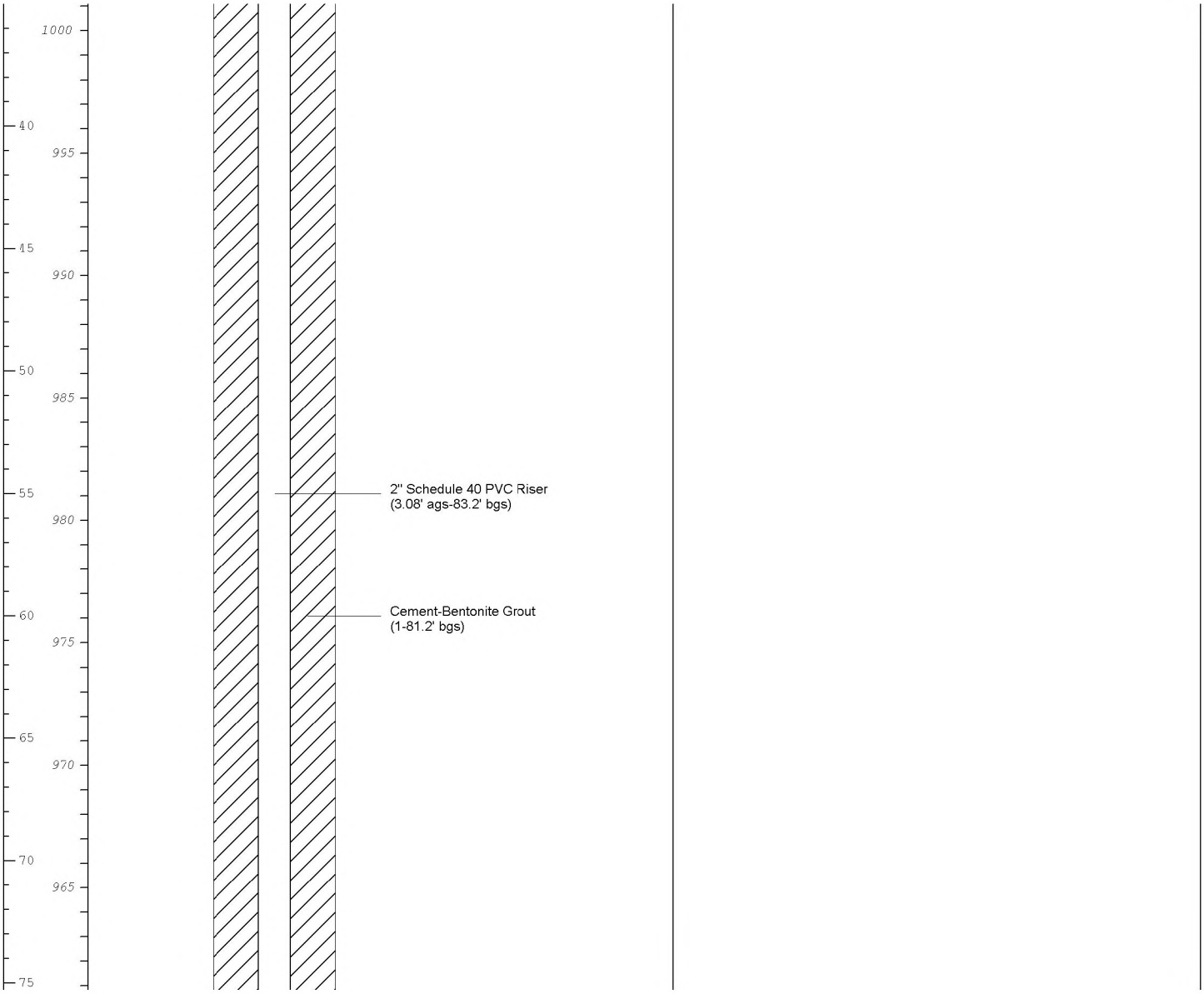
Client: General Electric Company

Well/Boring ID: MW-2022-7

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

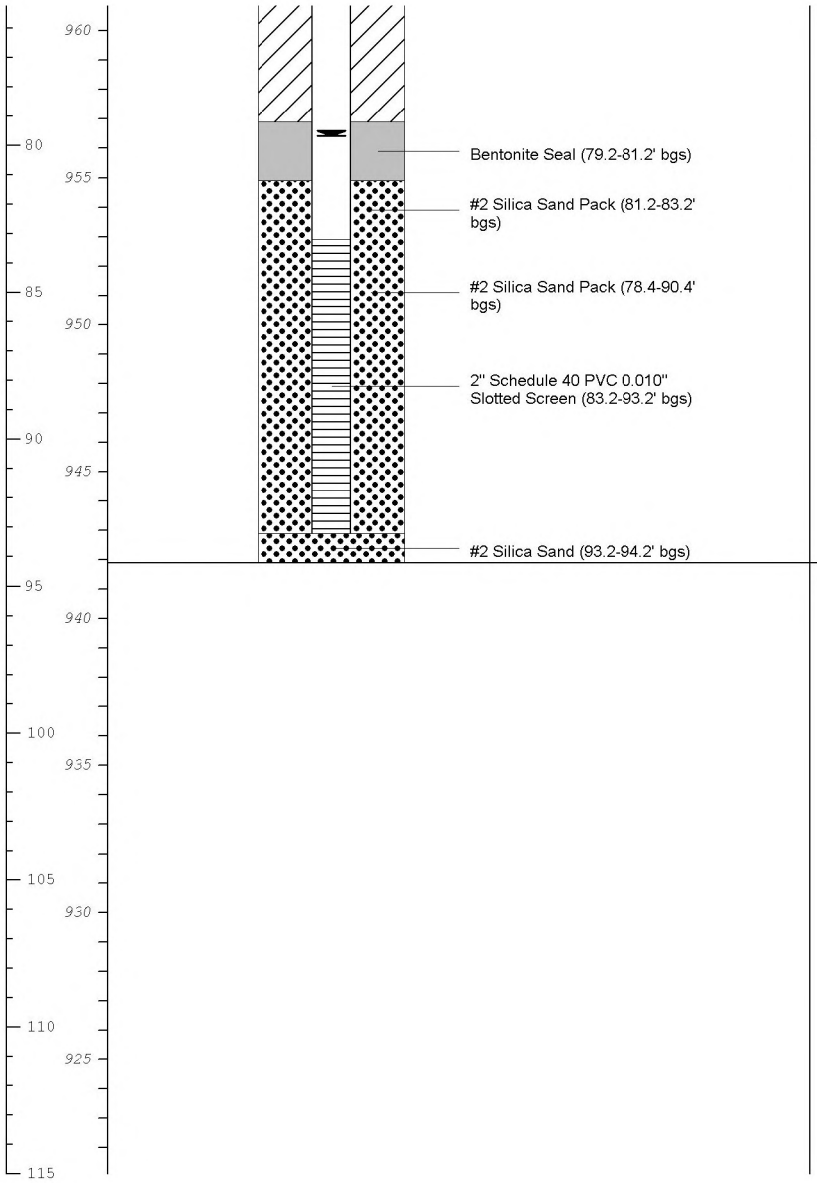
Client: General Electric Company

Well/Boring ID: MW-2022-7

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
80 / 955	Bentonite Seal (79.2-81.2' bgs)	Water table as found during soil boring at 79.5' bgs.
	#2 Silica Sand Pack (81.2-83.2' bgs)	
85 / 950	#2 Silica Sand Pack (78.4-90.4' bgs)	
	2" Schedule 40 PVC 0.010" Slotted Screen (83.2-93.2' bgs)	
90 / 945	#2 Silica Sand (93.2-94.2' bgs)	
95 / 940		End of borehole at 94.2' bgs.
100 / 935		
105 / 930		
110 / 925		
115		



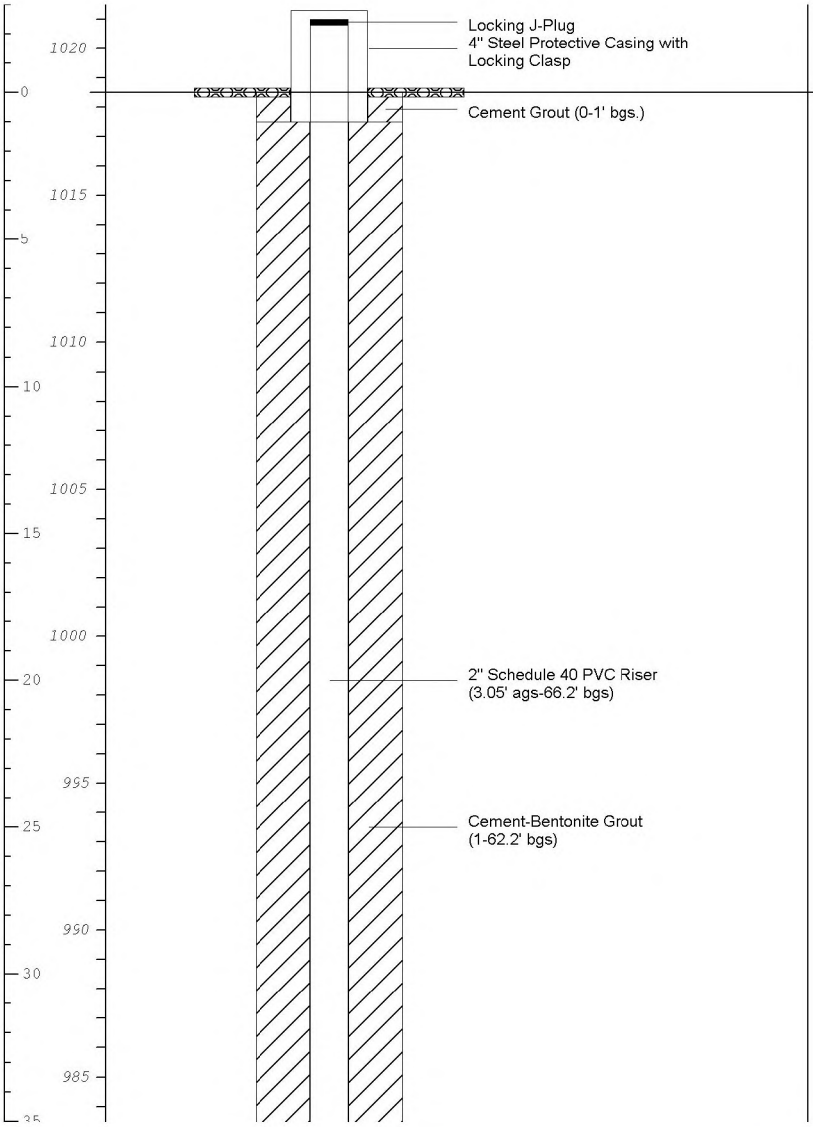
ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	4/12/22	**Northing:**	2,954,172.78 ft	**Well ID:**	**MW-2022-8**
Drilling Company:	Cascade	**Easting:**	186,354.03 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	1,021.79 ft		
Drilling Method:	Hollow Stem Auger	**Surface Elevation:**	1,018.5 ft	**Location:**	GE Parcel Lee, Massachusetts
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	82 ft bgs		

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

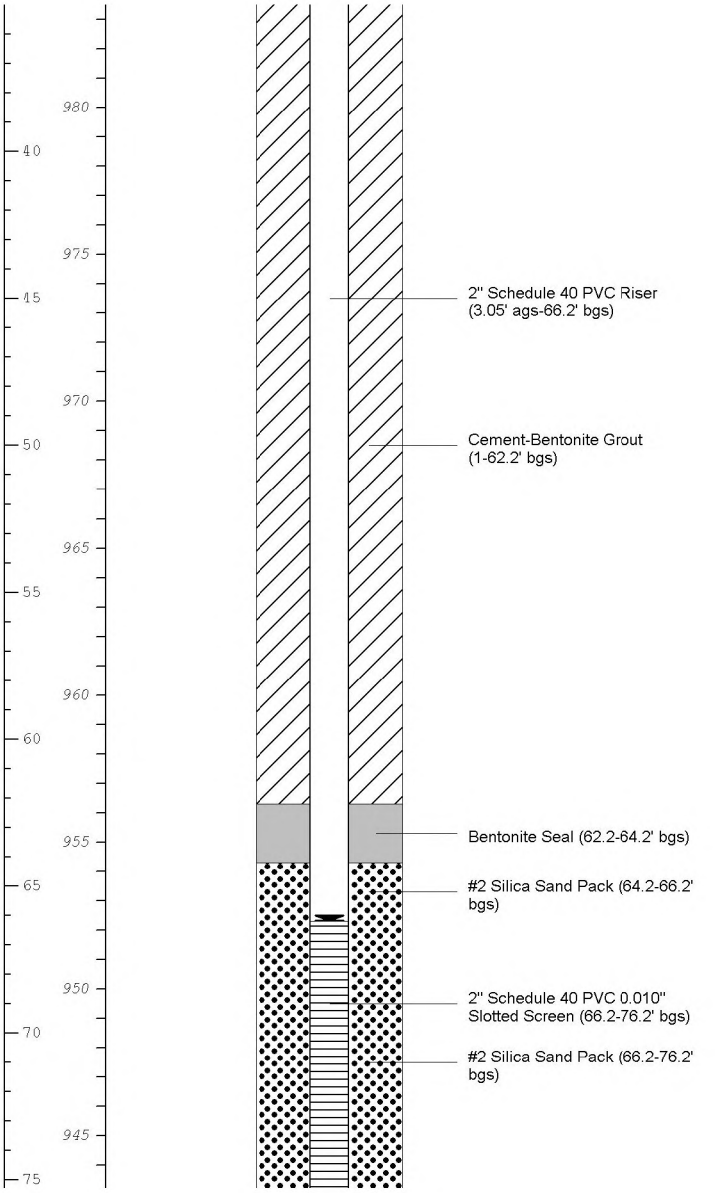
Client: General Electric Company

Well/Boring ID: MW-2022-8

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



Water table as found during soil boring at 66' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-8

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
80 / 940	#2 Silica Sand (76.2-77.2' bgs) Cement-Bentonite Grout (76.2-82' bgs)	
85 / 935		End of borehole at 82' bgs.
90 / 930		
95 / 925		
100 / 920		
105 / 915		
110 / 910		
115 / 905		

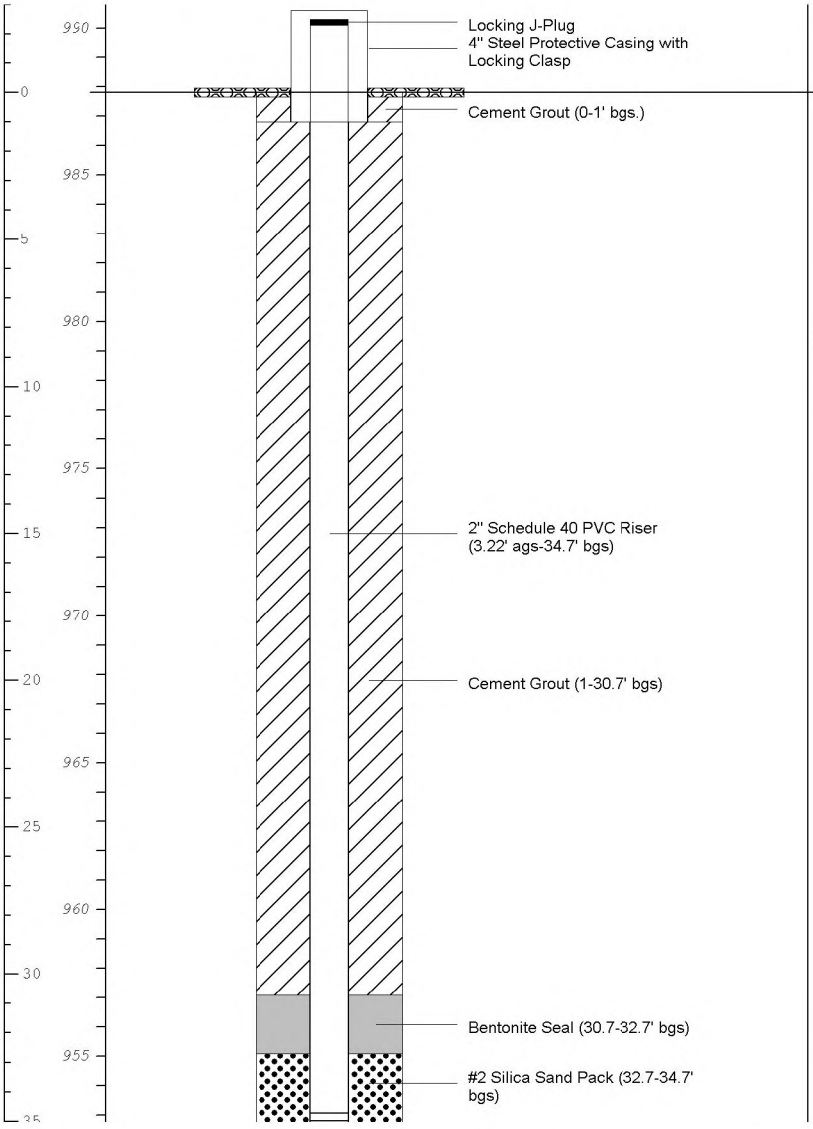
ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	4/7/22	**Northing:**	2,953,747.74 ft	**Well ID:**	**MW-2022-9**
Drilling Company:	Cascade	**Easting:**	186,492.60 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	991.03 ft		
Drilling Method:	Hollow Stem Auger	**Surface Elevation:**	987.8 ft	**Location:**	
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	44.7 ft bgs.		GE Parcel Lee, Massachusetts

Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes



See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

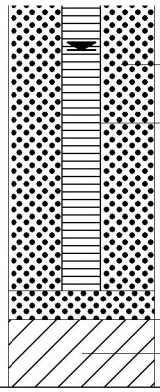
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: MW-2022-9

Site Location:

GE Parcel
Lee, Massachusetts

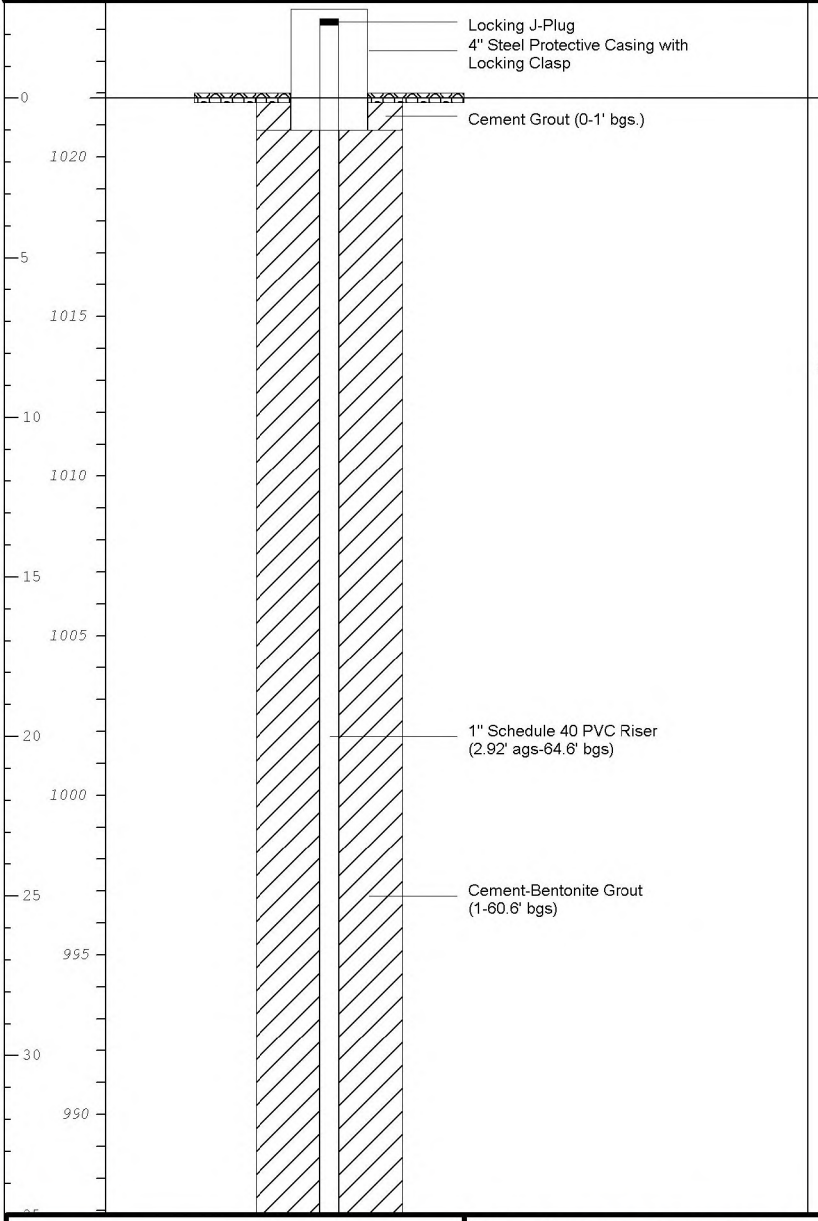
Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
40 / 950	 #2 Silica Sand Pack (32.7-44.7' bgs)	Water table as found during soil boring at 36' bgs.
	2" Schedule 40 PVC 0.010" Slotted Screen (34.7-44.7' bgs)	
45 / 945	#2 Silica Sand (44.7-45.7' bgs)	
	Cement Grout (45.7-48' bgs)	
50 / 940		End of borehole at 48' bgs.
55 / 935		
60 / 930		
65 / 925		
70 / 920		
75 / 915		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/11/22	**Northing:**	2,954,815.02 ft	**Well ID:**	**PZ-2022-1**
Drilling Company:	Cascade	**Easting:**	186,513.66 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	1,024.76 ft		
Drilling Method:	Mud Rotary	**Surface Elevation:**	1,021.9 ft	**Location:**	
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	74.6 ft bgs		GE Parcel Lee, Massachusetts



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

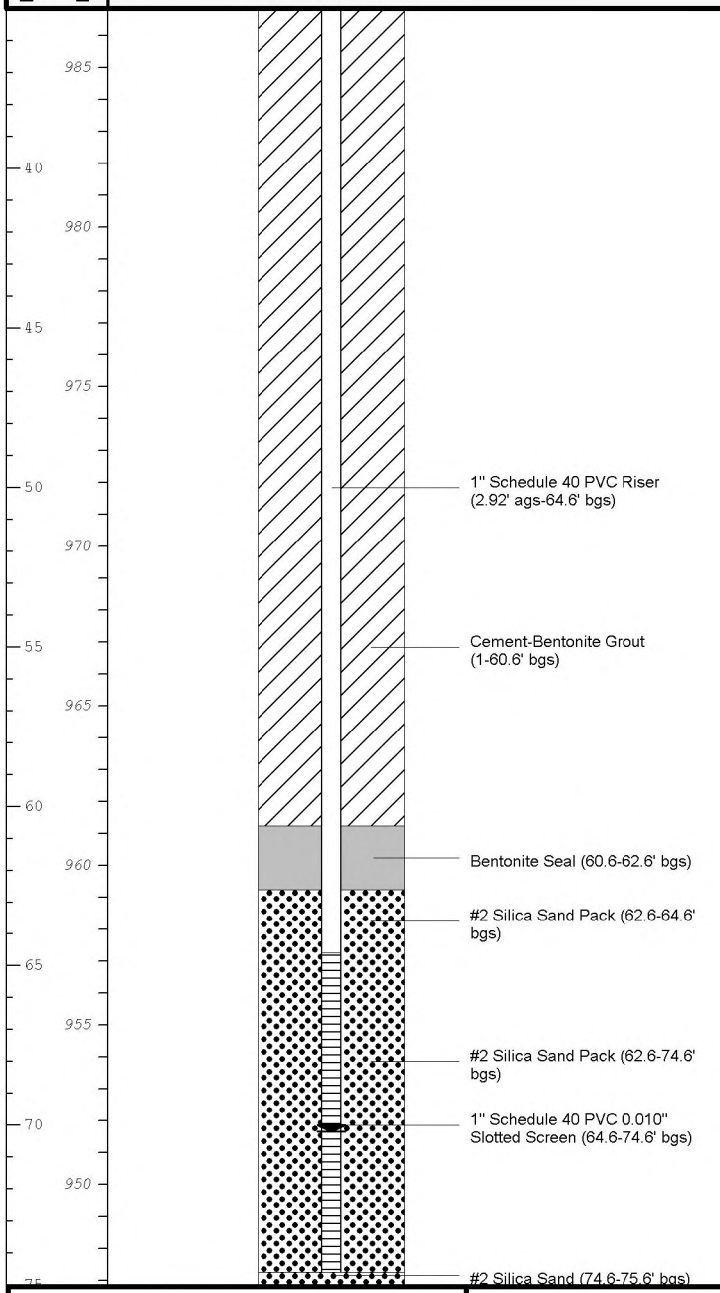
Client: General Electric Company

Well/Boring ID: PZ-2022-1

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes



Water table as found during soil boring at 70' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

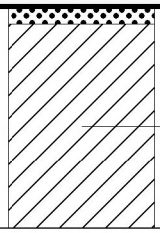
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: PZ-2022-1

Site Location:

GE Parcel
Lee, Massachusetts

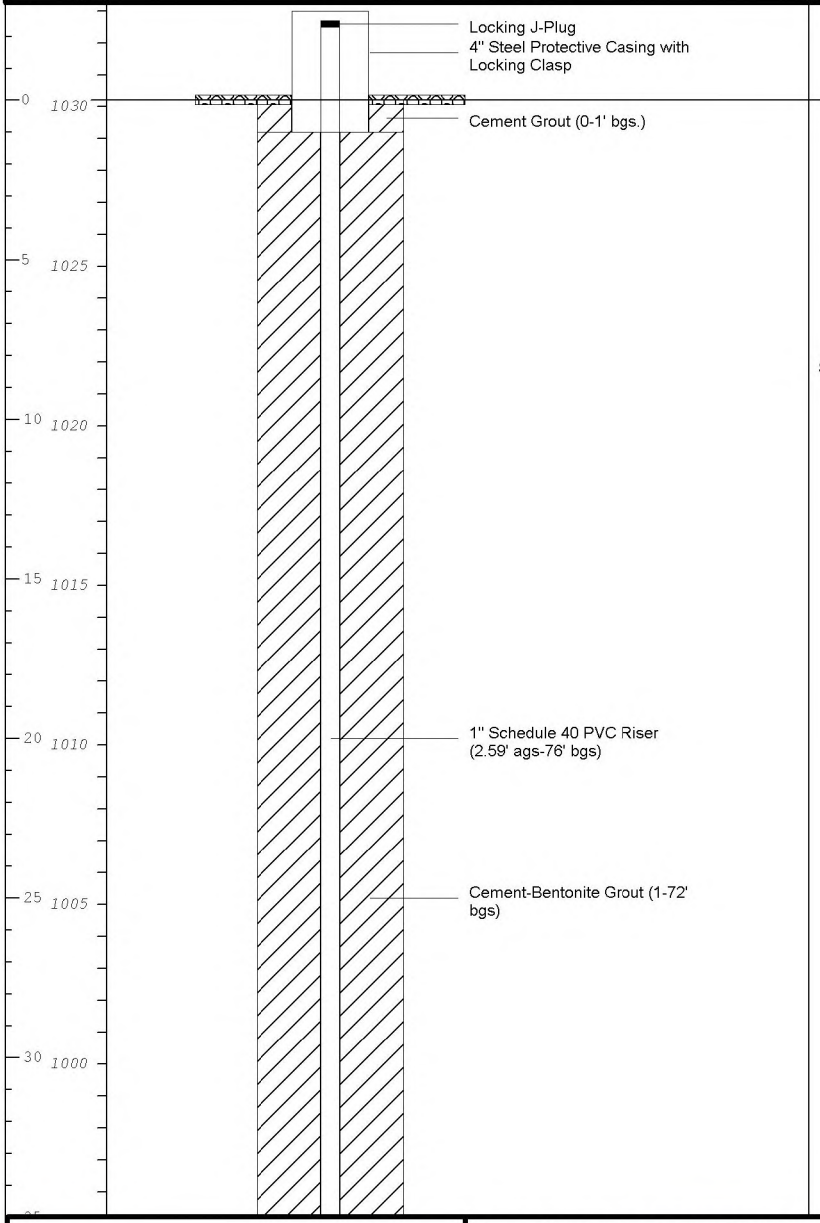
Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
945 / 80	 Cement-Bentonite Grout (75.6-82' bgs)	
940 / 85		End of borehole at 82' bgs.
935 / 90		
930 / 95		
925 / 100		
920 / 105		
915 / 110		
910 / 115		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/4/22	**Northing:**	2,954,515.04 ft	**Well ID:**	**PZ-2022-2**
Drilling Company:	Cascade	**Easting:**	186,585.28 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,032.86 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,030.2 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	86 ft bgs		GE Parcel Lee, Massachusetts



Notes

See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

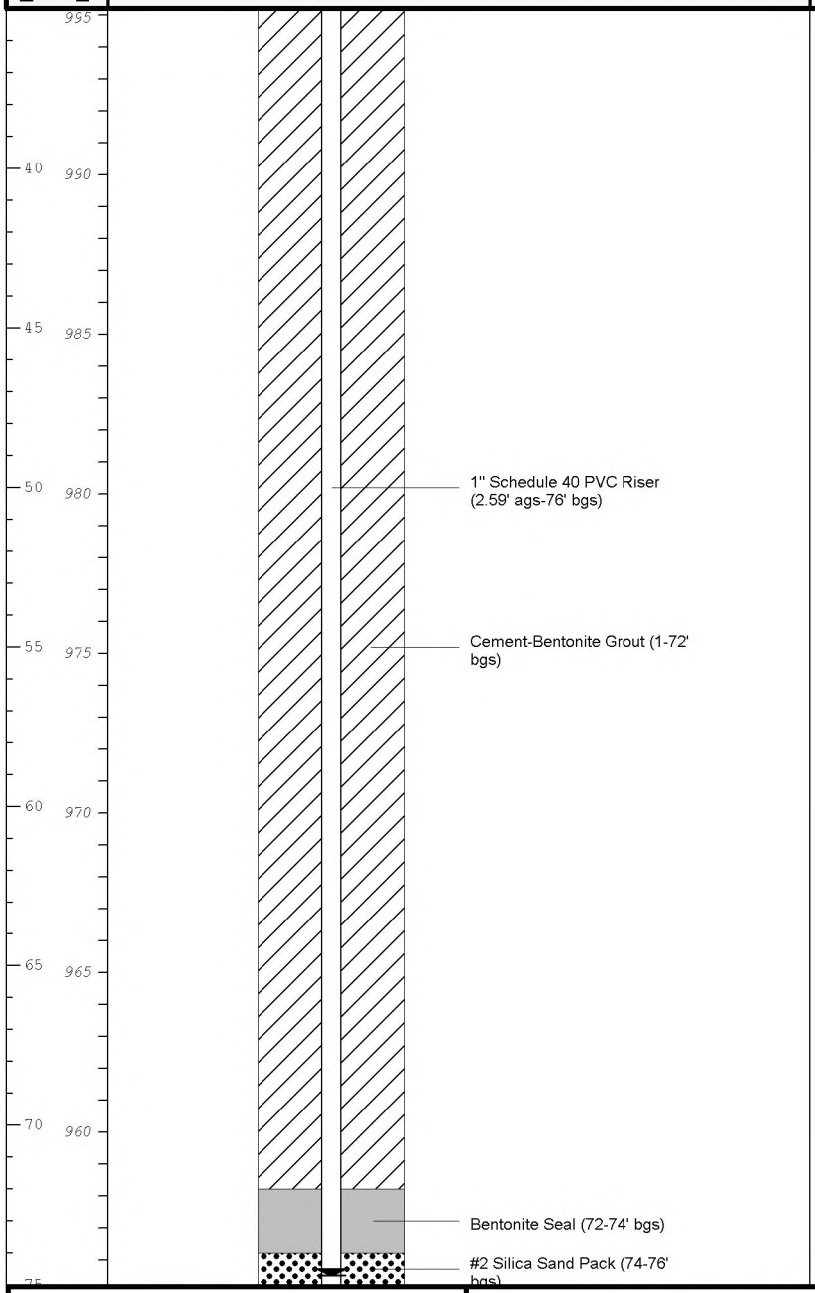
Client: General Electric Company

Well/Boring ID: PZ-2022-2

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes



Water table as found during soil boring at 74.5' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: PZ-2022-2

Site Location:

GE Parcel
Lee, Massachusetts

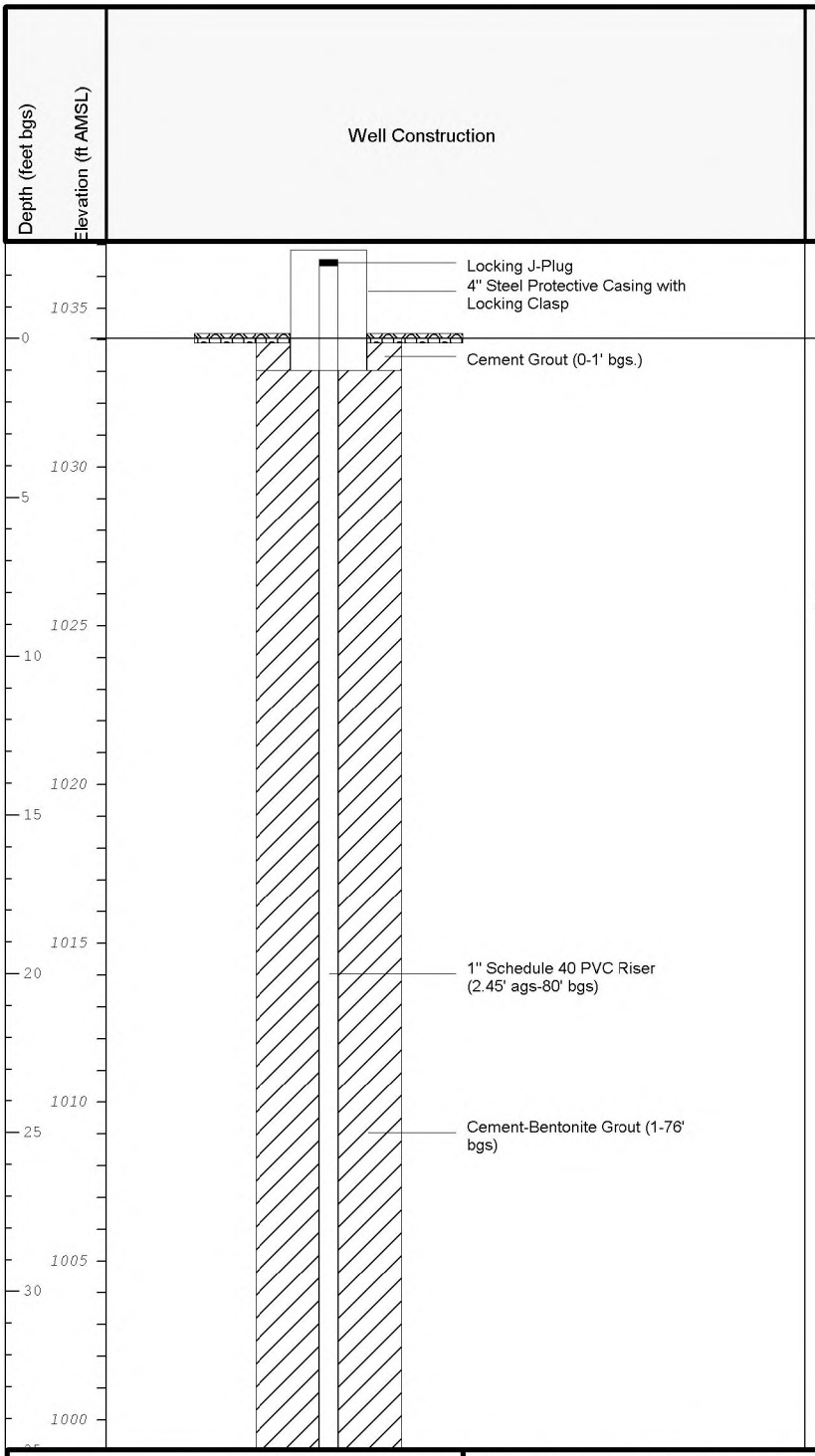
Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
80	950	#2 Silica Sand Pack (74-86' bgs) 1" Schedule 40 PVC 0.010" Slotted Screen (76-86' bgs)	
85	945	#2 Silica Sand (86-87' bgs)	
90	940	Cement-Bentonite Grout (87-94' bgs)	
95	935		End of borehole at 94' bgs.
100	930		
105	925		
110	920		
115			

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/4/22	**Northing:**	2,954,524.46 ft	**Well ID:**	**PZ-2022-3**
Drilling Company:	Cascade	**Easting:**	186,758.36 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,036.69 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,034.0 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	90 ft bgs	GE Parcel Lee, Massachusetts	



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

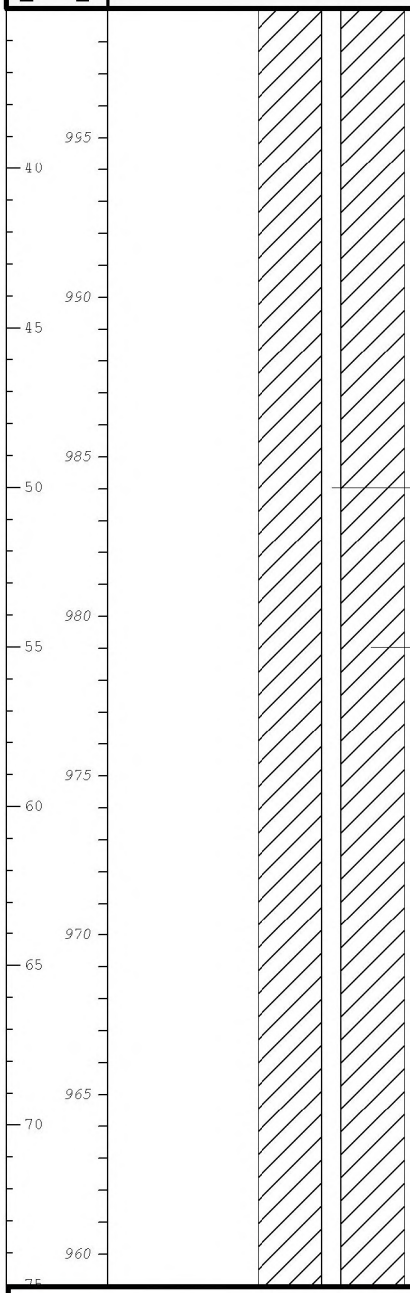
Client: General Electric Company

Well/Boring ID: PZ-2022-3

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
40	995		
45	990		
50	985	1" Schedule 40 PVC Riser (2.45' ags-80' bgs)	
55	980	Cement-Bentonite Grout (1-76' bgs)	
60	975		
65	970		
70	965		
75	960		



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: PZ-2022-3

Site Location:

GE Parcel
Lee, Massachusetts

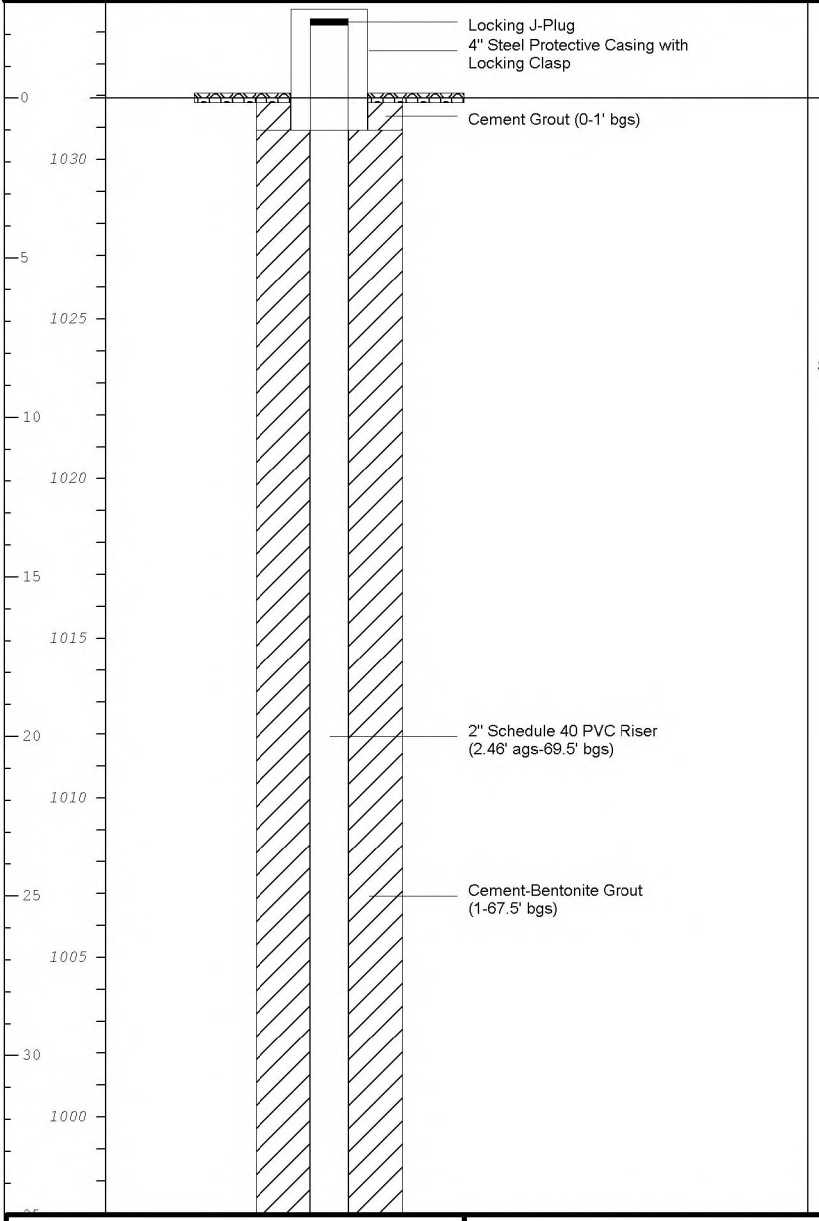
Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
80	955	Bentonite Seal (76-78' bgs)	
		#2 Silica Sand Pack (78-80' bgs)	
85	950	#2 Silica Sand Pack (78-90' bgs)	Water table as found during soil boring at 82' bgs.
		1" Schedule 40 PVC 0.010" Slotted Screen (80-90' bgs)	
90	945	#2 Silica Sand (90-91' bgs)	
95	940	Cement-Bentonite Grout (91-102' bgs)	
100	935		End of borehole at 102' bgs.
105	930		
110	925		
115	920		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	5/4/2022	**Northing:**	2,954,171.39 ft	**Well ID:**	**PZ-2022-5**
Drilling Company:	Cascade	**Easting:**	186,698.24 ft	**Client:**	General Electric Company
Driller's Name:	Tony Palomeque	**Top of Riser Elevation:**	1,034.59 ft		
Drilling Method:	Sonic	**Surface Elevation:**	1,031.9 ft	**Location:**	
Rig Type:	Fraste XL Max 170 Sonic Samp Drill	**Bottom of Well Depth:**	81.5 ft bgs		GE Parcel Lee, Massachusetts



Notes

See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

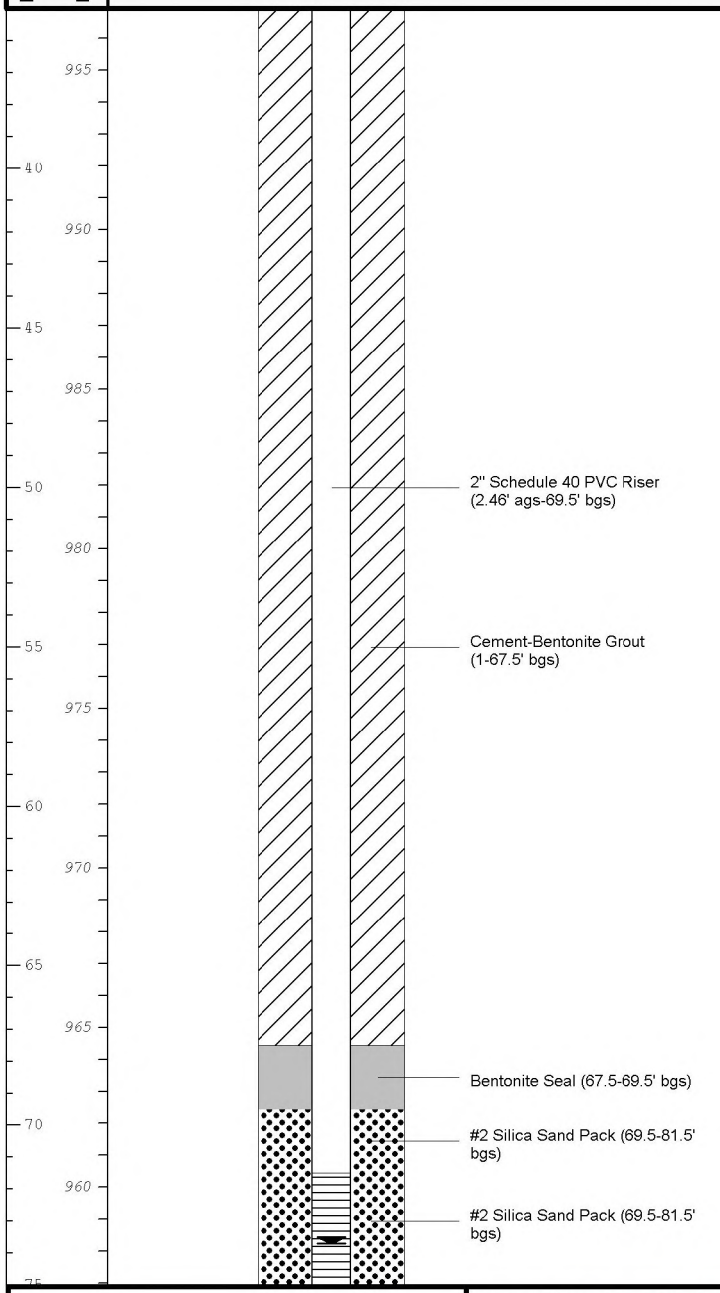
Client: General Electric Company

Well/Boring ID: PZ-2022-5

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
40	995		
45	990		
50	985	2" Schedule 40 PVC Riser (2.46' ags-69.5' bgs)	
55	980	Cement-Bentonite Grout (1-67.5' bgs)	
60	975		
65	970		
70	965	Bentonite Seal (67.5-69.5' bgs)	
75	960	#2 Silica Sand Pack (69.5-81.5' bgs)	
		#2 Silica Sand Pack (69.5-81.5' bgs)	Water table as found during soil boring at 73.5' bgs.



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

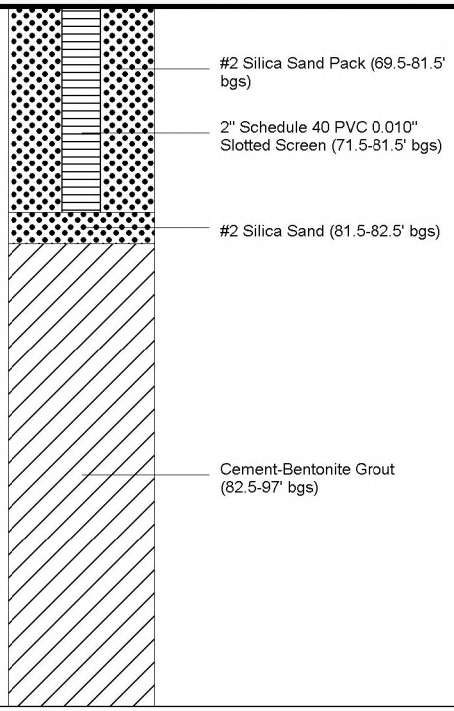
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: PZ-2022-5

Site Location:

GE Parcel
Lee, Massachusetts

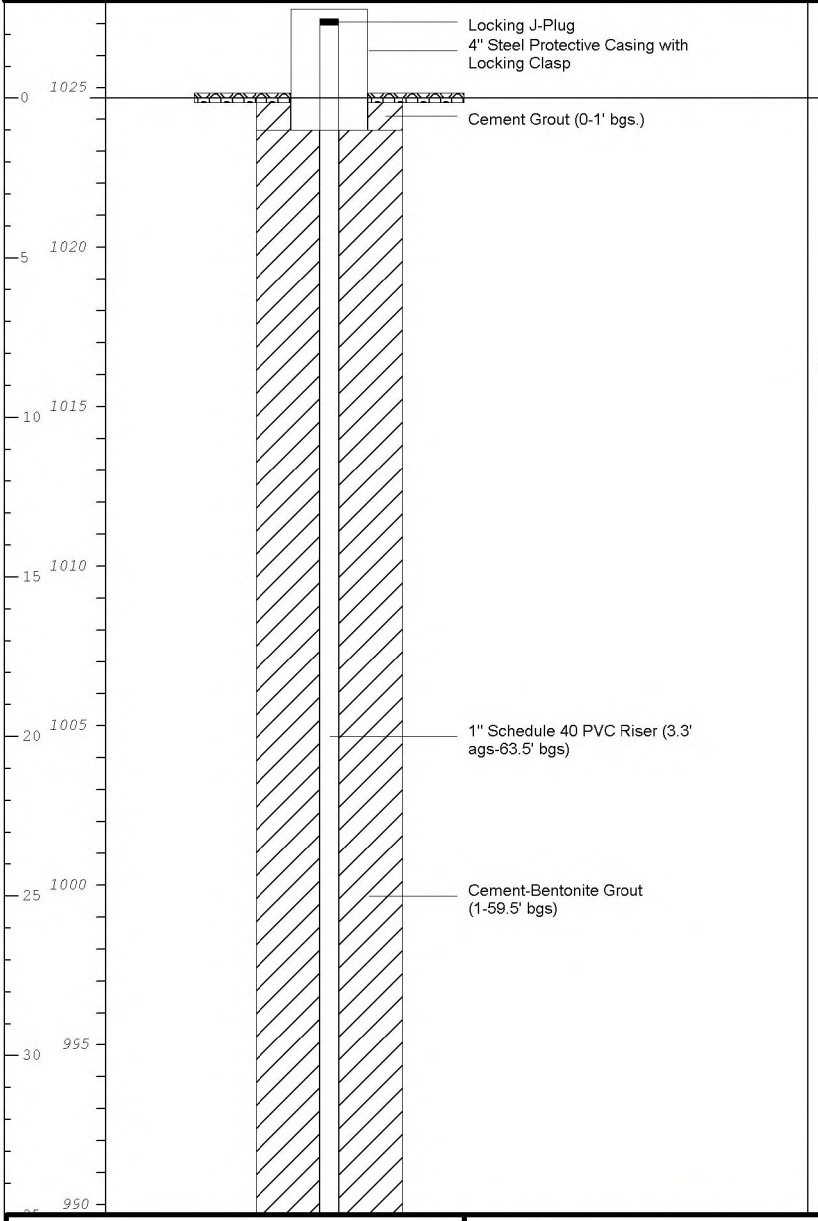
Depth (feet bgs) / Elevation (ft AMSL)	Well Construction	Notes
80 / 955 85 / 950 90 / 945 95 / 940 100 / 935 105 / 930 110 / 925 115 / 920		End of borehole at 97' bgs.

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

ARCADIS Design & Consultancy for natural and built assets

Date Start/Finish:	3/31/22	**Northing:**	2,953,877.05 ft	**Well ID:**	**PZ-2022-7**
Drilling Company:	Cascade	**Easting:**	186,894.09 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	1,028.29 ft		
Drilling Method:	Hollow Stem Auger	**Surface Elevation:**	1,024.7 ft	**Location:**	
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	73.5 ft bgs		GE Parcel Lee, Massachusetts



Notes

See boring logs for material descriptions and sample intervals.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

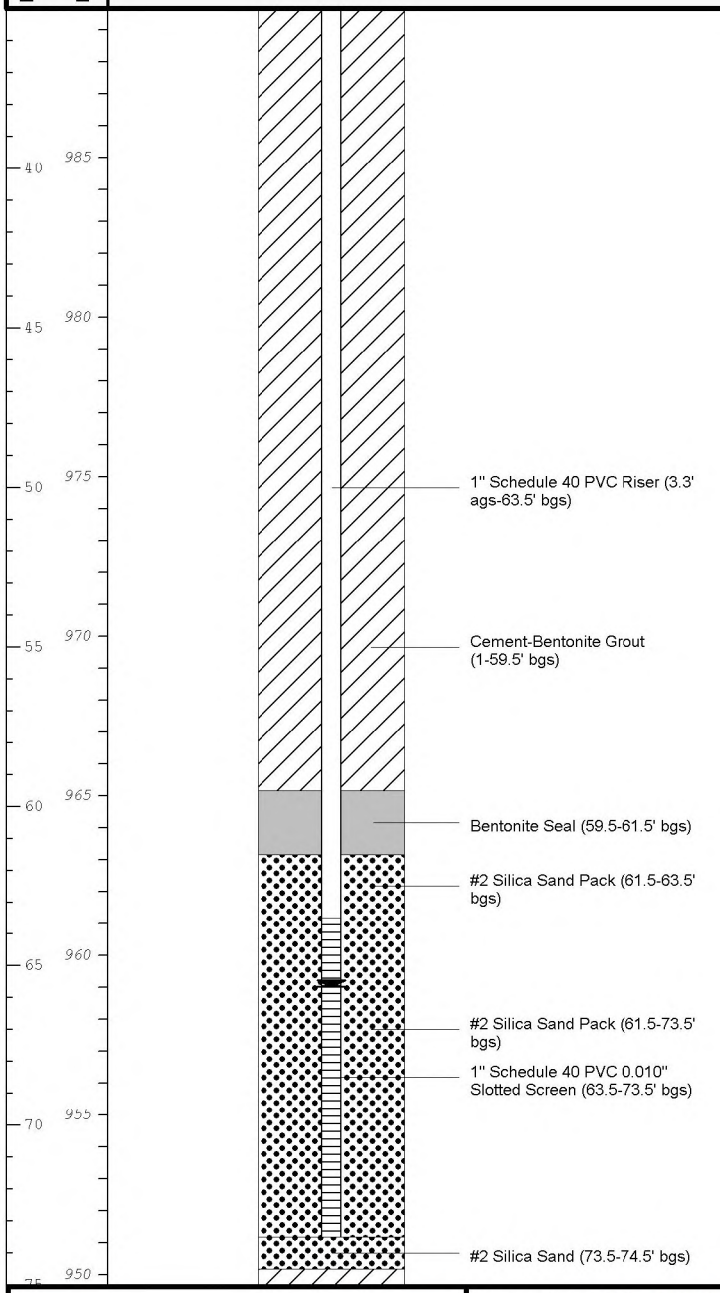
Client: General Electric Company

Well/Boring ID: PZ-2022-7

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes



Water table as found during soil boring at 65.45' bgs.

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

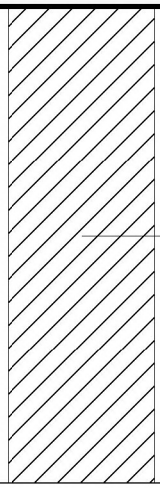
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: PZ-2022-7

Site Location:

GE Parcel
Lee, Massachusetts

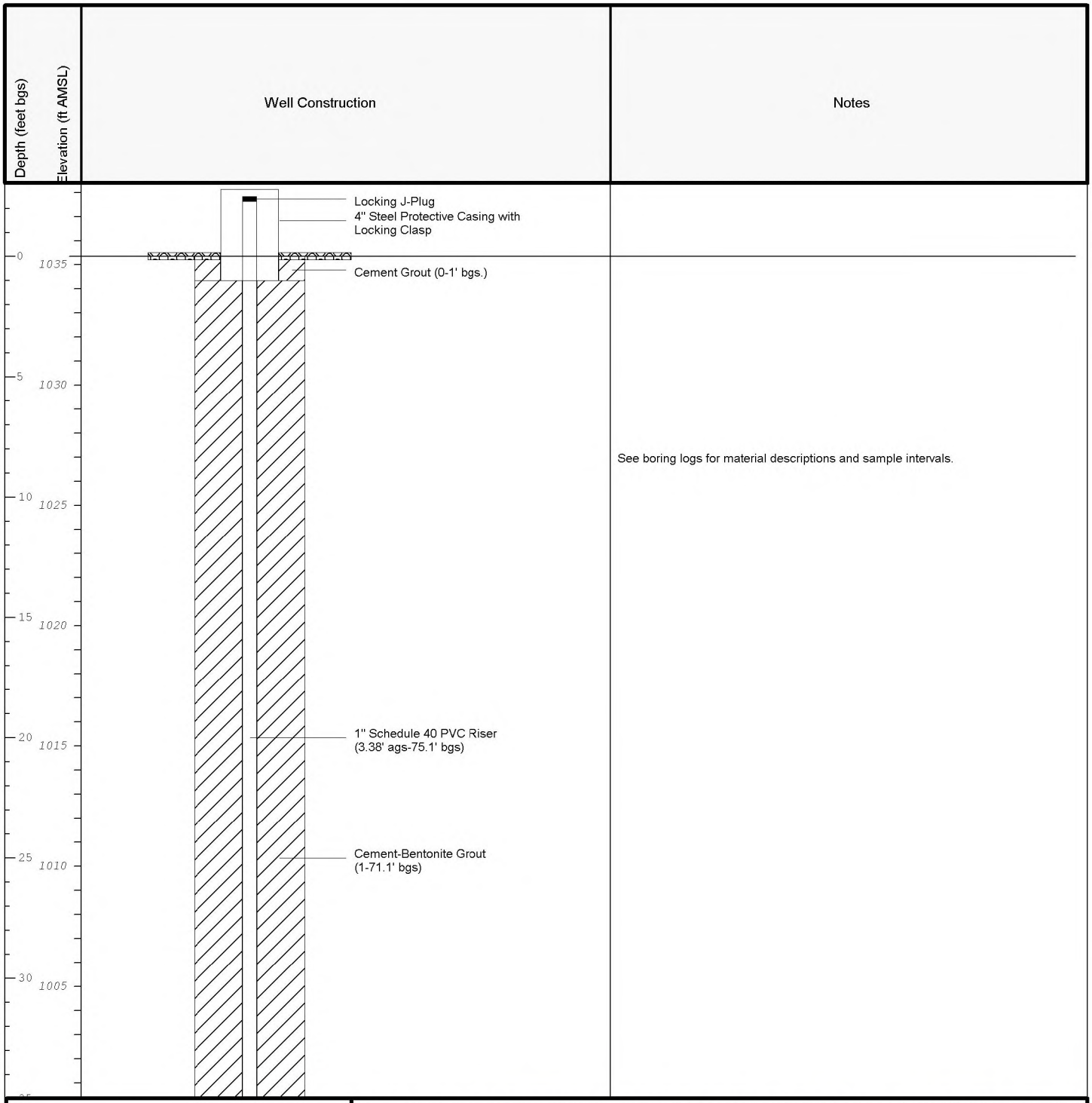
Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
80	945	 Cement-Bentonite Grout (74.5-90' bgs)	
85	940		
90	935		End of borehole at 90' bgs.
95	930		
100	925		
105	920		
110	915		
115	910		

ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Date Start/Finish:	3/28/22	**Northing:**	2,953,540.14 ft	**Well ID:**	**PZ-2022-8**
Drilling Company:	Cascade	**Easting:**	186,868.86 ft	**Client:**	General Electric Company
Driller's Name:	Eric Ramsey	**Top of Riser Elevation:**	1,039.06 ft		
Drilling Method:	Hollow Stem Auger	**Surface Elevation:**	1,035.4 ft	**Location:**	GE Parcel Lee, Massachusetts
Rig Type:	Dietrich D50	**Bottom of Well Depth:**	85.1 ft bgs		



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

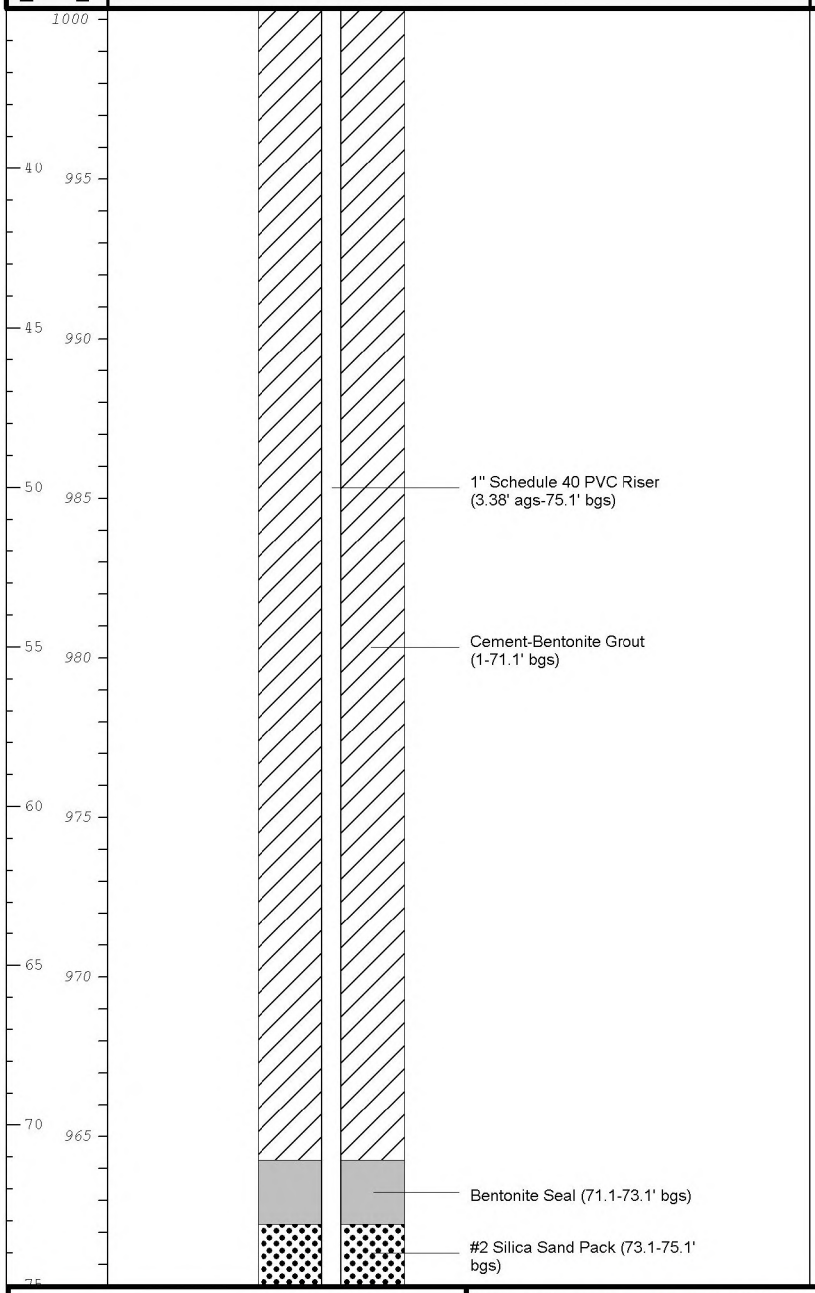
Client: General Electric Company

Well/Boring ID: PZ-2022-8

Site Location:

GE Parcel
Lee, Massachusetts

Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
0	1000		
40	995		
45	990		
50	985	1" Schedule 40 PVC Riser (3.38' ags-75.1' bgs)	
55	980	Cement-Bentonite Grout (1-71.1' bgs)	
60	975		
65	970		
70	965	Bentonite Seal (71.1-73.1' bgs)	
75		#2 Silica Sand Pack (73.1-75.1' bgs)	



ARCADIS Design & Consultancy for natural and built assets

Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

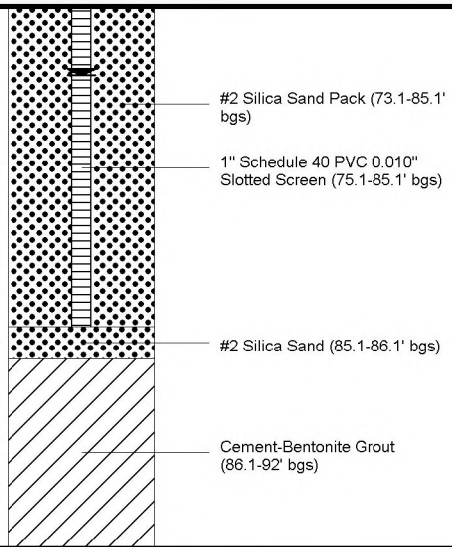
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

Client: General Electric Company

Well/Boring ID: PZ-2022-8

Site Location:

GE Parcel
Lee, Massachusetts

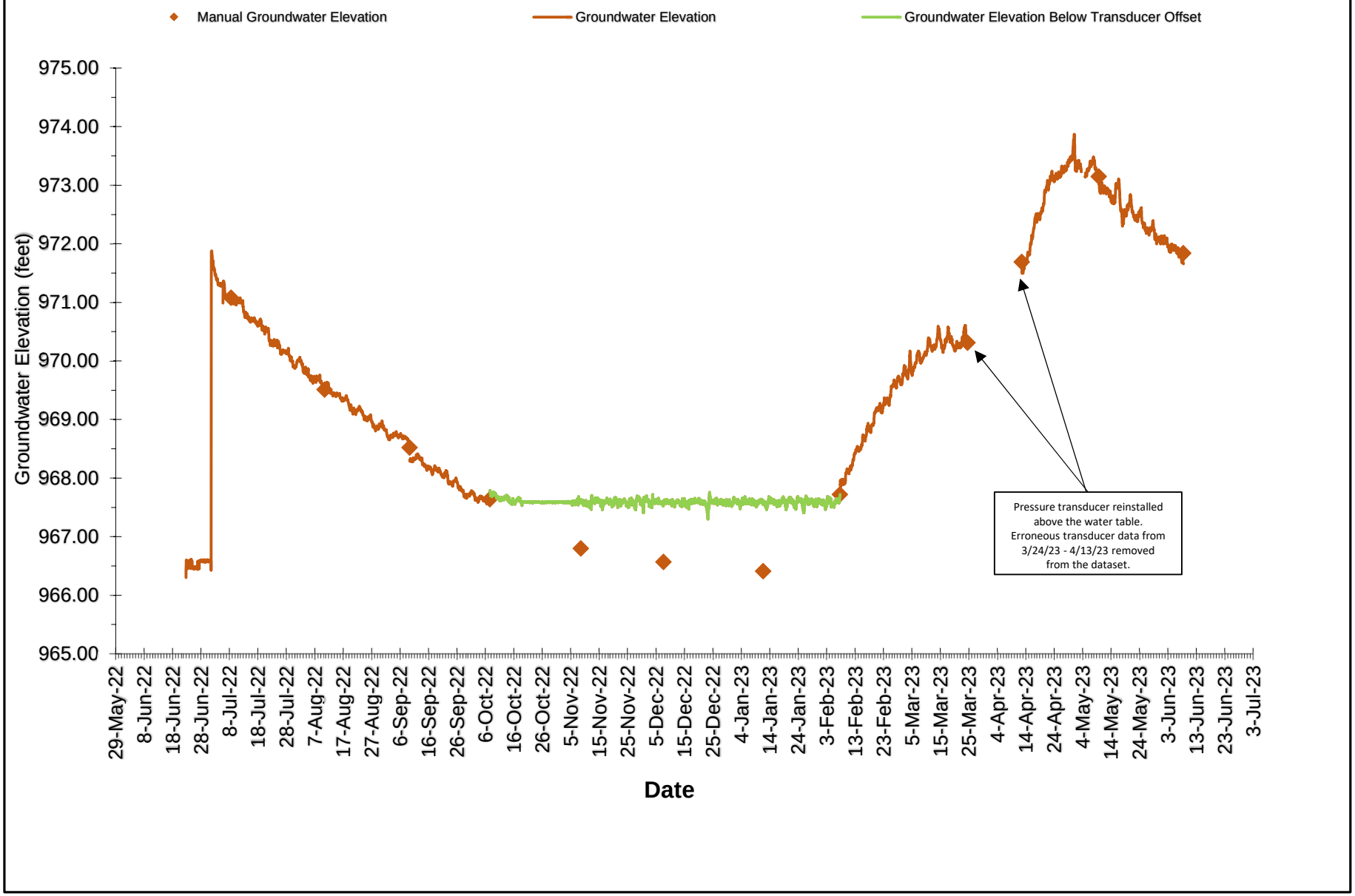
Depth (feet bgs)	Elevation (ft AMSL)	Well Construction	Notes
0	960		Water table as found during soil boring at 77' bgs.
80	955		
85	950		
90	945		End of borehole at 92' bgs.
95	940		
100	935		
105	930		
110	925		
115			

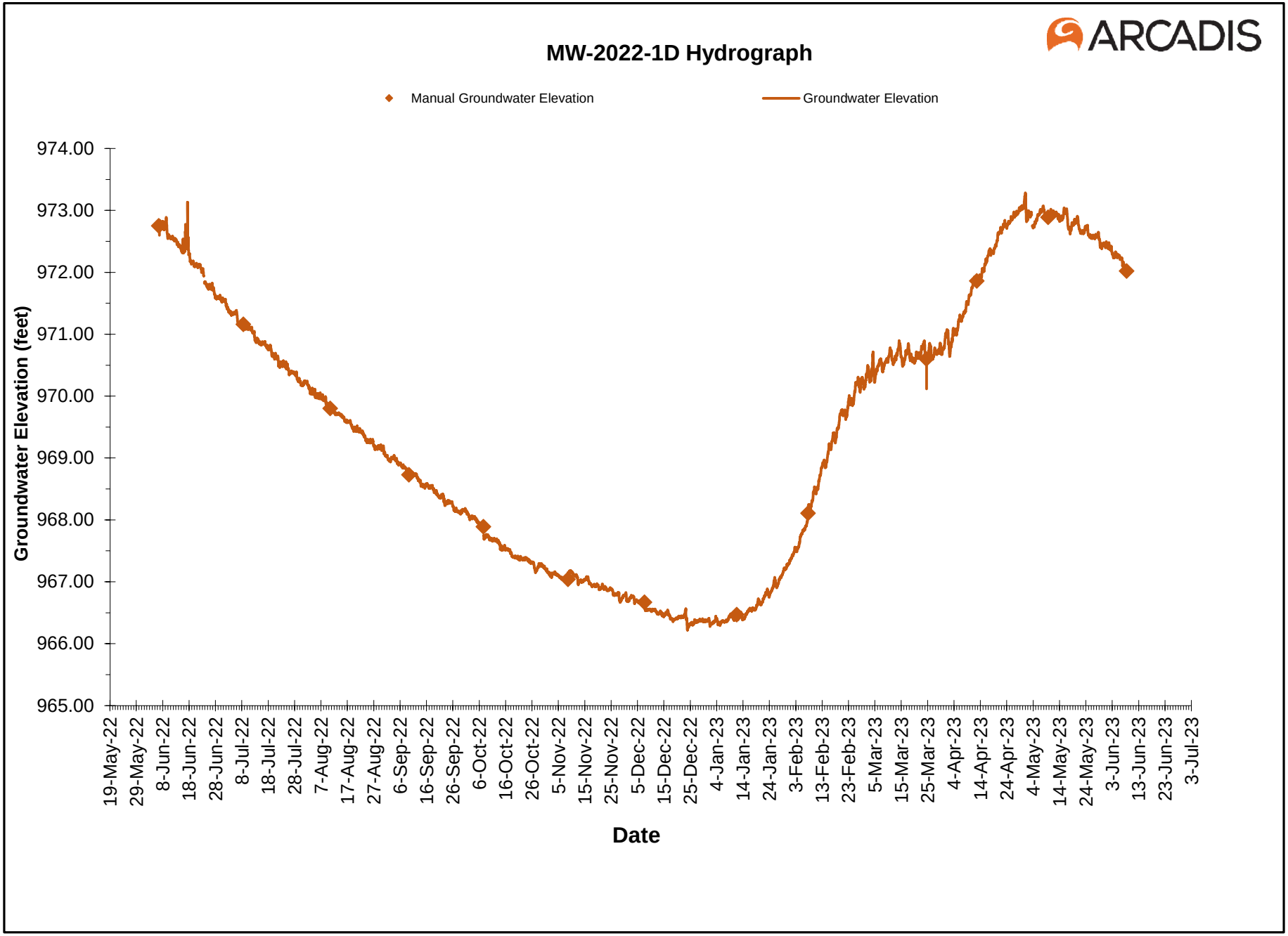
ARCADIS Design & Consultancy for natural and built assets

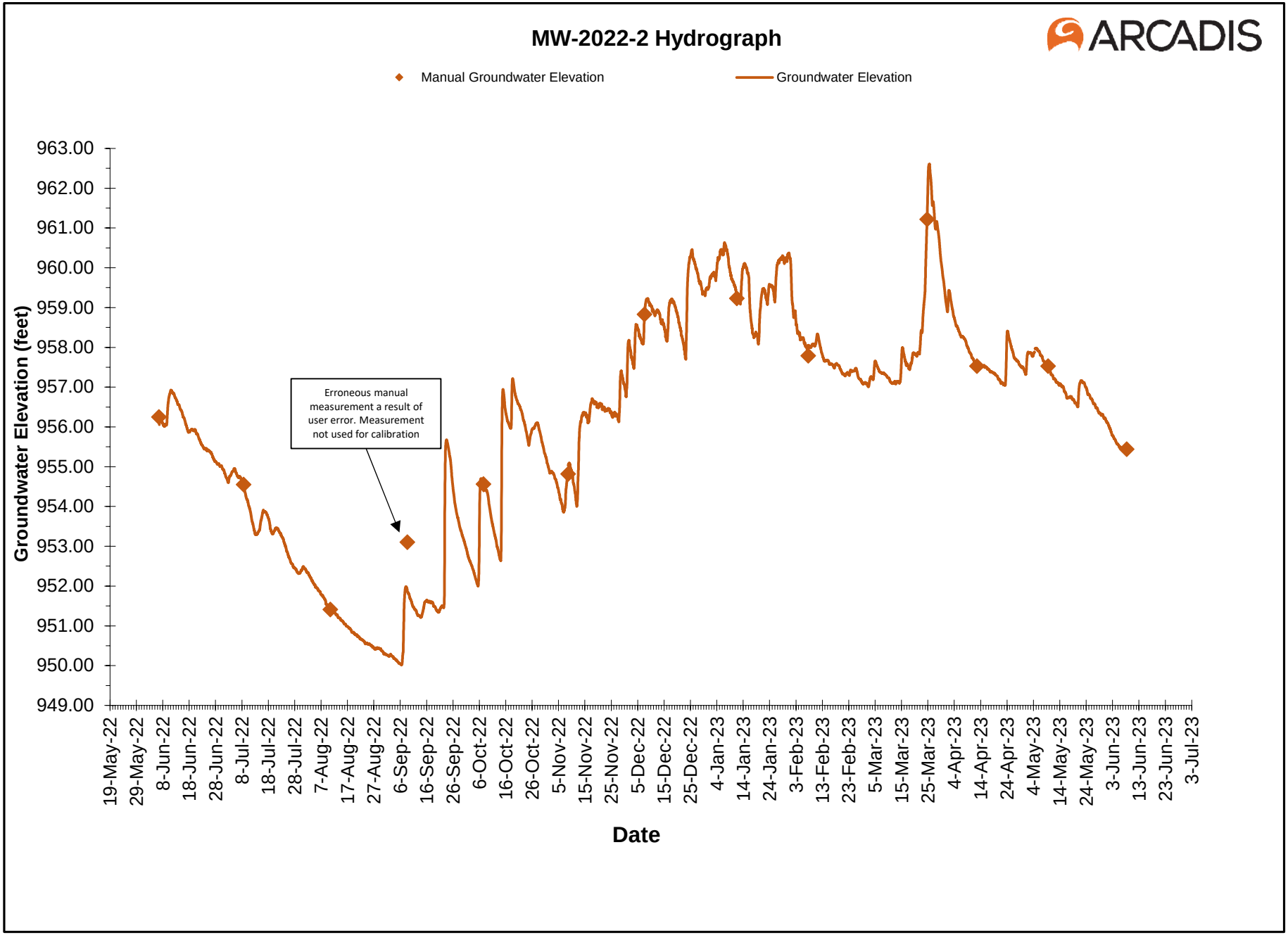
Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; ' = feet; " = inches.

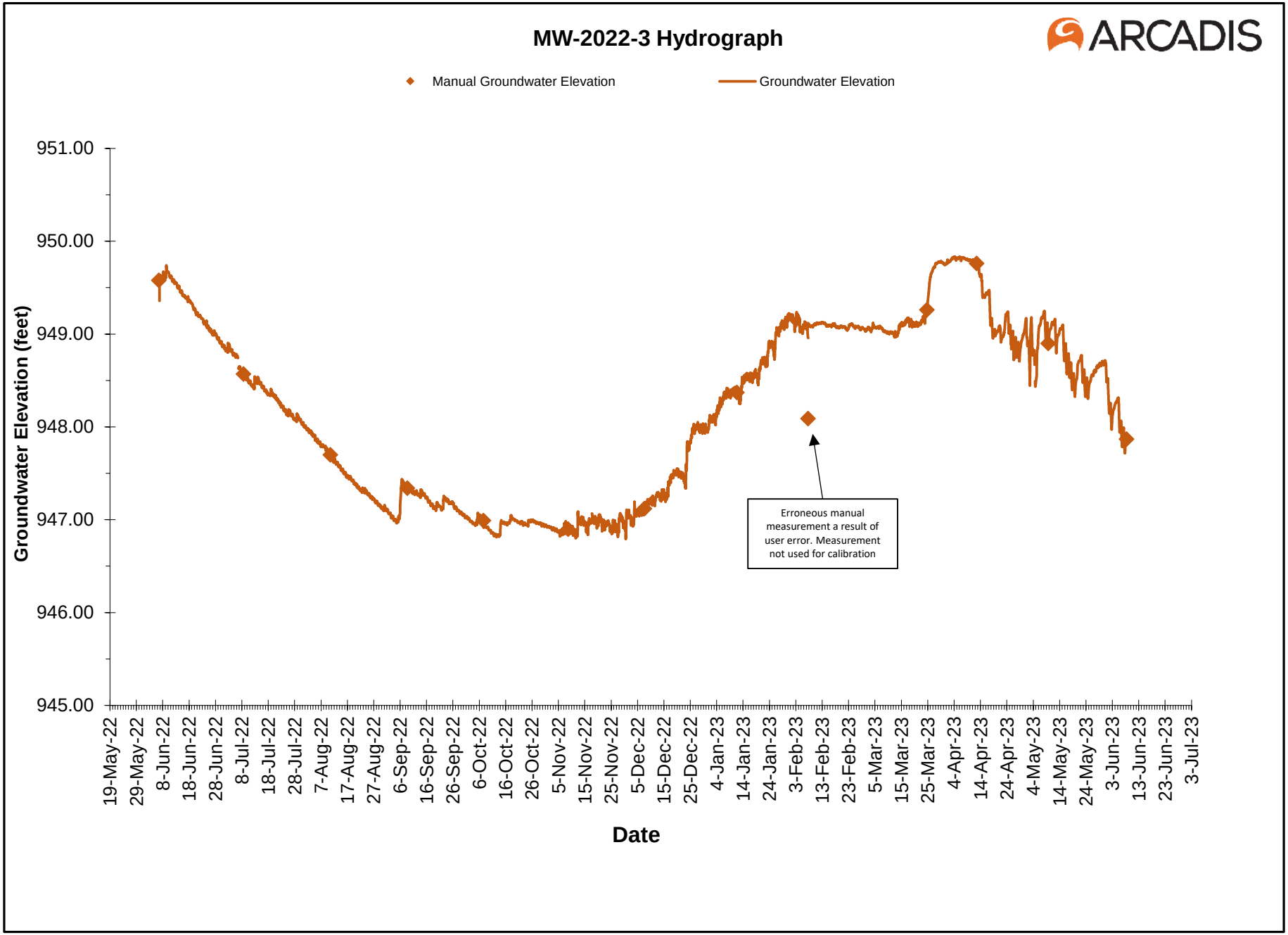
Northing and easting provided in U.S. survey feet refrenced to Massachusetts State Plane Mainland Zone (NAD83). Elevations are in U.S. survey refrenced to North American Vertical Datum of 1988 (NAVD88).

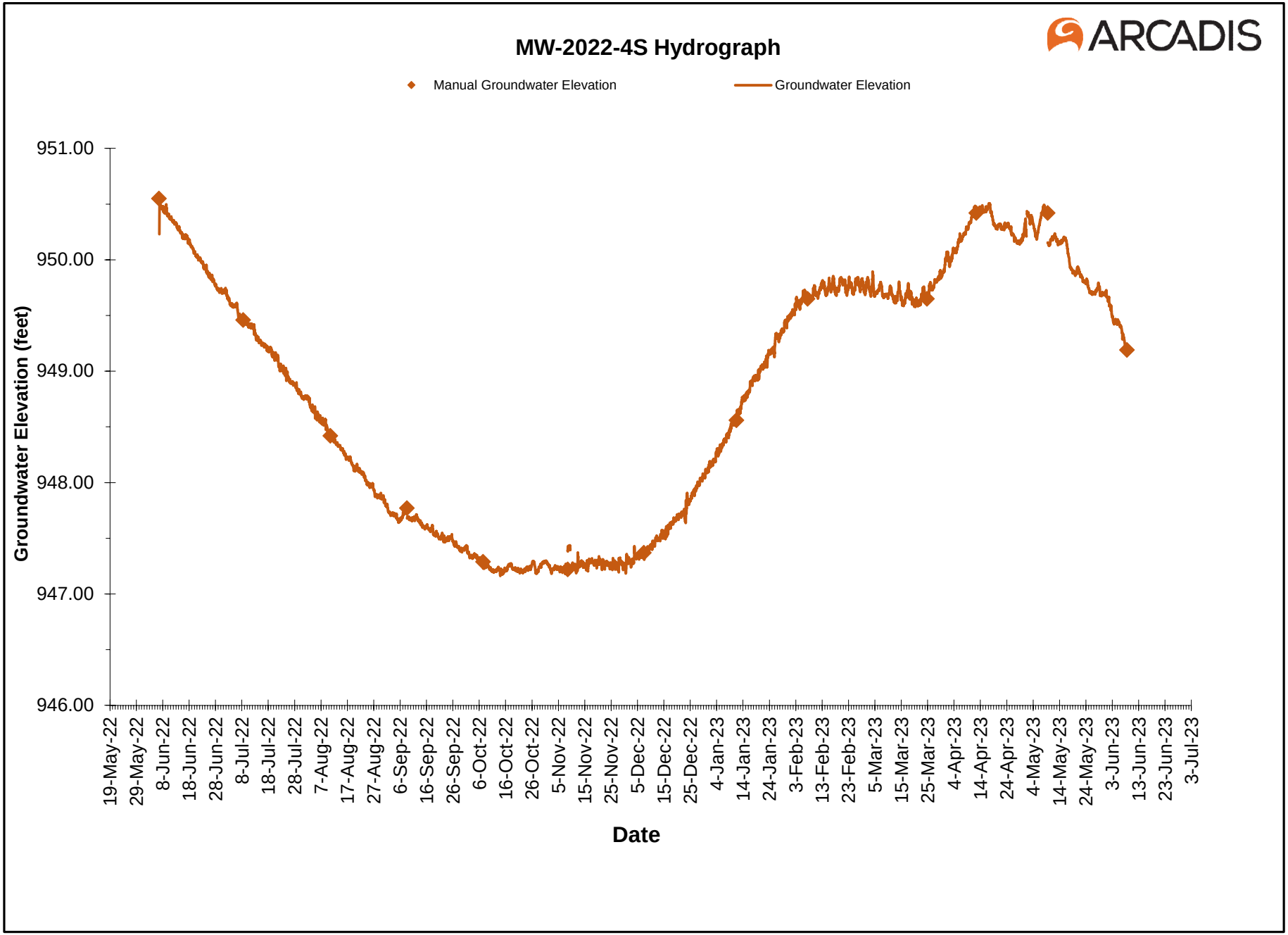
MW-2022-1S Hydrograph

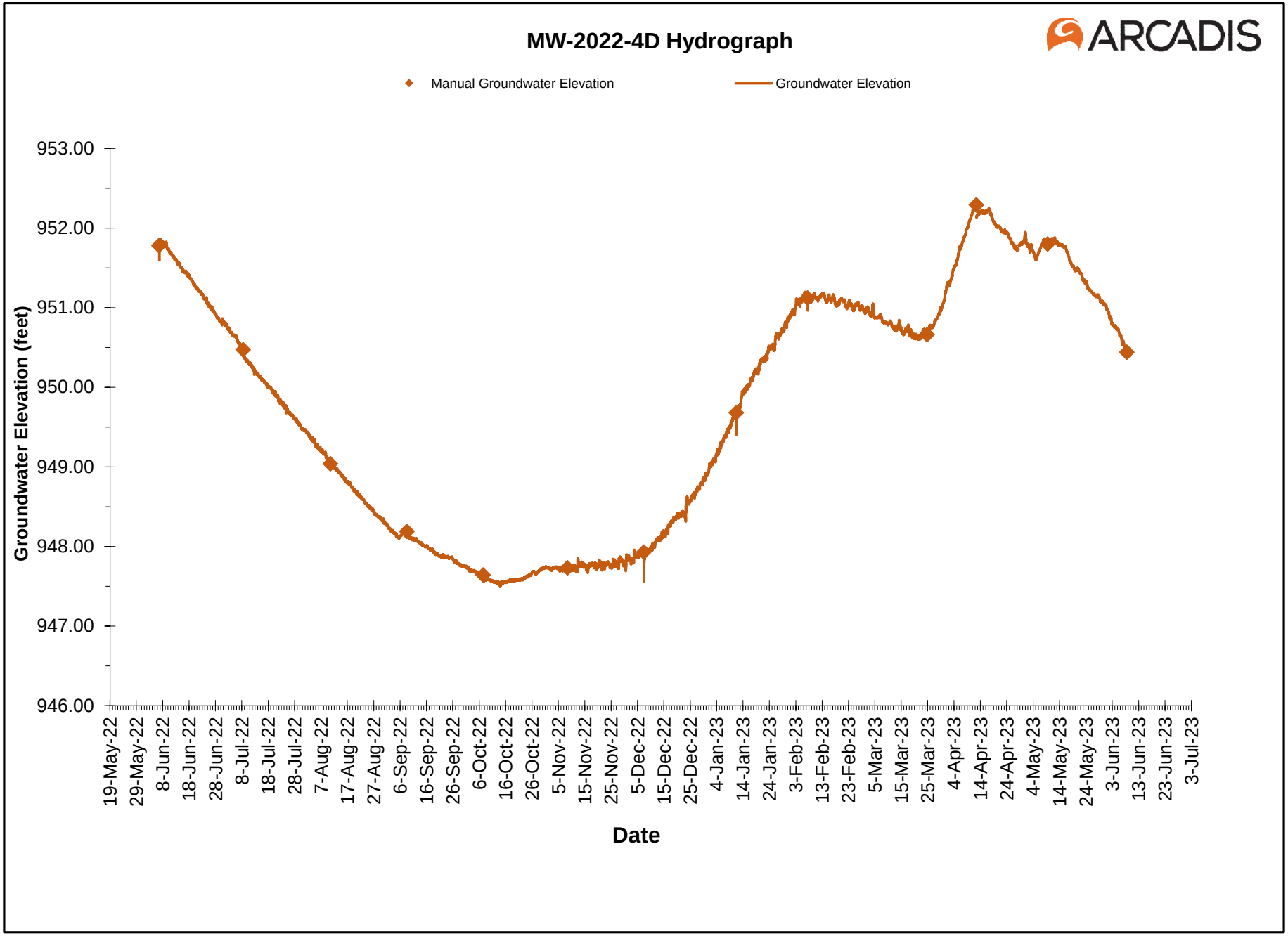


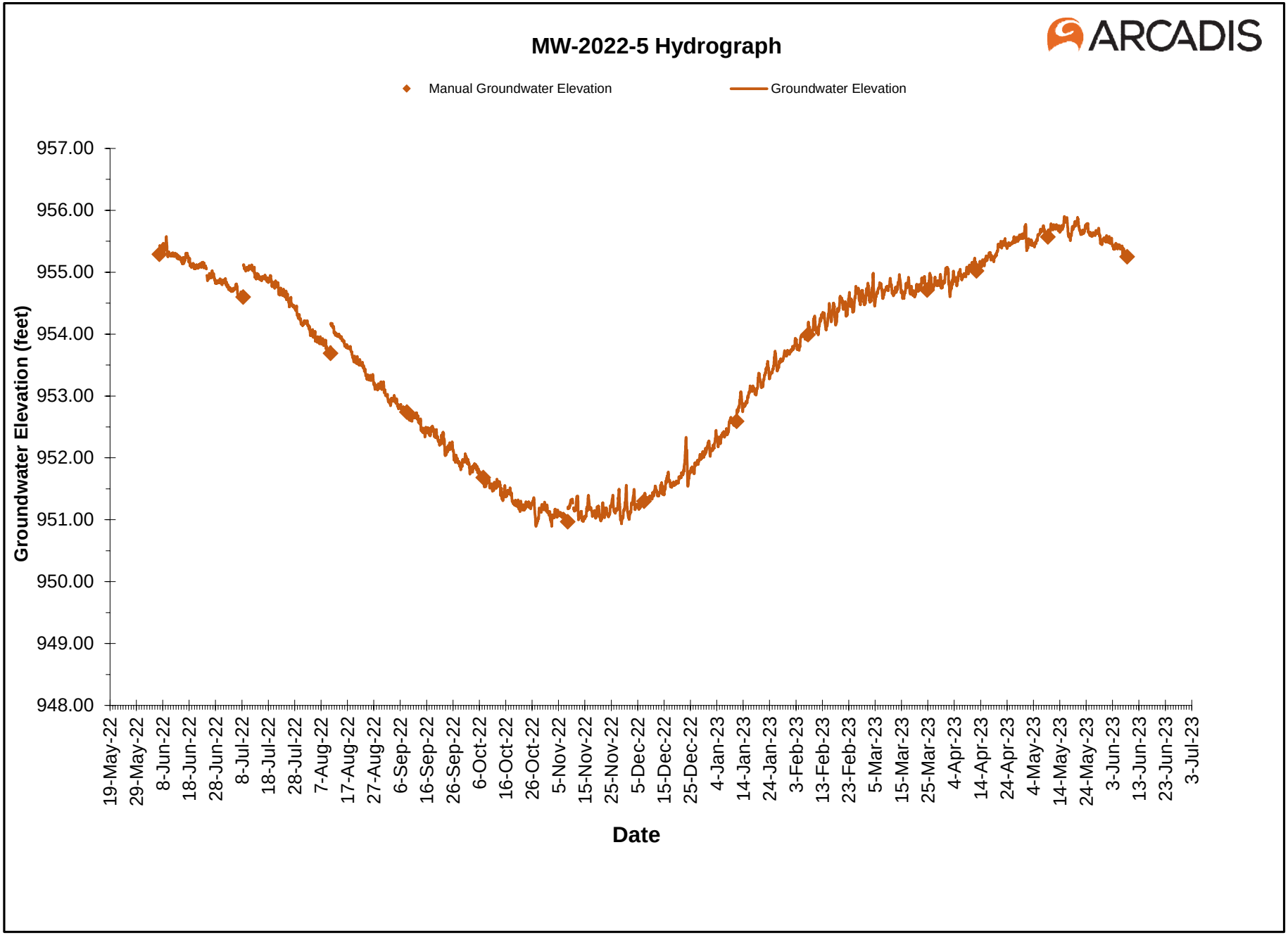

MW-2022-1D Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation (feet)
974.00
973.00
972.00
971.00
970.00
969.00
968.00
967.00
966.00
965.00
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date


MW-2022-2 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation (feet)
963.00
962.00
961.00
960.00
959.00
958.00
957.00
956.00
955.00
954.00
953.00
952.00
951.00
950.00
949.00
Erroneous manual measurement a result of user error. Measurement not used for calibration
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

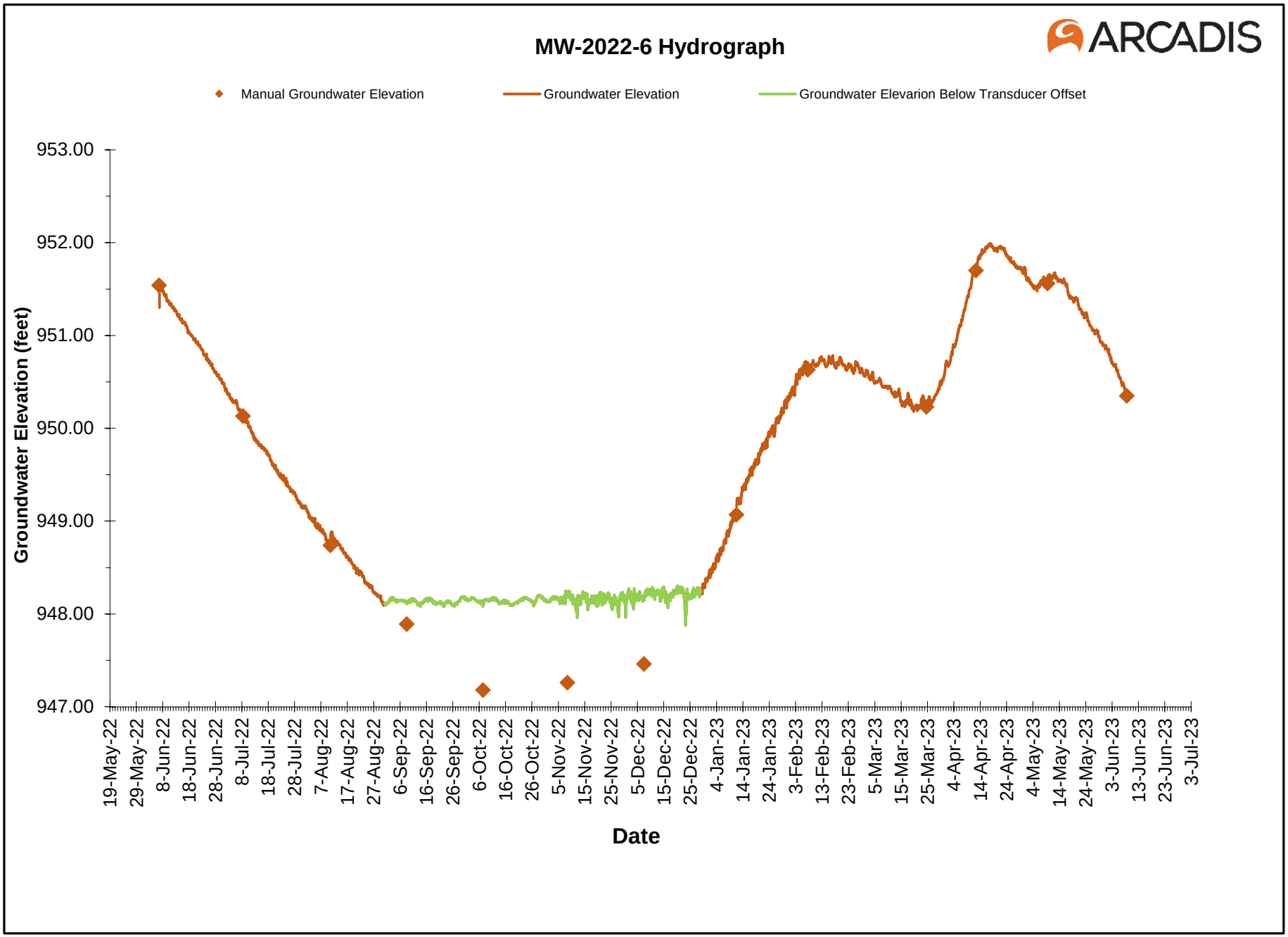

MW-2022-3 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
951.00
950.00
949.00
948.00
947.00
946.00
945.00
Groundwater Elevation (feet)
Erroneous manual measurement a result of user error. Measurement not used for calibration
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

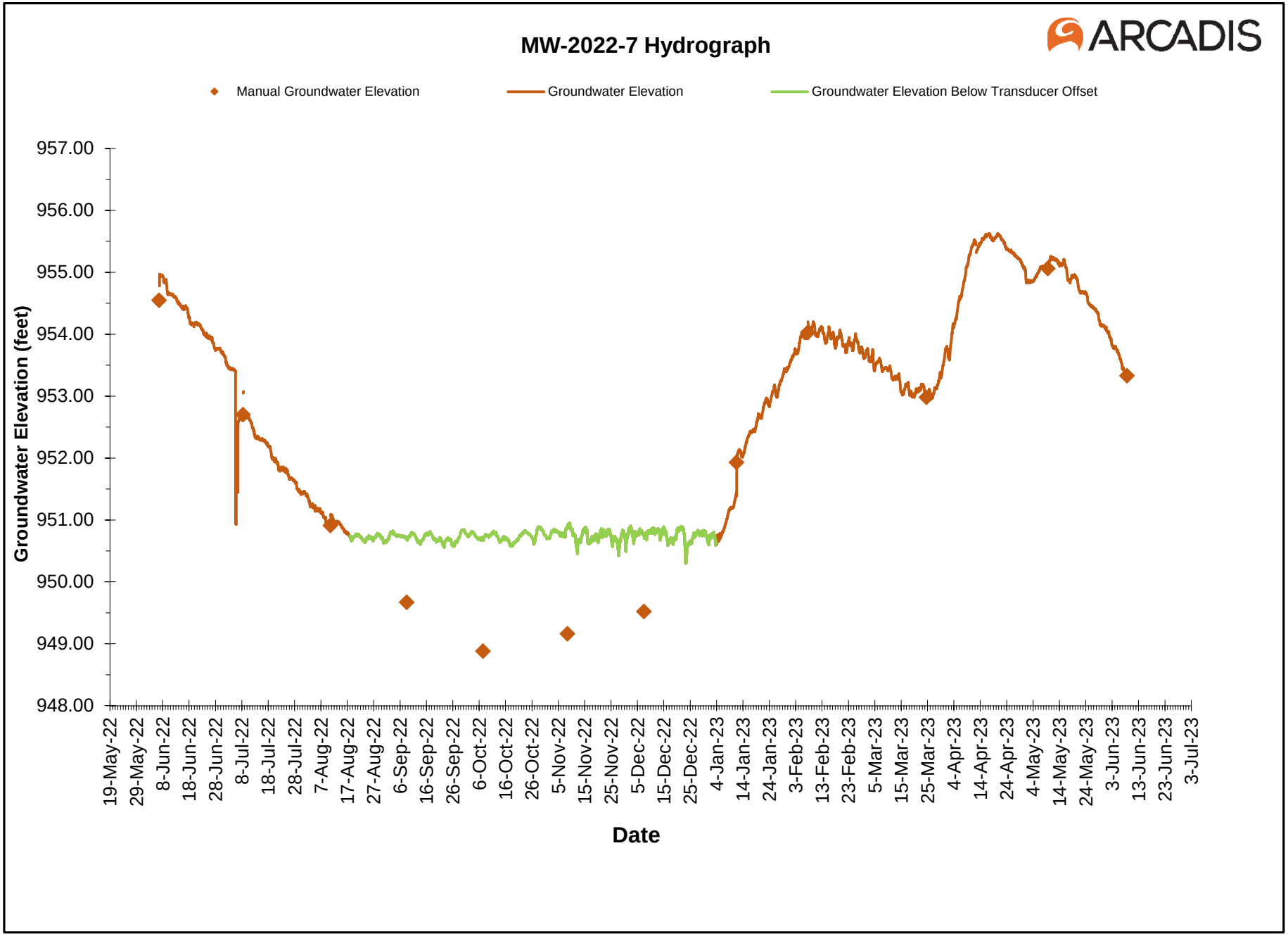

MW-2022-4S Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
951.00
950.00
949.00
948.00
947.00
946.00
Groundwater Elevation (feet)
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

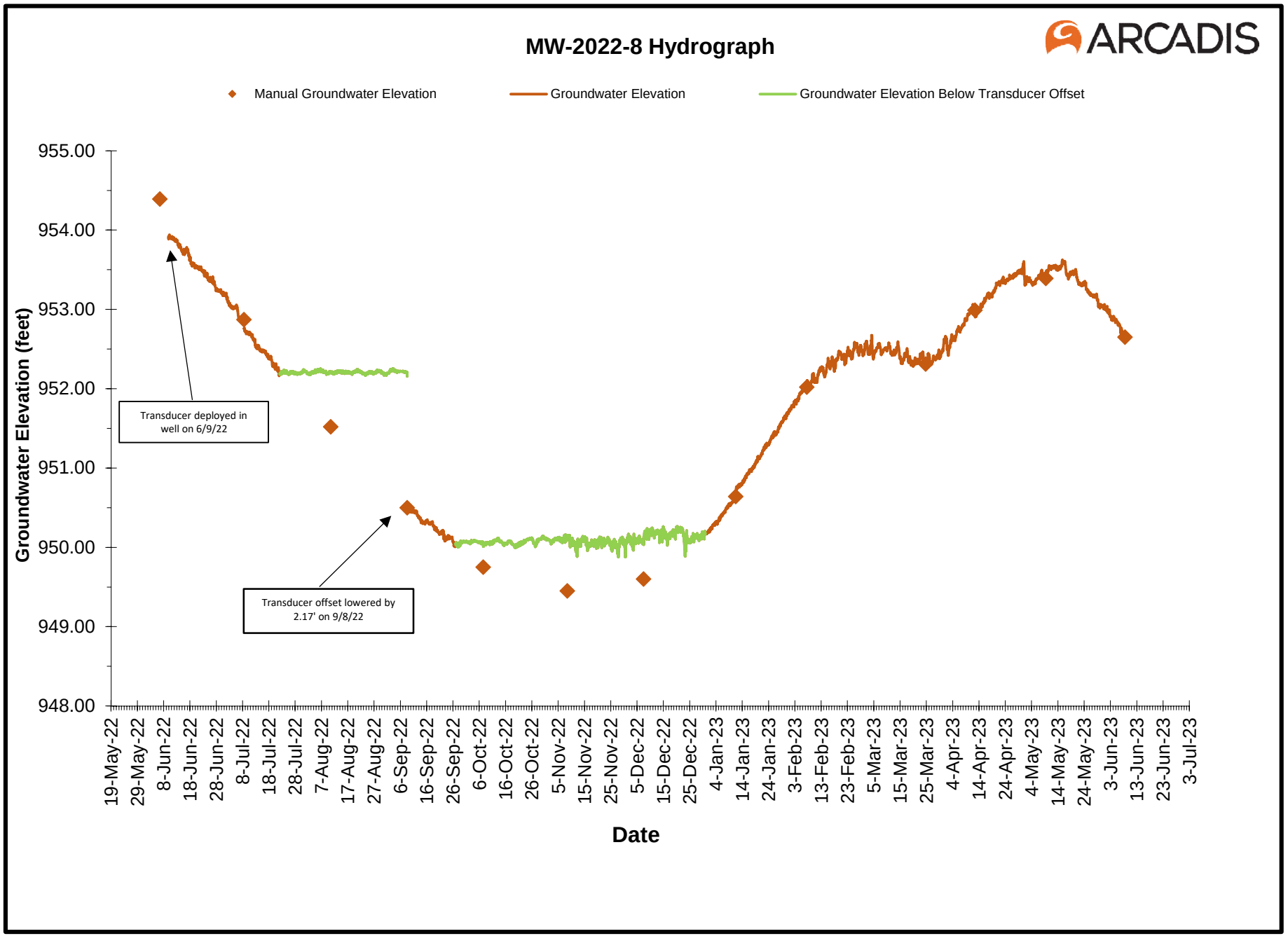

MW-2022-4D Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation (feet)
953.00
952.00
951.00
950.00
949.00
948.00
947.00
946.00
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

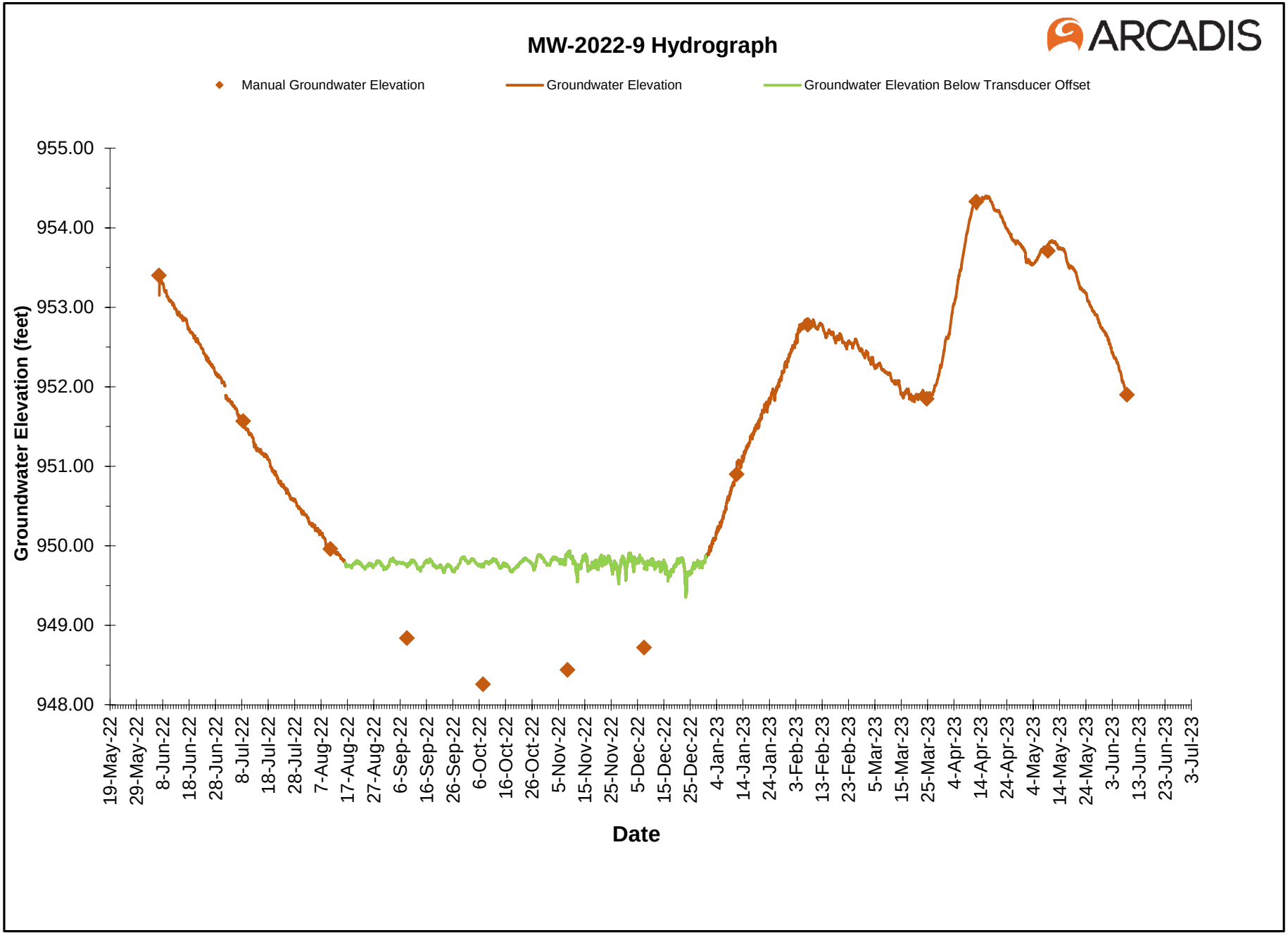

MW-2022-5 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation (feet)
957.00
956.00
955.00
954.00
953.00
952.00
951.00
950.00
949.00
948.00
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

MW-2022-6 Hydrograph

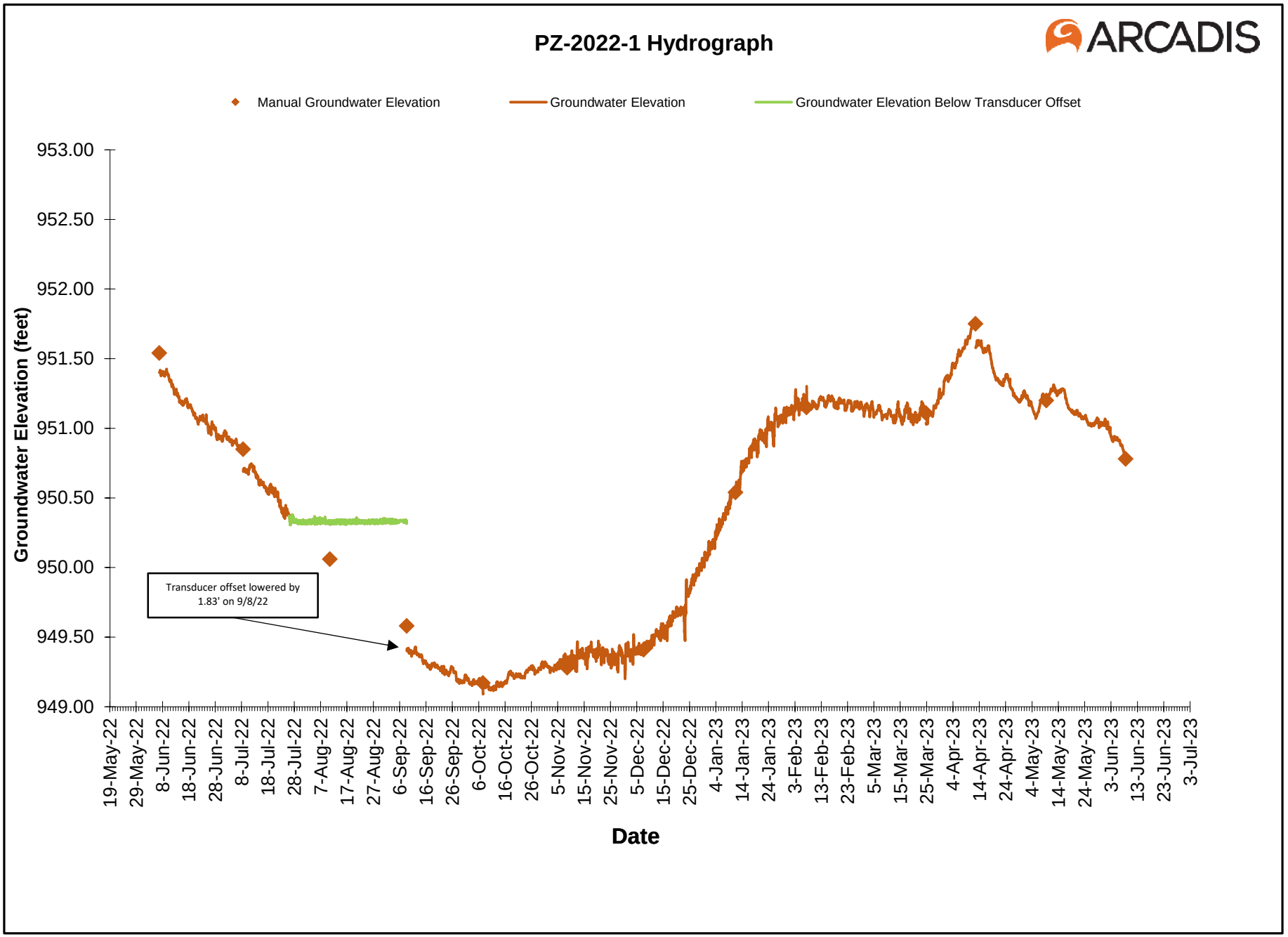


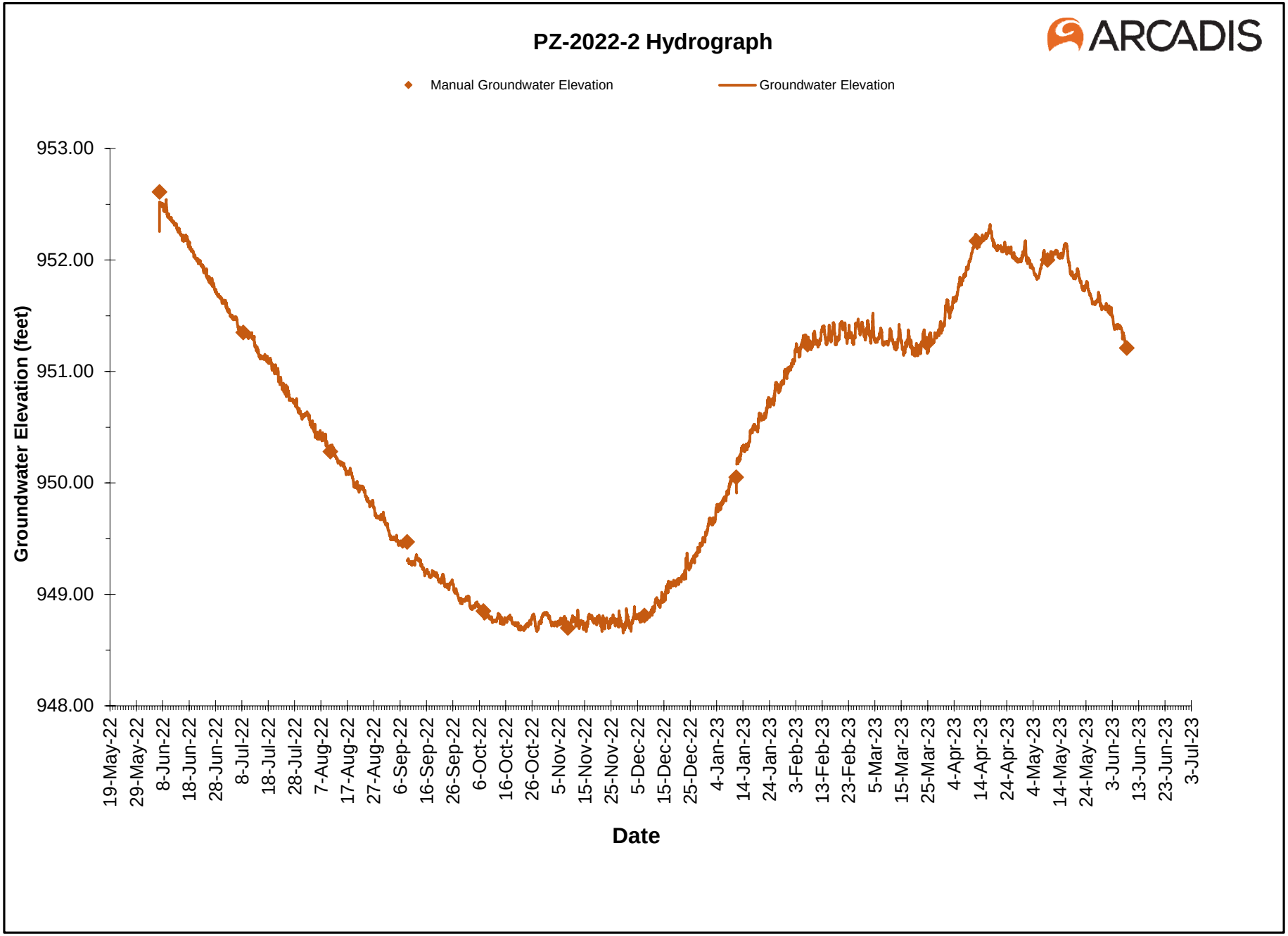

MW-2022-7 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation Below Transducer Offset
Groundwater Elevation (feet)
957.00
956.00
955.00
954.00
953.00
952.00
951.00
950.00
949.00
948.00
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

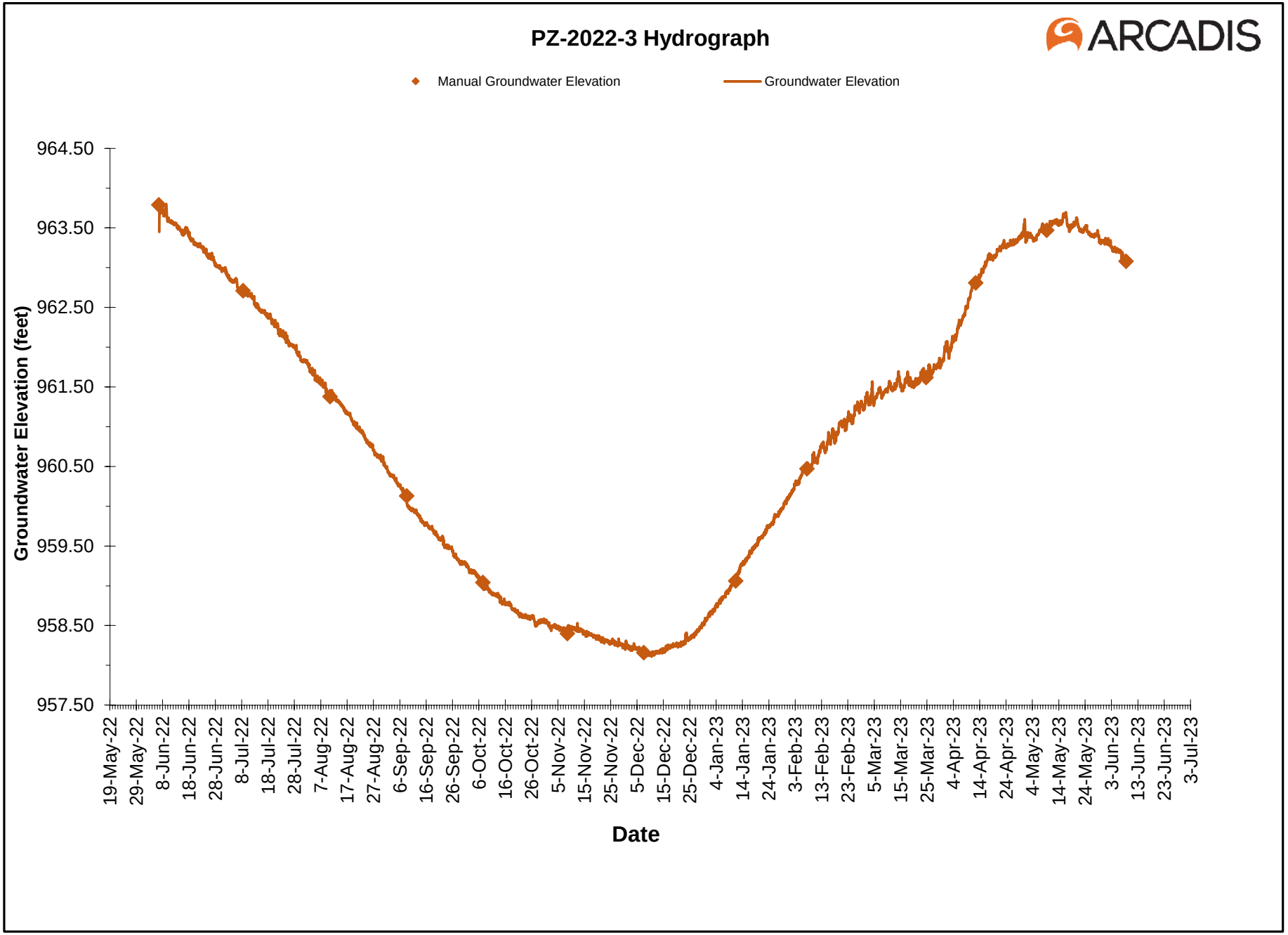

MW-2022-8 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation Below Transducer Offset
Groundwater Elevation (feet)
955.00
954.00
953.00
952.00
951.00
950.00
949.00
948.00
Transducer deployed in well on 6/9/22
Transducer offset lowered by 2.17' on 9/8/22
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

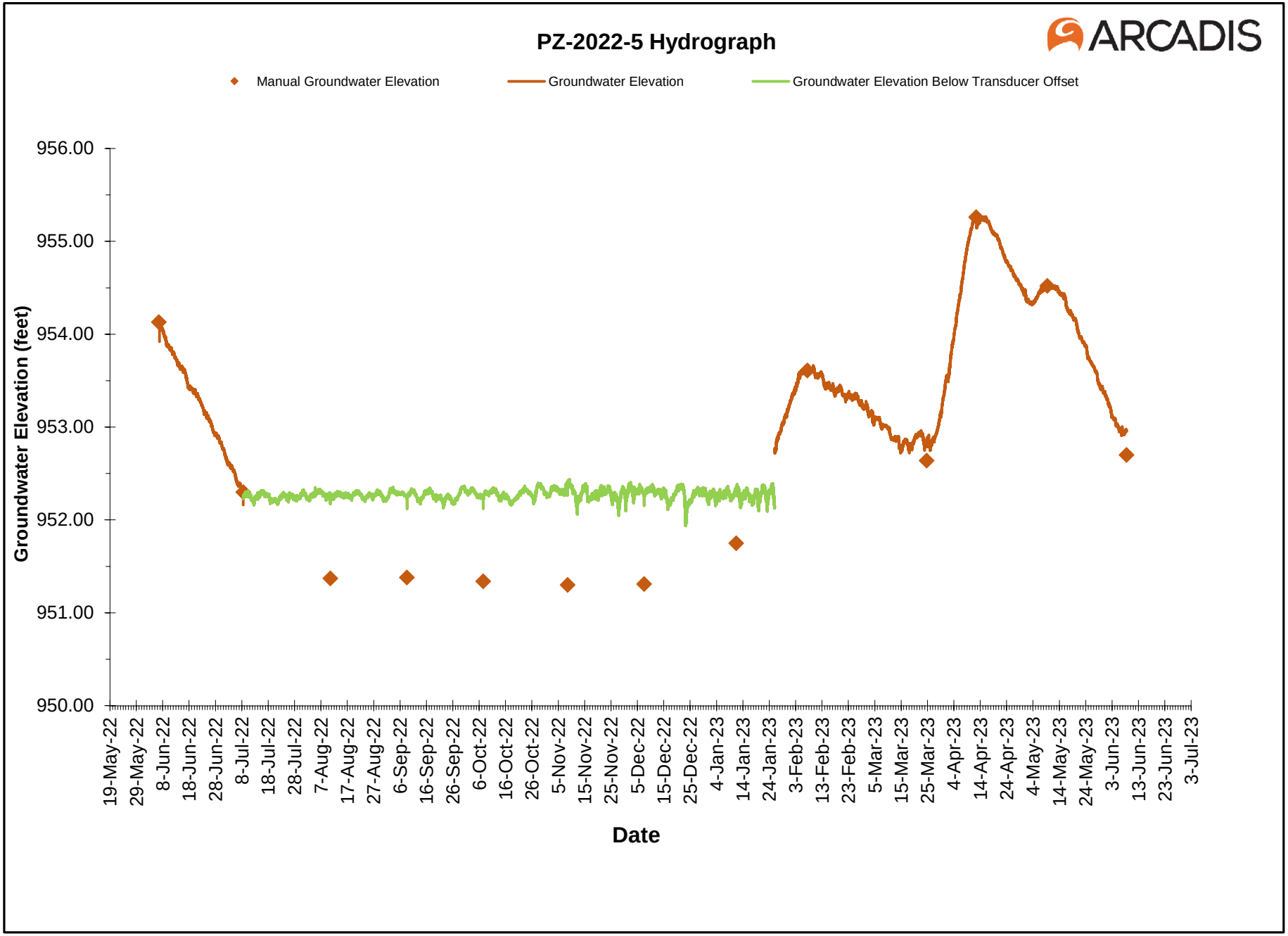

MW-2022-9 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation Below Transducer Offset
Groundwater Elevation (feet)
955.00
954.00
953.00
952.00
951.00
950.00
949.00
948.00
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

PZ-2022-1 Hydrograph

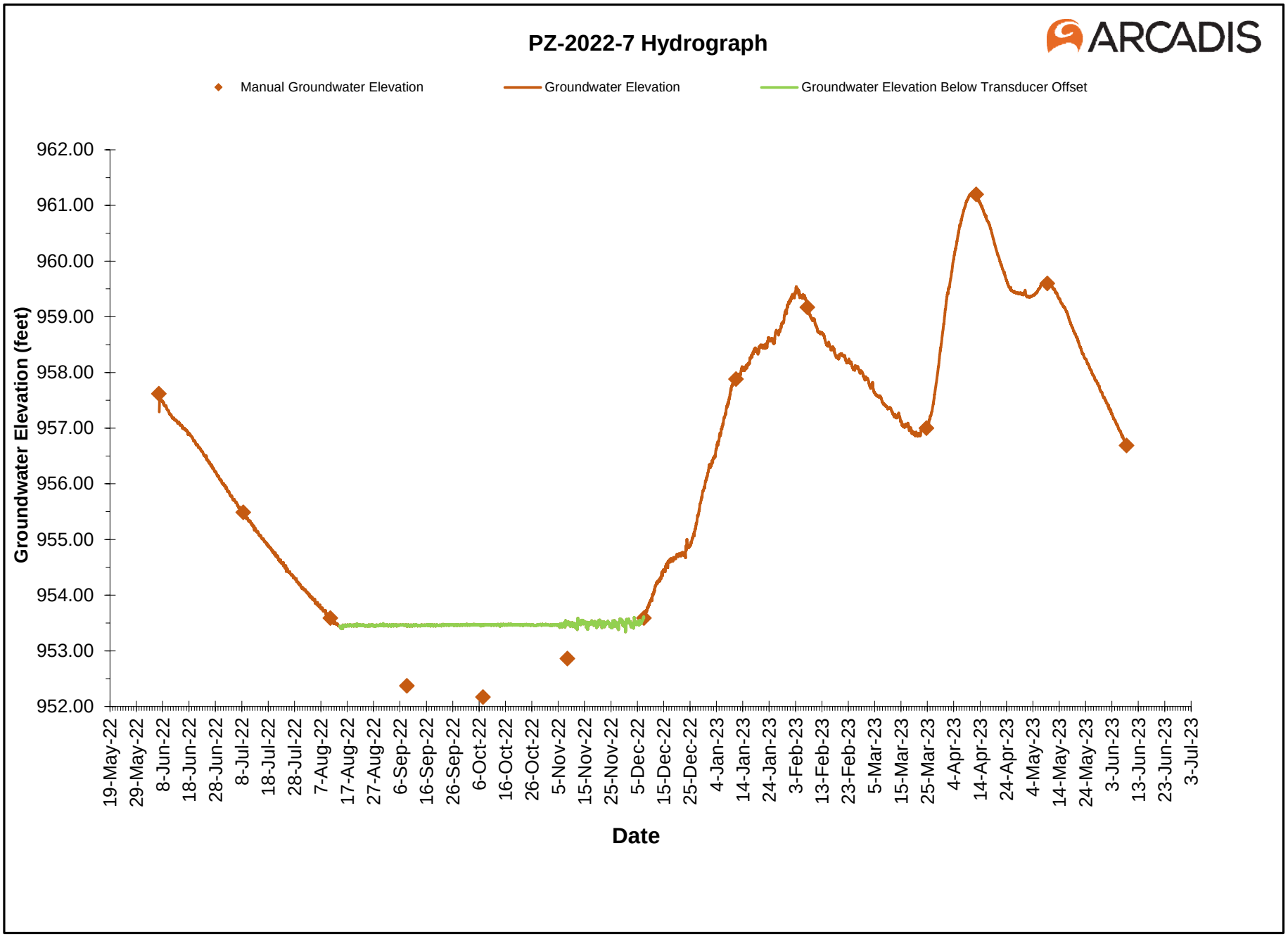



PZ-2022-2 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
953.00
952.00
951.00
950.00
949.00
948.00
Groundwater Elevation (feet)
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

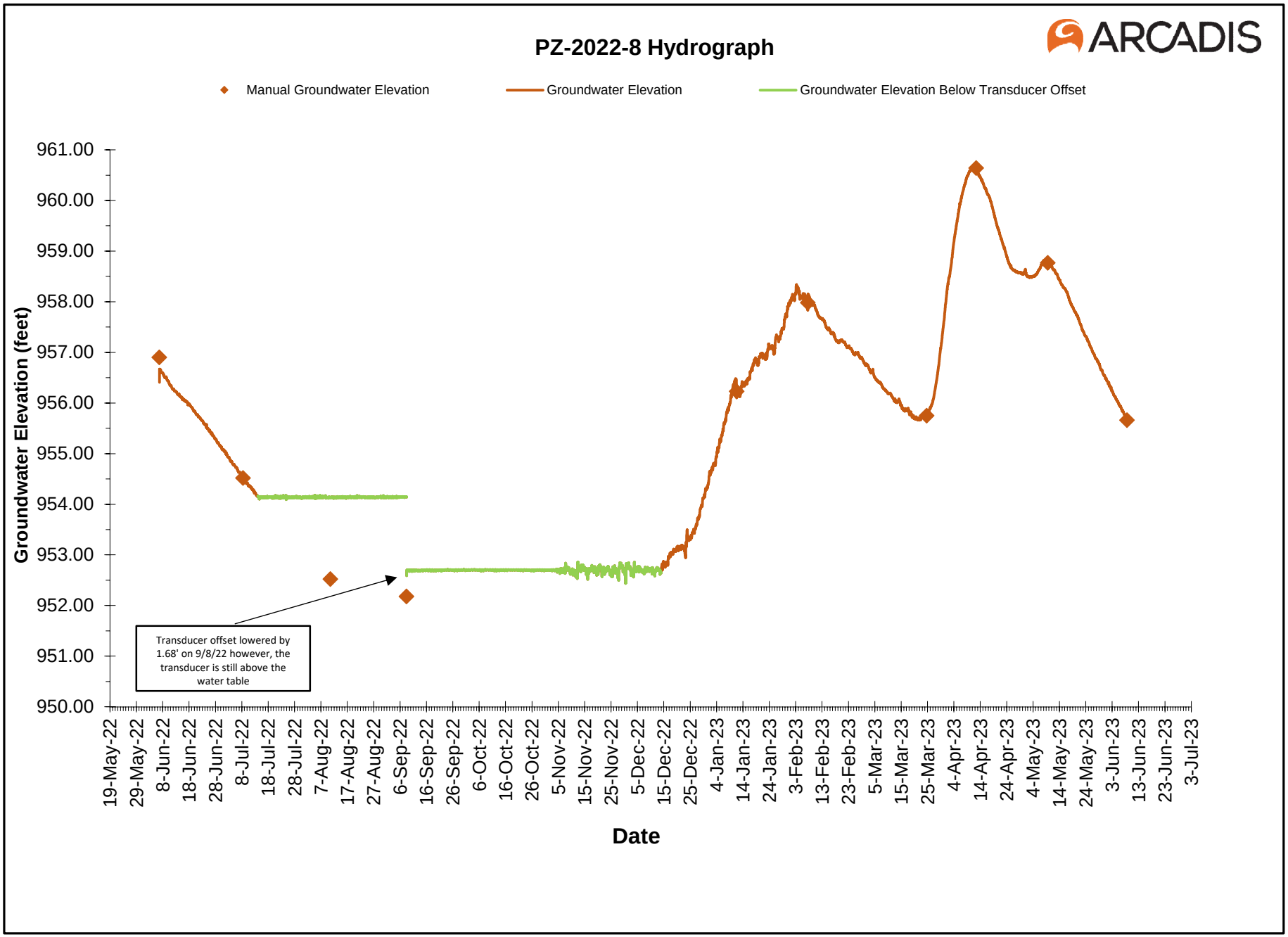

PZ-2022-3 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation (feet)
964.50
963.50
962.50
961.50
960.50
959.50
958.50
957.50
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

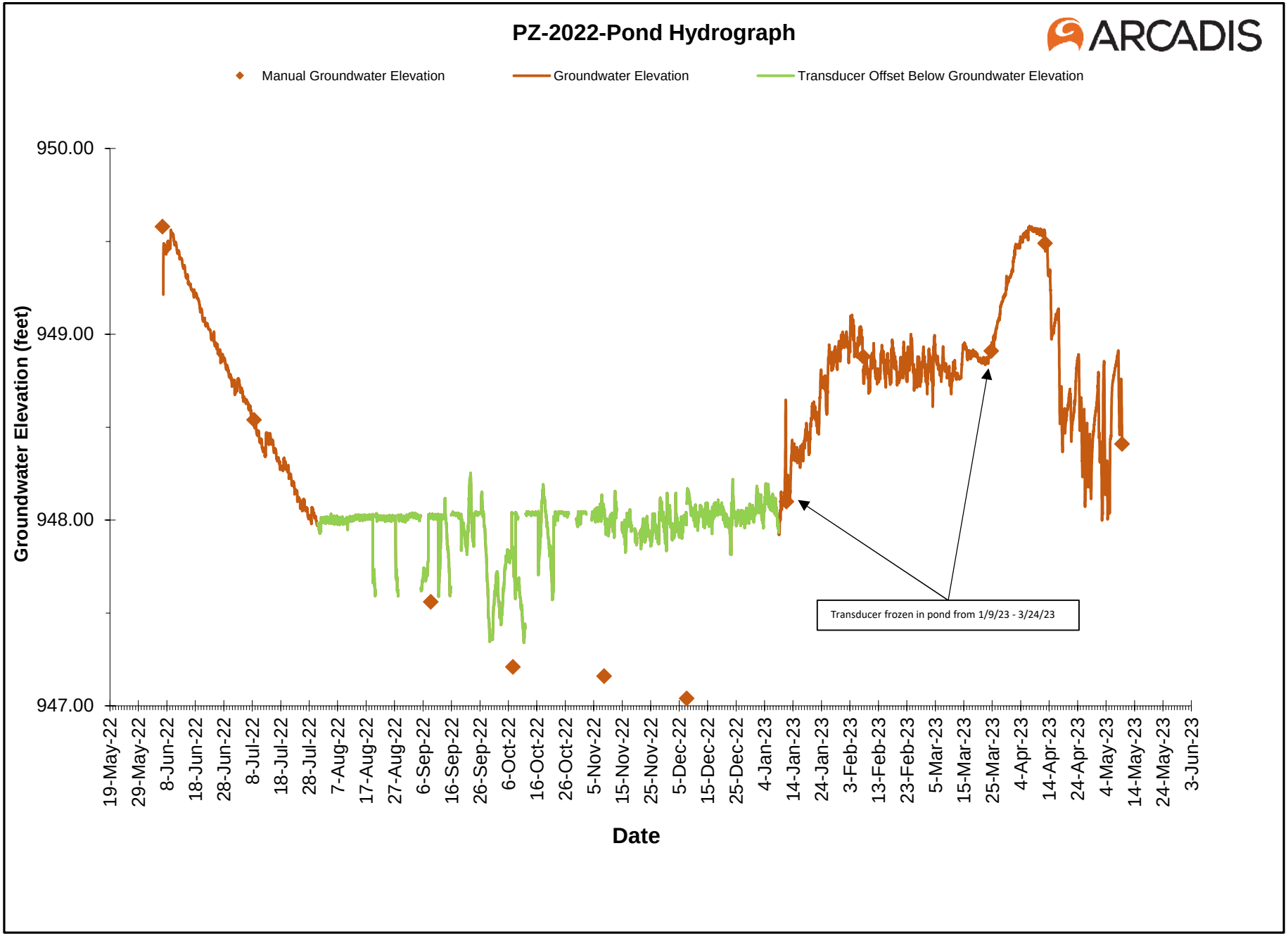

PZ-2022-5 Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Groundwater Elevation Below Transducer Offset
Groundwater Elevation (feet)
956.00
955.00
954.00
953.00
952.00
951.00
950.00
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
13-Jun-23
23-Jun-23
3-Jul-23
Date

PZ-2022-7 Hydrograph

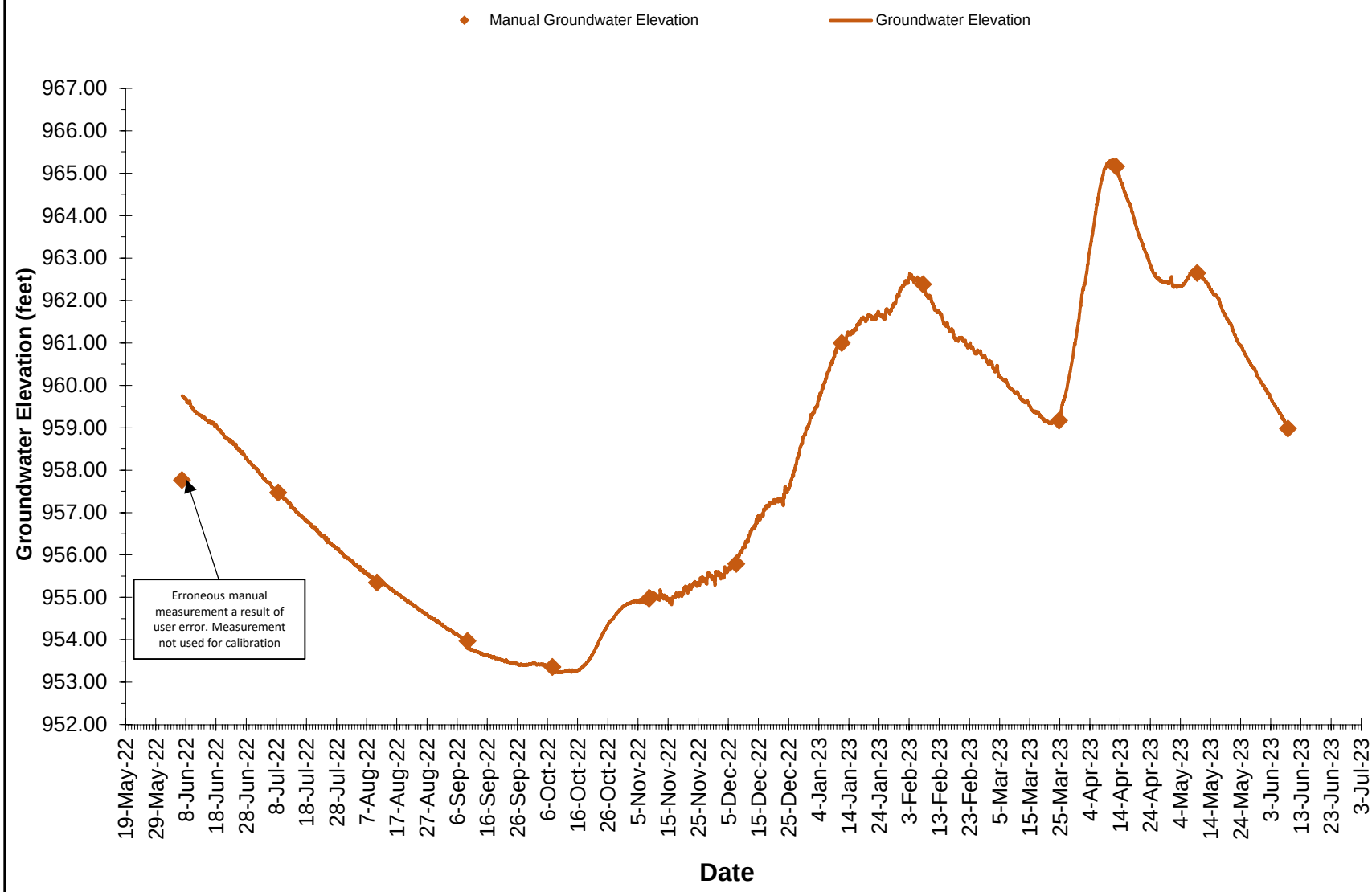


PZ-2022-8 Hydrograph

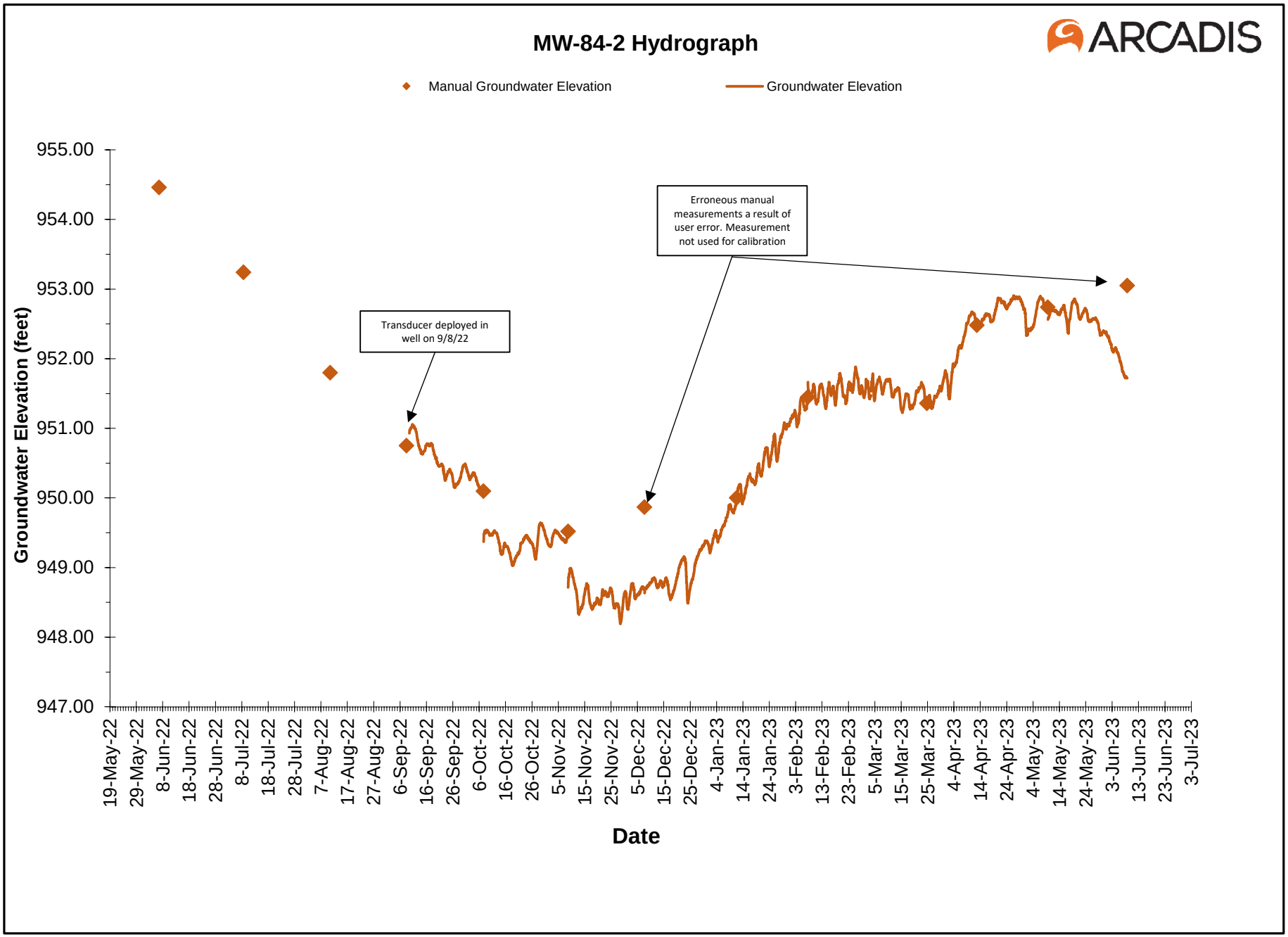



PZ-2022-Pond Hydrograph
ARCADIS
Manual Groundwater Elevation
Groundwater Elevation
Transducer Offset Below Groundwater Elevation
950.00
949.00
948.00
947.00
Groundwater Elevation (feet)
Transducer frozen in pond from 1/9/23 - 3/24/23
19-May-22
29-May-22
8-Jun-22
18-Jun-22
28-Jun-22
8-Jul-22
18-Jul-22
28-Jul-22
7-Aug-22
17-Aug-22
27-Aug-22
6-Sep-22
16-Sep-22
26-Sep-22
6-Oct-22
16-Oct-22
26-Oct-22
5-Nov-22
15-Nov-22
25-Nov-22
5-Dec-22
15-Dec-22
25-Dec-22
4-Jan-23
14-Jan-23
24-Jan-23
3-Feb-23
13-Feb-23
23-Feb-23
5-Mar-23
15-Mar-23
25-Mar-23
4-Apr-23
14-Apr-23
24-Apr-23
4-May-23
14-May-23
24-May-23
3-Jun-23
Date

MW-84-1 Hydrograph



MW-84-2 Hydrograph



Appendix J

Groundwater Environmental Quality Validation Reports

Event 1 Spring 2022

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDFs), Perfluoroalkyl Substances (PFAs), Metals, and Miscellaneous Analyses

SDGs # 480-199353-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47702R
Review Level: Tier I/II
Project: 30131071.0003

Contents

1 Summary 1
1.1 Analytical Data Package Documentation 1
1.2 Data Validation Procedures 2
2 Volatile Organic Compound Analyses 4
2.1 Holding Times 4
2.2 Blank Contamination 5
2.3 Mass Spectrometer Tuning 5
2.4 Calibration 5
2.4.1 Initial Calibration 5
2.4.2 Continuing Calibration 6
2.5 Surrogates/System Monitoring Compounds 7
2.6 Internal Standard Performance 7
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 7
2.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 8
2.9 Field Duplicate Analysis 8
2.10 Compound Identification 8
2.11 System Performance and Overall Assessment 8
2.12 Data Validation Checklist 8
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Blank Contamination 10
3.3 Mass Spectrometer Tuning 11
3.4 Calibration 11
3.4.1 Initial Calibration 11
3.4.2 Continuing Calibration 11
3.5 Surrogates/System Monitoring Compounds 12
3.6 Internal Standard Performance 13
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 14
3.9 Field Duplicate Analysis 16
3.10 Compound Identification 16
3.11 System Performance and Overall Assessment 16

3.12 Data Validation Checklist 17
4 Polychlorinated Biphenyl Analyses 18
4.1 Holding Times 18
4.2 Blank Contamination 19
4.3 System Performance 19
4.4 Calibration 19
4.4.1 Initial Calibration 19
4.4.2 Continuing Calibration 19
4.5 Surrogates/System Monitoring Compounds 19
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 20
4.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 21
4.8 Field Duplicate Analysis 21
4.9 Compound Identification 21
4.10 System Performance and Overall Assessment 21
4.11 Data Validation Checklist 22
5 Pesticide/Herbicide Analyses 23
5.1 Holding Times 23
5.2 Blank Contamination 23
5.3 System Performance 24
5.4 Calibration 24
5.4.1 Initial Calibration 24
5.4.2 Continuing Calibration 24
5.5 Surrogates/System Monitoring Compounds 25
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 26
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 26
5.8 Field Duplicate Analysis 27
5.9 Compound Identification 28
5.10 System Performance and Overall Assessment 28
5.11 Data Validation Checklist 28
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 29
6.1 Holding Times 29
6.2 Blank Contamination 30
6.3 Mass Spectrometer Tuning 32

6.4 Calibration 32
6.4.1 Initial Calibration 32
6.4.2 Continuing Calibration 32
6.5 Labeled Standard Performance 32
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 33
6.7 Ongoing Precision Result /Laboratory Control Sample Analysis 33
6.8 Field Duplicate Analysis 33
6.9 Compound Identification 33
6.10 System Performance and Overall Assessment 34
6.11 Data Validation Checklist 34
7 Perfluoroalkyl Substances Analyses 36
7.1 Holding Times 36
7.2 Blank Contamination 36
7.3 Mass Calibration 36
7.4 Calibration 37
7.4.1 Initial Calibration 37
7.4.2 Continuing Calibration 37
7.5 Isotopically Labelled Standards 37
7.5.1 Extracted Internal Standard 37
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 37
7.7 Laboratory Control Sample Analysis 37
7.8 Field Duplicate Analysis 38
7.9 Compound Identification 38
7.10 System Performance and Overall Assessment 38
7.11 Data Validation Checklist 38
8 Metals Analyses 40
8.1 Holding Times 40
8.2 Blank Contamination 40
8.3 Calibration 41
8.3.1 Initial Calibration and Continuing Calibration 41
8.3.2 Lower Limit of Quantitation Check Standard 41
8.3.3 Inductively Coupled Plasma Interference Control Sample 41
8.4 Matrix Spike/Laboratory Duplicate Analysis 41

8.4.1 Matrix Spike Analysis 41
8.4.2 Laboratory Duplicate Analysis 42
8.5 Field Duplicate Analysis 42
8.6 Laboratory Control Sample Analysis 42
8.7 Serial Dilution 42
8.8 System Performance and Overall Assessment 42
8.9 Data Validation Checklist 43
9 General Chemistry Analyses 44
9.1 Holding Times 44
9.2 Blank Contamination 44
9.3 Calibration 44
9.3.1 Initial Calibration and Continuing Calibration 45
9.4 Matrix Spike/Matrix Spike Duplicate /Laboratory Duplicate Analysis 45
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 45
9.4.2 Laboratory Duplicate Analysis 45
9.5 Field Duplicate Analysis 45
9.6 Laboratory Control Sample (LCS) Analysis 46
9.7 System Performance and Overall Assessment 46
9.8 Data Validation Checklist for General Chemistry 46
10 Overall Data Usability 47

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 1
Table 2. Evaluation of Data Package Completeness 2
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 4
Table 4. Holding Time for Method SW-846 8260C 5
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 6
Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications 6
Table 7. Holding Time for Method SW-846 8270D 10
Table 8. Summary of Compounds Outside Specified Calibration Control Limits 11
Table 9. Initial and Continuing Calibration Evaluation Criteria and Qualifications 12
Table 10. Sample Locations with Surrogates Exhibiting Recoveries Outside Control Limits 12
Table 11. Surrogate Recovery Evaluation Criteria and Qualifications 13

Table 12. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 14

Table 13. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 15

Table 14. Samples with Relative Percent Difference Greater than Control Limits 15

Table 15. Relative Percent Difference Evaluation Criteria and Qualifications 16

Table 16. Holding Time for Method SW-846 8082A 18

Table17. Samples Associated with Surrogates Exhibiting Recoveries Outside of the Control Limits 20

Table18. Evaluation Criteria for Surrogate Recoveries 20

Table 19. Data Validation Checklist for Polychlorinated Biphenyls 22

Table20. Holding Time for Method SW-846 8081B/8141B/8151A 23

Table 21. Summary of Compounds Outside Specified Calibration Control Limits 24

Table 22. Initial and Continuing Calibration Evaluation Criteria and Qualifications 25

Table 23. Samples Associated with Surrogates Exhibiting Recoveries Outside of the Control Limits 25

Table 24. Evaluation Criteria for Surrogate Recoveries 26

Table 27. Data Validation Checklist 28

Table 28. Holding Time for Method SW-846 8290A 29

Table 29. Summary of Blank Contamination Qualifications 30

Table 30. Holding Time for Method 537 36

Table 31. Holding Time for Method SW-846 6010C/7470A 40

Table 32. Specified Holding Times 44

Table 33. Overall Summary of Data Usability 47

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199353-1 performed on behalf of the General Electric Company (GE) for groundwater sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-1D	480-199353-1	Water	6/23/2022			X	X	X	X	X	X
MW-2022-5	480-199353-2	Water	6/24/2022			X	X	X	X	X	X
MW-2022-1D	480-199379-1	Water	6/23/2022		X						
MW-2022-5	480-199379-2	Water	6/24/2022		X						
TRIP BLANK 062322	480-199379-3	Water	6/23/2022		X						
MW-2022-8	480-199379-4	Water	6/27/2022		X	X	X	X	X	X	X

Notes:
HERB = herbicides
MET = metals
MISC = miscellaneous analyses (cyanide, sulfide)
PEST = pesticides

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7471B, 9012B, USEPA Modified method 537, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).
- USEPA Method 537 Modified, Eurofins Laboratories SOP BR-LC-009, Rev. 8.0 Per- and Poly-fluorinated Substances (PFAS) in Water, Soils, Sediments and Tissue (April 2022)
- Department of Defense (DoD) Quality Systems Manual (QSM) 5.3, USEPA Data Review and Validation Guideline for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, (November 2018)

- DoD Final Data Validation Guidelines Module 3: PFAS, (May 2020)

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined

to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	3	0	1	4
SVOCs	0	0	0	3	0	0	3
PCBs	0	0	0	3	0	0	3
PEST	0	0	0	3	0	0	3
HERB	0	0	0	3	0	0	3
PCDD/PCDF	0	0	0	3	0	0	3
PFAS	0	0	0	3	0	0	3
Metals	0	0	0	3	0	0	3
MISC	0	0	0	3	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No qualification of the sample results was required.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits with the exceptions of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample Locations	Initial/Continuing	Compounds	Criteria
MW-2022-1D MW-2022-5 Trip Blank 062322 MW-2022-8	CCV %D	2-Chloro-1,3-butadiene	-27.1%%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ

Initial/Continuing	Criteria	Sample Result	Qualification
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

An MS/MSD analysis was not performed on a sample within this SDG.

2.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits. LCSD was not performed.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on a sample within this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X	X		
Reporting limits (units)		X		X	
Blanks					

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
A. Method blanks		X		X	
B. Equipment blanks	X				X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS)	X				X
Matrix Spike Duplicate(MSD)	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 7. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

Sample MW-2022-8 was reanalyzed outside holding time due to continuing calibration failures and confirmed the results. The primary analysis will be reported. All other samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 8. Summary of Compounds Outside Specified Calibration Control Limits

Sample Locations	Initial/Continuing	Compounds	Criteria
MW-2022-8	CCV %D	p-Phenylene diamine	-45.7%
		1,3,5-Trinitrobenzene	+28.2%
		4-Nitroquinoline-1-oxide	-39.2%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 9. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Table 10. Sample Locations with Surrogates Exhibiting Recoveries Outside Control Limits

Sample Locations	Surrogate	Recovery
MW-2022-1D	Phenol-d6	AC

Sample Locations	Surrogate	Recovery
	2-Fluorophenol	AC
	2,4,6-Tribromophenol	AC
	Nitrobenzene-d5	AC
	2-Fluorobiphenyl	AC
	Terphenyl-d14	< LL but > 10%

Notes:
LL Lower control limit
AC Acceptable

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table 11. Surrogate Recovery Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

An MS/MSD analysis was not performed on a sample within this SDG.

3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 5. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample Locations	Compounds	LCS Recovery	LCSD Recovery
MW-2022-1D MW-2022-5	Famphur	<LL but >10%	<10%
	Kepone	<LL but >10%	<LL but >10%
	p-Phenylene diamine	<10%	<10%
	2,4-Dinitrotoluene	AC	>UL
	4-Nitroaniline	AC	>UL
	Dinoseb	AC	>UL
MW-2022-8	Famphur	<LL but >10%	AC
	p-Phenylene diamine	<10%	<10%
	1,3-Dichlorobenzene	AC	<LL but >10%
	1,4-Dichlorobenzene	AC	<LL but >10%
	1-Naphthylamine	AC	<LL but >10%
	2-Methylnaphthalene	AC	<LL but >10%
	2-Naphthylamine	AC	<LL but >10%
	3,3'-Dimethylbenzidine	AC	<LL but >10%
	4-Aminobiphenyl	AC	<LL but >10%

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 6. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Sample locations associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Table 14. Samples with Relative Percent Difference Greater than Control Limits

Sample Locations	Compounds
MW-2022-1D MW-2022-5	1-Naphthylamine
	2-Naphthylamine
	2-Picoline
	3,3'-Dimethylbenzidine
	Benzidine
	Famphur
	Methapyrilene
MW-2022-8	1-Naphthylamine
	2-Naphthylamine
	2-Toluidine
	3,3'-Dichlorobenzidine
	3,3'-Dimethylbenzidine
	4-Aminobiphenyl

Sample Locations	Compounds
	4-Chloroaniline
	Benzidine
	Famphur

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 7. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate analysis was not performed on a sample within this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate(LCSD)		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS)	X				X
Matrix Spike Duplicate(MSD)	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X	X		
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that the two PCB surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

Samples associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Table17. Samples Associated with Surrogates Exhibiting Recoveries Outside of the Control Limits

Sample ID	Surrogates	Recovery
MW-2022-1D	Tetrachloro-m-xylene (Signal# 1)	<LL but >10%
	Tetrachloro-m-xylene (Signal# 2)	AC
	Decachlorobiphenyl (Signal# 1)	AC
	Decachlorobiphenyl (Signal# 2)	AC

Notes:
AC = Acceptable
UL = Upper control limit

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table18. Evaluation Criteria for Surrogate Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Surrogates diluted below the calibration curve due to the high concentration of a target compound.	Non-detect	UJ/J[1]
	Detect	

Note:
1. A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

An MS/MSD analysis was not performed on a sample within this SDG.

4.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrix.

A field duplicate analysis was not performed on a sample within this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

No Aroclors were detected within the samples.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

Table 19. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X	X		
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
A. Quantitation Reports		X		X	
B. RT of sample compounds within the		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
established RT windows					
C. Pattern identification		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table20. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compound Endrin aldehyde was detected in preparation blank batch 632086; however, the associated sample results were non-detect. Therefore, qualification was not required. .

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 218. Summary of Compounds Outside Specified Calibration Control Limits

Sample Locations	Initial/Continuing	Compounds	Criteria
MW-2022-1D MW-2022-5 MW-2022-8	CCV %D (Column 1)	Heptachlor epoxide	+27.1%
		4,4'-DDE	+17.1%
		delta-BHC	+16.5%
		Endrin	+16.8%

Sample Locations	Initial/Continuing	Compounds	Criteria
		4,4'-DDD	+27.6%
		Endosulfan II	+16.0%
		Endrin aldehyde	+22.0%
		Endrin ketone	+19.4%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 22. Initial and Continuing Calibration Evaluation Criteria and Qualifications

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 20%or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >15% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticides analysis requires that the two Pesticde surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

Samples associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Table 23. Samples Associated with Surrogates Exhibiting Recoveries Outside of the Control Limits

Sample ID	Surrogates	Recovery
MW-2022-8 (Method 8081)	Tetrachloro-m-xylene (Signal# 1)	> UL
	Tetrachloro-m-xylene (Signal# 2)	AC
	Decachlorobiphenyl (Signal# 1)	AC
	Decachlorobiphenyl (Signal# 2)	AC

Notes:
AC = Acceptable
UL = Upper control limit

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table 24. Evaluation Criteria for Surrogate Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Surrogates diluted below the calibration curve due to the high concentration of a target compound.	Non-detect	UJ/J[1]
	Detect	

Note:
1. A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

An MS/MSD analysis was not performed on a sample within this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table25. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Method	Sample Locations	Compounds	LCS Recovery	LCSD Recovery
SW846 8081B	MW-2022-1D MW-2022-5 MW-2022-8	4,4'-DDD	>UL	AC
		Endrin ketone	>UL	AC
		Heptachlor epoxide	>UL	AC

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 26. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrix.

A field duplicate analysis was not performed on a sample within this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

No pesticide/herbicide compounds were detected in the samples.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

Table 27. Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
LCS %R		X		X	
LCS Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X	X		

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
A. Quantitation Reports		X		X	
B. RT of sample compounds within the established RT windows		X		X	
C. Pattern identification		X		X	
D. Transcription/calculation errors present		X		X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 28. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation

SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 29. Summary of Blank Contamination Qualifications

Sample Locations	Compounds	Sample Result	Qualification
MW-2022-1D	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDF	Detected sample results <RL and <BAL	““U” at the RL

Sample Locations	Compounds	Sample Result	Qualification
	2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF		
MW-2022-5	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD Total PeCDF	Detected sample results <RL and <BAL	““U” at the RL

Sample Locations	Compounds	Sample Result	Qualification
MW-2022-8	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF OCDF Total HpCDD Total HpCDF	Detected sample results <RL and <BAL	““U” at the RL

RL = reporting limit
MB = method blank

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

All compounds associated with the calibrations were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

AN MS/MSD analysis was not performed on a sample within this SDG.

6.7 Ongoing Precision Result /Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrix.

A field duplicate analysis was not performed on a sample within this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the

compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
C. Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS)	X				X
Matrix Spike Duplicate(MSD)	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X	X		
Signal-to-noise ratio $\geq$ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix $\leq$ 25%		X		X	
Compound identification and quantitation					
F. Reconstructed ion chromatograms		X		X	
G. Quantitation Reports		X		X	
H. RT of sample compounds within the established RT windows		X		X	
I. Transcription/calculation errors present		X		X	
J. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 30. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

The holding time has been changed from the original holding time documented in EPA 537 of 14 days for extraction to 28 days. This was documented in EPA Technical Brief EPA/600/F-17/022h Updated January 2020. Utilizing the new guidance of 28 days all samples were analyzed within the specified holding time criteria.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. EIS recoveries must be within 50% to 150% of ICAL midpoint standard area or area measured in the initial CCV on days when ICAL not performed.

All EIS recoveries were within the specified control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

An MS/MSD analysis was not performed on a sample within this SDG.

7.7 Laboratory Control Sample Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate analysis was not performed on a sample within this SDG.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate(MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)	X				X
Extracted Internal Standards (EIS) %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
Instrument sensitivity check		X		X	
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT windows		X		X	
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					

Notes:

%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 31. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-Inductively Coupled Plasma (ICP) analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 Inductively Coupled Plasma Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample location MW-2022-5 exhibited recoveries within the control limits.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrix.

Field duplicate analysis was not performed on a sample location within this SDG.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution performed on sample location MW-2022-5 exhibited %D within the control limit.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010/7470	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D		X		X	
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 32. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9

All samples were analyzed within the specified holding times.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate /Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS analysis performed on sample location MW-2022-5 exhibited recoveries within the control limits.

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis exhibited RPD within control limits.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on a sample within this SDG.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 33. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	4
SVOCs	99.0%	5
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality.

These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: November 23, 2022

PEER REVIEW: Suresh, Pr

DATE: November 25, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30132437.001			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	6151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-1D	6/23/22	16:30	G	Water			X	X	X	X	X	X		X	X	X	X			17	
MW-2022-5	6/24/22	14:10	G	Water			X	X	X	X	X	X		X	X	X	X			17	

480-199353 Chain of Custody

6-27-2022

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/27/22 9:10		Tim	6-27-2022 0910	EETN
Relinquished by: Tim Knollmeyer	Date/Time: 6-27-2022 1700	Company EETN	Received by:	Date/Time: 6/28/22 930	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.5, 3.6, 2.9 # ICE

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30132437.001			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N			
MW-2022-1D	6/23/22	16:30	G	Water									X						3	
MW-2022-5	6/24/22	14:10	G	Water									X						3	
TripBlank 062322	6/23/22	---	G	Water									X						2	
MW-2022-8	6/27/22	15:05	G	Water			X	X	X	X	X	X	X	X	X	X	X		20	

480-199379 Chain of Custody

MK 6-28-2022

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		6/28/22 9:00			6-28-22 0900	EETN
2		6-28-2022 1600	EETN			
3					6/29/22 0800	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.4 #/ ICE

Ver: 01/16/2019

7/21/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

8141 3774

Chain of Custody Record


480-199353 Chain of Custody

Eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	383 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et eurofinsus com	1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-199353-1
Address: 301 Alpha Drive RIDC Park,	Due Date Requested: 7/12/2022	Analysis Requested	Preservation Codes:
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site	SSOW#:		

Preservation Codes: A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify); Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-199353-1)	6/23/22	16 30 Eastern		Water			X	2	
MW-2022-5 (480-199353-2)	6/24/22	14 10 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		6/28/22 1800	JAB		6/24/22 9:20	TEAL
2	Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

7/21/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Eurofins | Environment Testing America

480-199379 Chain of Custody

119.1
of 1

480-199379-1

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R
Client Contact: Shipping/Receiving	Phone.	E-Mail: John Schove@et.eurofinst
Company: Eurofins Environment Testing Northeast,		Accreditations Required (S: State - Massachusetts
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 7/13/2022	
City: Pittsburgh	TAT Requested (days):	
State, Zip: PA, 15238		
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:	
Email	WO #:	
Project Name: GE Woods Pond Parcel	Project #: 48024970	
Site.	SSOW#:	

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (480-199379-4)	6/27/22	15 05 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:

	Date/Time	Company	Received by	Date/Time.	Company
Relinquished by:	6/29/22 1800	TAB		6/30/22 9.20	ETA Pitt
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

Chain of Custody Record

480-199353 Chain of Custody

ofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		480-73380 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State - Massachusetts		Job #: 480-199353-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 7/12/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-199353-1)	6/23/22	16 30 Eastern		Water			X	2	
MW-2022-5 (480-199353-2)	6/24/22	14 10 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 6/28/22 1800	Company: TAB	Received by: Cacchi Cunnel	Date/Time: 6/29/22 1030	Company: ETA-Bud
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-199379 Chain of Custody

Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R		17.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Massachusetts		Job #: 480-199379-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 7/13/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IWWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (480-199379-4)	6/27/22	15.05 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time.	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time.	Company
	6/29/22 1800	TAB	Taylor Whitehouse	6/30/22 1030	ETS
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company
Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-73381.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-199353-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 7/12/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-199353-1)	6/23/22	16:30 Eastern		Water			X	2	
MW-2022-5 (480-199353-2)	6/24/22	14:10 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/28/22 1800	TAB			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/29/22 1036	Company ELPT

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.2

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-73411.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-199379-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 7/13/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (480-199379-4)	6/27/22	15:05 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/29/22 1800	TAS			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/30/22 10:30	Company ECLFT

Custody Seals Intact: ▲ Yes ▲ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.0 1-3 COV

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-1D
Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,4-Dioxane	ND		10	1.1	ug/L		06/29/22 09:06	06/30/22 20:15	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		06/29/22 09:06	06/30/22 20:15	1
1-Naphthylamine	ND	*1 UJ	10	1.3	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,4-Dinitrotoluene	ND	*+	5.0	0.45	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		06/29/22 09:06	06/30/22 20:15	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Chlorophenol	ND		5.0	0.53	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Methylphenol	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Naphthylamine	ND	*1 UJ	10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Nitroaniline	ND		10	0.42	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Nitrophenol	ND		5.0	0.48	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Picoline	ND		80	1.4	ug/L		06/29/22 09:06	06/30/22 20:15	1
2-Toluidine	ND		10	1.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		06/29/22 09:06	06/30/22 20:15	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
3,3'-Dimethylbenzidine	ND	*1 UJ	40	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
3-Methylcholanthrene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
3-Methylphenol	ND		10	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
3-Nitroaniline	ND		10	0.48	ug/L		06/29/22 09:06	06/30/22 20:15	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Aminobiphenyl	ND		10	0.81	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Chloroaniline	ND		5.0	0.59	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Methylphenol	ND		10	0.36	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Nitroaniline	ND	*+	10	0.25	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Nitrophenol	ND		10	1.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		06/29/22 09:06	06/30/22 20:15	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		06/29/22 09:06	06/30/22 20:15	1
Acenaphthene	ND		5.0	0.41	ug/L		06/29/22 09:06	06/30/22 20:15	1

Client Sample ID: MW-2022-1D

Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		5.0	0.38	ug/L		06/29/22 09:06	06/30/22 20:15	1
Acetophenone	ND		5.0	0.54	ug/L		06/29/22 09:06	06/30/22 20:15	1
Aniline	ND		10	0.61	ug/L		06/29/22 09:06	06/30/22 20:15	1
Anthracene	ND		5.0	0.28	ug/L		06/29/22 09:06	06/30/22 20:15	1
Aramite, Total	ND		20	1.6	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzidine	ND	*1 UJ	80	2.2	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		06/29/22 09:06	06/30/22 20:15	1
Benzyl alcohol	ND		20	2.0	ug/L		06/29/22 09:06	06/30/22 20:15	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		06/29/22 09:06	06/30/22 20:15	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		06/29/22 09:06	06/30/22 20:15	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/29/22 09:06	06/30/22 20:15	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		06/29/22 09:06	06/30/22 20:15	1
Chrysene	ND		5.0	0.33	ug/L		06/29/22 09:06	06/30/22 20:15	1
Diallate	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		06/29/22 09:06	06/30/22 20:15	1
Dibenzofuran	ND		10	0.51	ug/L		06/29/22 09:06	06/30/22 20:15	1
Diethyl phthalate	**41**		5.0	0.22	ug/L		06/29/22 09:06	06/30/22 20:15	1
Dimethoate	ND		10	0.54	ug/L		06/29/22 09:06	06/30/22 20:15	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		06/29/22 09:06	06/30/22 20:15	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		06/29/22 09:06	06/30/22 20:15	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		06/29/22 09:06	06/30/22 20:15	1
Dinoseb	ND	*1	10	2.9	ug/L		06/29/22 09:06	06/30/22 20:15	1
Diphenylamine	ND		10	0.82	ug/L		06/29/22 09:06	06/30/22 20:15	1
Disulfoton	ND		10	0.42	ug/L		06/29/22 09:06	06/30/22 20:15	1
Chlorobenzilate	ND		20	0.67	ug/L		06/29/22 09:06	06/30/22 20:15	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		06/29/22 09:06	06/30/22 20:15	1
Famphur	R ND	*1	40	1.9	ug/L		06/29/22 09:06	06/30/22 20:15	1
Fluoranthene	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:15	1
Fluorene	ND		5.0	0.36	ug/L		06/29/22 09:06	06/30/22 20:15	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		06/29/22 09:06	06/30/22 20:15	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		06/29/22 09:06	06/30/22 20:15	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		06/29/22 09:06	06/30/22 20:15	1
Hexachloroethane	ND		5.0	0.59	ug/L		06/29/22 09:06	06/30/22 20:15	1
Hexachloropropene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		06/29/22 09:06	06/30/22 20:15	1
Isodrin	ND		10	0.18	ug/L		06/29/22 09:06	06/30/22 20:15	1
Isophorone	ND		5.0	0.43	ug/L		06/29/22 09:06	06/30/22 20:15	1
Isosafrole	ND		10	0.58	ug/L		06/29/22 09:06	06/30/22 20:15	1
Kepone	ND	*1 UJ	50	1.8	ug/L		06/29/22 09:06	06/30/22 20:15	1
Methapyrilene	ND	*1 UJ	50	1.8	ug/L		06/29/22 09:06	06/30/22 20:15	1
Methyl methanesulfonate	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
Naphthalene	ND		5.0	0.76	ug/L		06/29/22 09:06	06/30/22 20:15	1
Nitrobenzene	ND		5.0	0.29	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		06/29/22 09:06	06/30/22 20:15	1

Client Sample ID: MW-2022-1D

Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		10	0.36	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		06/29/22 09:06	06/30/22 20:15	1
Ethyl Parathion	ND		10	0.64	ug/L		06/29/22 09:06	06/30/22 20:15	1
Methyl parathion	ND		10	0.37	ug/L		06/29/22 09:06	06/30/22 20:15	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		06/29/22 09:06	06/30/22 20:15	1
Pentachlorobenzene	ND		10	0.53	ug/L		06/29/22 09:06	06/30/22 20:15	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
Pentachlorophenol	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:15	1
Phenacetin	ND		10	0.61	ug/L		06/29/22 09:06	06/30/22 20:15	1
Phenanthrene	ND		5.0	0.44	ug/L		06/29/22 09:06	06/30/22 20:15	1
Phenol	ND		5.0	0.39	ug/L		06/29/22 09:06	06/30/22 20:15	1
Phorate	ND		10	0.50	ug/L		06/29/22 09:06	06/30/22 20:15	1
p-Phenylene diamine	R ~~ND~~	~~*-~~	~~800~~	~~200~~	~~ug/L~~		06/29/22 09:06	06/30/22 20:15	1
Pronamide	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:15	1
Pyrene	**0.35**	**J**	5.0	0.34	ug/L		06/29/22 09:06	06/30/22 20:15	1
Pyridine	ND		25	0.41	ug/L		06/29/22 09:06	06/30/22 20:15	1
Safrole	ND		10	0.46	ug/L		06/29/22 09:06	06/30/22 20:15	1
Sulfotepp	ND		10	0.64	ug/L		06/29/22 09:06	06/30/22 20:15	1
Thionazin	ND		10	0.38	ug/L		06/29/22 09:06	06/30/22 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*115*		*41 - 120*	*06/29/22 09:06*	*06/30/22 20:15*	*1*
2-Fluorobiphenyl (Surr)	*90*		*48 - 120*	*06/29/22 09:06*	*06/30/22 20:15*	*1*
2-Fluorophenol (Surr)	*53*		*35 - 120*	*06/29/22 09:06*	*06/30/22 20:15*	*1*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*	*06/29/22 09:06*	*06/30/22 20:15*	*1*
Phenol-d5 (Surr)	*39*		*22 - 120*	*06/29/22 09:06*	*06/30/22 20:15*	*1*
p-Terphenyl-d14 (Surr)	*51*	*S1-*	*60 - 148*	*06/29/22 09:06*	*06/30/22 20:15*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	~~*+~~ UJ	0.050	0.0092	ug/L		06/29/22 16:11	06/30/22 11:54	1
4,4'-DDE	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 11:54	1
4,4'-DDT	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 11:54	1
Aldrin	ND		0.050	0.0081	ug/L		06/29/22 16:11	06/30/22 11:54	1
alpha-BHC	ND		0.050	0.0077	ug/L		06/29/22 16:11	06/30/22 11:54	1
beta-BHC	ND		0.050	0.025	ug/L		06/29/22 16:11	06/30/22 11:54	1
Chlordane (technical)	ND		0.50	0.29	ug/L		06/29/22 16:11	06/30/22 11:54	1
Chlorobenzilate	ND		5.0	0.090	ug/L		06/29/22 16:11	06/30/22 11:54	1
cis-Chlordane	ND		0.050	0.015	ug/L		06/29/22 16:11	06/30/22 11:54	1
delta-BHC	ND	UJ	0.050	0.010	ug/L		06/29/22 16:11	06/30/22 11:54	1
Dieldrin	ND		0.050	0.0098	ug/L		06/29/22 16:11	06/30/22 11:54	1
Endosulfan I	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 11:54	1

Client Sample ID: MW-2022-1D

Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 11:54	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		06/29/22 16:11	06/30/22 11:54	1
Endrin	ND	UJ	0.050	0.014	ug/L		06/29/22 16:11	06/30/22 11:54	1
Endrin aldehyde	ND	UJ	0.050	0.016	ug/L		06/29/22 16:11	06/30/22 11:54	1
Endrin ketone	ND	*+ UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 11:54	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		06/29/22 16:11	06/30/22 11:54	1
Heptachlor	ND		0.050	0.0085	ug/L		06/29/22 16:11	06/30/22 11:54	1
Heptachlor epoxide	ND	UJ	0.050	0.0074	ug/L		06/29/22 16:11	06/30/22 11:54	1
Methoxychlor	ND		0.050	0.014	ug/L		06/29/22 16:11	06/30/22 11:54	1
Toxaphene	ND		0.50	0.12	ug/L		06/29/22 16:11	06/30/22 11:54	1
trans-Chlordane	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 11:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*31*		*20 - 120*	*06/29/22 16:11*	*06/30/22 11:54*	*1*
DCB Decachlorobiphenyl	*37*		*20 - 120*	*06/29/22 16:11*	*06/30/22 11:54*	*1*
Tetrachloro-m-xylene	*63*		*44 - 120*	*06/29/22 16:11*	*06/30/22 11:54*	*1*
Tetrachloro-m-xylene	*52*		*44 - 120*	*06/29/22 16:11*	*06/30/22 11:54*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	UJ	0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:15	1
PCB-1221	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:15	1
PCB-1232	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:15	1
PCB-1242	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:15	1
PCB-1248	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:15	1
PCB-1254	ND		0.50	0.25	ug/L		06/29/22 16:18	06/30/22 17:15	1
PCB-1260	ND		0.50	0.25	ug/L		06/29/22 16:18	06/30/22 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*38*	*S1-*	*39 - 121*	*06/29/22 16:18*	*06/30/22 17:15*	*1*
Tetrachloro-m-xylene	*39*		*39 - 121*	*06/29/22 16:18*	*06/30/22 17:15*	*1*
DCB Decachlorobiphenyl	*25*		*19 - 120*	*06/29/22 16:18*	*06/30/22 17:15*	*1*
DCB Decachlorobiphenyl	*26*		*19 - 120*	*06/29/22 16:18*	*06/30/22 17:15*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		06/29/22 09:24	06/30/22 13:49	1
2,4-D	ND		0.48	0.16	ug/L		06/29/22 09:24	06/30/22 13:49	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		06/29/22 09:24	06/30/22 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*94*		*48 - 132*	*06/29/22 09:24*	*06/30/22 13:49*	*1*
2,4-Dichlorophenylacetic acid	*84*		*48 - 132*	*06/29/22 09:24*	*06/30/22 13:49*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		06/30/22 05:00	07/04/22 07:55	1
Disulfoton	ND		0.94	0.38	ug/L		06/30/22 05:00	07/04/22 07:55	1
Famphur	ND		0.94	0.30	ug/L		06/30/22 05:00	07/04/22 07:55	1
Methyl parathion	ND		0.94	0.32	ug/L		06/30/22 05:00	07/04/22 07:55	1
Ethyl Parathion	ND		0.94	0.34	ug/L		06/30/22 05:00	07/04/22 07:55	1

Client Sample ID: MW-2022-1D

Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1

Matrix: Water

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		0.94	0.36	ug/L		06/30/22 05:00	07/04/22 07:55	1
Sulfotepp	ND		0.94	0.38	ug/L		06/30/22 05:00	07/04/22 07:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*25 - 127*	*06/30/22 05:00*	*07/04/22 07:55*	*1*
Tributyl phosphate	*88*		*25 - 127*	*06/30/22 05:00*	*07/04/22 07:55*	*1*
Triphenylphosphate	*96*		*70 - 155*	*06/30/22 05:00*	*07/04/22 07:55*	*1*
Triphenylphosphate	*96*		*70 - 155*	*06/30/22 05:00*	*07/04/22 07:55*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.61	ng/L		06/29/22 13:12	06/30/22 16:33	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.0	ng/L		06/29/22 13:12	06/30/22 16:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		06/29/22 13:12	06/30/22 16:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.6	0.49	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorobutanoic acid (PFBA)	**1.4**	**J**	4.0	0.95	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.39	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.43	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorohexanesulfonic acid (PFHxS)	**13**		1.6	0.44	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorohexanoic acid (PFHxA)	**1.2**	**J**	1.6	0.52	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.73	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorooctanesulfonic acid (PFOS)	**69**		1.6	0.67	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorooctanoic acid (PFOA)	**0.73**	**J**	1.6	0.60	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluoropentanoic acid (PFPeA)	**2.3**		1.6	0.54	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.51	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.38	ng/L		06/29/22 13:12	06/30/22 16:33	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.44	ng/L		06/29/22 13:12	06/30/22 16:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*107*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C2 PFDoA	*95*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C2 PFHxA	*113*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C2 PFTeDA	*117*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C2 PFUnA	*100*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C3 PFBS	*98*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C4 PFBA	*119*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C4 PFHpA	*102*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C4 PFOA	*107*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*
13C4 PFOS	*83*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:33*	*1*

Client Sample ID: MW-2022-1D

Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	97		50 - 150	06/29/22 13:12	06/30/22 16:33	1
13C5 PFPeA	112		50 - 150	06/29/22 13:12	06/30/22 16:33	1
13C8 FOSA	89		50 - 150	06/29/22 13:12	06/30/22 16:33	1
18O2 PFHxS	93		50 - 150	06/29/22 13:12	06/30/22 16:33	1
d3-NMeFOSAA	120		50 - 150	06/29/22 13:12	06/30/22 16:33	1
d5-NEtFOSAA	121		50 - 150	06/29/22 13:12	06/30/22 16:33	1
M2-6:2 FTS	114		50 - 150	06/29/22 13:12	06/30/22 16:33	1
M2-8:2 FTS	128		50 - 150	06/29/22 13:12	06/30/22 16:33	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.5~~	~~J I B~~ 24 U	24	0.11	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,4,6,7,8-HpCDF	~~0.99~~	~~J I B~~ 24 U	24	0.012	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,4,7,8,9-HpCDF	~~0.54~~	~~J I B~~ 24 U	24	0.017	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,4,7,8-HxCDD	~~0.96~~	~~J B~~ 24 U	24	0.045	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,4,7,8-HxCDF	~~0.89~~	~~J I B~~ 24 U	24	0.065	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,6,7,8-HxCDD	~~0.74~~	~~J I B~~ 24 U	24	0.044	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,6,7,8-HxCDF	~~0.84~~	~~J I B~~ 24 U	24	0.066	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,7,8,9-HxCDD	~~0.79~~	~~J I B~~ 24 U	24	0.048	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,7,8,9-HxCDF	~~1.2~~	~~J I B~~ 24 U	24	0.092	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,7,8-PeCDD	ND		24	0.20	pg/L		07/12/22 08:20	07/14/22 05:17	1
1,2,3,7,8-PeCDF	~~0.91~~	~~J I B~~ 24 U	24	0.076	pg/L		07/12/22 08:20	07/14/22 05:17	1
2,3,4,6,7,8-HxCDF	~~1.2~~	~~J I B~~ 24 U	24	0.088	pg/L		07/12/22 08:20	07/14/22 05:17	1
2,3,4,7,8-PeCDF	~~0.57~~	~~J I B~~ 24 U	24	0.085	pg/L		07/12/22 08:20	07/14/22 05:17	1
2,3,7,8-TCDD	ND		4.7	0.035	pg/L		07/12/22 08:20	07/14/22 05:17	1
2,3,7,8-TCDF	0.28	~~J I~~ JNX	4.7	0.034	pg/L		07/12/22 08:20	07/14/22 05:17	1
OCDD	~~6.8~~	~~J I B~~ 100 U	100	0.34	pg/L		07/12/22 08:20	07/14/22 05:17	1
OCDF	~~1.9~~	~~J B~~ 47 U	47	0.090	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total HpCDD	~~1.5~~	~~J I B~~ 24 U	24	0.11	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total HpCDF	~~1.5~~	~~J I B~~ 24 U	24	0.015	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total HxCDD	~~2.5~~	~~J I B~~ 24 U	24	0.046	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total HxCDF	~~4.1~~	~~J I B~~ 24 U	24	0.077	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total PeCDD	ND		24	0.20	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total PeCDF	~~1.5~~	~~J I B~~ 24 U	24	0.080	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total TCDD	ND		4.7	0.035	pg/L		07/12/22 08:20	07/14/22 05:17	1
Total TCDF	0.28	~~J I~~ JNX	4.7	0.034	pg/L		07/12/22 08:20	07/14/22 05:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	50		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,4,6,7,8-HpCDF	55		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,4,7,8,9-HpCDF	50		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,4,7,8-HxCDD	52		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,4,7,8-HxCDF	62		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,6,7,8-HxCDD	49		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,6,7,8-HxCDF	53		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,7,8,9-HxCDD	43		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,7,8,9-HxCDF	44		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,7,8-PeCDD	53		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-1,2,3,7,8-PeCDF	57		40 - 135	07/12/22 08:20	07/14/22 05:17	1
13C-2,3,4,6,7,8-HxCDF	40		40 - 135	07/12/22 08:20	07/14/22 05:17	1

Client Sample ID: MW-2022-1D
Date Collected: 06/23/22 16:30
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-1
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*43*		*40 - 135*	*07/12/22 08:20*	*07/14/22 05:17*	*1*
13C-2,3,7,8-TCDD	*57*		*40 - 135*	*07/12/22 08:20*	*07/14/22 05:17*	*1*
13C-2,3,7,8-TCDF	*47*		*40 - 135*	*07/12/22 08:20*	*07/14/22 05:17*	*1*
13C-OCDD	*47*		*40 - 135*	*07/12/22 08:20*	*07/14/22 05:17*	*1*
13C-OCDF	*48*		*40 - 135*	*07/12/22 08:20*	*07/14/22 05:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/30/22 09:41	07/01/22 04:19	1
Arsenic	ND		0.015	0.0056	mg/L		06/30/22 09:41	07/01/22 04:19	1
Barium	**0.017**		0.0020	0.00070	mg/L		06/30/22 09:41	07/01/22 04:19	1
Beryllium	ND		0.0020	0.00030	mg/L		06/30/22 09:41	07/01/22 04:19	1
Cadmium	ND		0.0020	0.00050	mg/L		06/30/22 09:41	07/01/22 04:19	1
Chromium	ND		0.0040	0.0010	mg/L		06/30/22 09:41	07/01/22 04:19	1
Cobalt	**0.00078**	**J**	0.0040	0.00063	mg/L		06/30/22 09:41	07/01/22 04:19	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		06/30/22 09:41	07/01/22 04:19	1
Lead	ND		0.010	0.0030	mg/L		06/30/22 09:41	07/01/22 04:19	1
Nickel	ND		0.010	0.0013	mg/L		06/30/22 09:41	07/01/22 04:19	1
Selenium	ND		0.025	0.0087	mg/L		06/30/22 09:41	07/01/22 04:19	1
Silver	ND		0.0060	0.0017	mg/L		06/30/22 09:41	07/01/22 04:19	1
Thallium	ND		0.020	0.010	mg/L		06/30/22 09:41	07/01/22 04:19	1
Tin	ND		0.010	0.0051	mg/L		06/30/22 09:41	07/01/22 04:19	1
Vanadium	ND		0.0050	0.0015	mg/L		06/30/22 09:41	07/01/22 04:19	1
Zinc	ND		0.010	0.0015	mg/L		06/30/22 09:41	07/01/22 04:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/29/22 10:14	06/29/22 13:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.0090**	**J**	0.010	0.0050	mg/L		07/05/22 13:53	07/05/22 16:49	1
Sulfide	ND		1.0	0.67	mg/L			06/29/22 09:25	1

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,4-Dioxane	ND		10	1.1	ug/L		06/29/22 09:06	06/30/22 20:44	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		06/29/22 09:06	06/30/22 20:44	1
1-Naphthylamine	ND	*1 UJ	10	1.3	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,4-Dinitrotoluene	ND	*1	5.0	0.45	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		06/29/22 09:06	06/30/22 20:44	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Chlorophenol	ND		5.0	0.53	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Methylphenol	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Naphthylamine	ND	*1 UJ	10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Nitroaniline	ND		10	0.42	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Nitrophenol	ND		5.0	0.48	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Picoline	ND		80	1.4	ug/L		06/29/22 09:06	06/30/22 20:44	1
2-Toluidine	ND		10	1.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		06/29/22 09:06	06/30/22 20:44	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
3,3'-Dimethylbenzidine	ND	*1 UJ	40	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
3-Methylcholanthrene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
3-Methylphenol	ND		10	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
3-Nitroaniline	ND		10	0.48	ug/L		06/29/22 09:06	06/30/22 20:44	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Aminobiphenyl	ND		10	0.81	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Chloroaniline	ND		5.0	0.59	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Methylphenol	ND		10	0.36	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Nitroaniline	ND	*1	10	0.25	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Nitrophenol	ND		10	1.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		06/29/22 09:06	06/30/22 20:44	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		06/29/22 09:06	06/30/22 20:44	1
Acenaphthene	ND		5.0	0.41	ug/L		06/29/22 09:06	06/30/22 20:44	1

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		5.0	0.38	ug/L		06/29/22 09:06	06/30/22 20:44	1
Acetophenone	ND		5.0	0.54	ug/L		06/29/22 09:06	06/30/22 20:44	1
Aniline	ND		10	0.61	ug/L		06/29/22 09:06	06/30/22 20:44	1
Anthracene	ND		5.0	0.28	ug/L		06/29/22 09:06	06/30/22 20:44	1
Aramite, Total	ND		20	1.6	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzidine	ND	*1 UJ	80	2.2	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		06/29/22 09:06	06/30/22 20:44	1
Benzyl alcohol	ND		20	2.0	ug/L		06/29/22 09:06	06/30/22 20:44	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		06/29/22 09:06	06/30/22 20:44	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		06/29/22 09:06	06/30/22 20:44	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/29/22 09:06	06/30/22 20:44	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		06/29/22 09:06	06/30/22 20:44	1
Chrysene	ND		5.0	0.33	ug/L		06/29/22 09:06	06/30/22 20:44	1
Diallate	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		06/29/22 09:06	06/30/22 20:44	1
Dibenzofuran	ND		10	0.51	ug/L		06/29/22 09:06	06/30/22 20:44	1
Diethyl phthalate	**2.4**	**J**	5.0	0.22	ug/L		06/29/22 09:06	06/30/22 20:44	1
Dimethoate	ND		10	0.54	ug/L		06/29/22 09:06	06/30/22 20:44	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		06/29/22 09:06	06/30/22 20:44	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		06/29/22 09:06	06/30/22 20:44	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		06/29/22 09:06	06/30/22 20:44	1
Dinoseb	ND	*1	10	2.9	ug/L		06/29/22 09:06	06/30/22 20:44	1
Diphenylamine	ND		10	0.82	ug/L		06/29/22 09:06	06/30/22 20:44	1
Disulfoton	ND		10	0.42	ug/L		06/29/22 09:06	06/30/22 20:44	1
Chlorobenzilate	ND		20	0.67	ug/L		06/29/22 09:06	06/30/22 20:44	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		06/29/22 09:06	06/30/22 20:44	1
Famphur	R ND	*1	40	1.9	ug/L		06/29/22 09:06	06/30/22 20:44	1
Fluoranthene	ND		5.0	0.40	ug/L		06/29/22 09:06	06/30/22 20:44	1
Fluorene	ND		5.0	0.36	ug/L		06/29/22 09:06	06/30/22 20:44	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		06/29/22 09:06	06/30/22 20:44	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		06/29/22 09:06	06/30/22 20:44	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		06/29/22 09:06	06/30/22 20:44	1
Hexachloroethane	ND		5.0	0.59	ug/L		06/29/22 09:06	06/30/22 20:44	1
Hexachloropropene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		06/29/22 09:06	06/30/22 20:44	1
Isodrin	ND		10	0.18	ug/L		06/29/22 09:06	06/30/22 20:44	1
Isophorone	ND		5.0	0.43	ug/L		06/29/22 09:06	06/30/22 20:44	1
Isosafrole	ND		10	0.58	ug/L		06/29/22 09:06	06/30/22 20:44	1
Kepone	ND	*1 UJ	50	1.8	ug/L		06/29/22 09:06	06/30/22 20:44	1
Methapyrilene	ND	*1 UJ	50	1.8	ug/L		06/29/22 09:06	06/30/22 20:44	1
Methyl methanesulfonate	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
Naphthalene	ND		5.0	0.76	ug/L		06/29/22 09:06	06/30/22 20:44	1
Nitrobenzene	ND		5.0	0.29	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		06/29/22 09:06	06/30/22 20:44	1

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		10	0.36	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		06/29/22 09:06	06/30/22 20:44	1
Ethyl Parathion	ND		10	0.64	ug/L		06/29/22 09:06	06/30/22 20:44	1
Methyl parathion	ND		10	0.37	ug/L		06/29/22 09:06	06/30/22 20:44	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		06/29/22 09:06	06/30/22 20:44	1
Pentachlorobenzene	ND		10	0.53	ug/L		06/29/22 09:06	06/30/22 20:44	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
Pentachlorophenol	ND		10	2.2	ug/L		06/29/22 09:06	06/30/22 20:44	1
Phenacetin	ND		10	0.61	ug/L		06/29/22 09:06	06/30/22 20:44	1
Phenanthrene	ND		5.0	0.44	ug/L		06/29/22 09:06	06/30/22 20:44	1
Phenol	ND		5.0	0.39	ug/L		06/29/22 09:06	06/30/22 20:44	1
Phorate	ND		10	0.50	ug/L		06/29/22 09:06	06/30/22 20:44	1
p-Phenylene diamine	R ND	*	800	200	ug/L		06/29/22 09:06	06/30/22 20:44	1
Pronamide	ND		10	2.5	ug/L		06/29/22 09:06	06/30/22 20:44	1
Pyrene	ND		5.0	0.34	ug/L		06/29/22 09:06	06/30/22 20:44	1
Pyridine	ND		25	0.41	ug/L		06/29/22 09:06	06/30/22 20:44	1
Safrole	ND		10	0.46	ug/L		06/29/22 09:06	06/30/22 20:44	1
Sulfotepp	ND		10	0.64	ug/L		06/29/22 09:06	06/30/22 20:44	1
Thionazin	ND		10	0.38	ug/L		06/29/22 09:06	06/30/22 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*41 - 120*	*06/29/22 09:06*	*06/30/22 20:44*	*1*
2-Fluorobiphenyl (Surr)	*85*		*48 - 120*	*06/29/22 09:06*	*06/30/22 20:44*	*1*
2-Fluorophenol (Surr)	*49*		*35 - 120*	*06/29/22 09:06*	*06/30/22 20:44*	*1*
Nitrobenzene-d5 (Surr)	*78*		*46 - 120*	*06/29/22 09:06*	*06/30/22 20:44*	*1*
Phenol-d5 (Surr)	*36*		*22 - 120*	*06/29/22 09:06*	*06/30/22 20:44*	*1*
p-Terphenyl-d14 (Surr)	*80*		*60 - 148*	*06/29/22 09:06*	*06/30/22 20:44*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	* UJ	0.050	0.0092	ug/L		06/29/22 16:11	06/30/22 12:13	1
4,4'-DDE	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 12:13	1
4,4'-DDT	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 12:13	1
Aldrin	ND		0.050	0.0081	ug/L		06/29/22 16:11	06/30/22 12:13	1
alpha-BHC	ND		0.050	0.0077	ug/L		06/29/22 16:11	06/30/22 12:13	1
beta-BHC	ND		0.050	0.025	ug/L		06/29/22 16:11	06/30/22 12:13	1
Chlordane (technical)	ND		0.50	0.29	ug/L		06/29/22 16:11	06/30/22 12:13	1
Chlorobenzilate	ND		5.0	0.090	ug/L		06/29/22 16:11	06/30/22 12:13	1
cis-Chlordane	ND		0.050	0.015	ug/L		06/29/22 16:11	06/30/22 12:13	1
delta-BHC	ND	UJ	0.050	0.010	ug/L		06/29/22 16:11	06/30/22 12:13	1
Dieldrin	ND		0.050	0.0098	ug/L		06/29/22 16:11	06/30/22 12:13	1
Endosulfan I	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 12:13	1

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 12:13	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		06/29/22 16:11	06/30/22 12:13	1
Endrin	ND	UJ	0.050	0.014	ug/L		06/29/22 16:11	06/30/22 12:13	1
Endrin aldehyde	ND	UJ	0.050	0.016	ug/L		06/29/22 16:11	06/30/22 12:13	1
Endrin ketone	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 12:13	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		06/29/22 16:11	06/30/22 12:13	1
Heptachlor	ND		0.050	0.0085	ug/L		06/29/22 16:11	06/30/22 12:13	1
Heptachlor epoxide	ND	UJ	0.050	0.0074	ug/L		06/29/22 16:11	06/30/22 12:13	1
Methoxychlor	ND		0.050	0.014	ug/L		06/29/22 16:11	06/30/22 12:13	1
Toxaphene	ND		0.50	0.12	ug/L		06/29/22 16:11	06/30/22 12:13	1
trans-Chlordane	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*62*		*20 - 120*	*06/29/22 16:11*	*06/30/22 12:13*	*1*
DCB Decachlorobiphenyl	*76*		*20 - 120*	*06/29/22 16:11*	*06/30/22 12:13*	*1*
Tetrachloro-m-xylene	*83*		*44 - 120*	*06/29/22 16:11*	*06/30/22 12:13*	*1*
Tetrachloro-m-xylene	*63*		*44 - 120*	*06/29/22 16:11*	*06/30/22 12:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:28	1
PCB-1221	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:28	1
PCB-1232	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:28	1
PCB-1242	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:28	1
PCB-1248	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:28	1
PCB-1254	ND		0.50	0.25	ug/L		06/29/22 16:18	06/30/22 17:28	1
PCB-1260	ND		0.50	0.25	ug/L		06/29/22 16:18	06/30/22 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*39 - 121*	*06/29/22 16:18*	*06/30/22 17:28*	*1*
Tetrachloro-m-xylene	*77*		*39 - 121*	*06/29/22 16:18*	*06/30/22 17:28*	*1*
DCB Decachlorobiphenyl	*57*		*19 - 120*	*06/29/22 16:18*	*06/30/22 17:28*	*1*
DCB Decachlorobiphenyl	*60*		*19 - 120*	*06/29/22 16:18*	*06/30/22 17:28*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		06/29/22 09:24	06/30/22 14:07	1
2,4-D	ND		0.48	0.16	ug/L		06/29/22 09:24	06/30/22 14:07	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		06/29/22 09:24	06/30/22 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*95*		*48 - 132*	*06/29/22 09:24*	*06/30/22 14:07*	*1*
2,4-Dichlorophenylacetic acid	*91*		*48 - 132*	*06/29/22 09:24*	*06/30/22 14:07*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		06/30/22 05:00	07/04/22 08:27	1
Disulfoton	ND		0.94	0.38	ug/L		06/30/22 05:00	07/04/22 08:27	1
Famphur	ND		0.94	0.30	ug/L		06/30/22 05:00	07/04/22 08:27	1
Methyl parathion	ND		0.94	0.32	ug/L		06/30/22 05:00	07/04/22 08:27	1
Ethyl Parathion	ND		0.94	0.34	ug/L		06/30/22 05:00	07/04/22 08:27	1

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2

Matrix: Water

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		0.94	0.36	ug/L		06/30/22 05:00	07/04/22 08:27	1
Sulfotepp	ND		0.94	0.38	ug/L		06/30/22 05:00	07/04/22 08:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*25 - 127*	*06/30/22 05:00*	*07/04/22 08:27*	*1*
Tributyl phosphate	*85*		*25 - 127*	*06/30/22 05:00*	*07/04/22 08:27*	*1*
Triphenylphosphate	*94*		*70 - 155*	*06/30/22 05:00*	*07/04/22 08:27*	*1*
Triphenylphosphate	*95*		*70 - 155*	*06/30/22 05:00*	*07/04/22 08:27*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.5	0.59	ng/L		06/29/22 13:12	06/30/22 16:42	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		3.9	1.0	ng/L		06/29/22 13:12	06/30/22 16:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		3.9	1.2	ng/L		06/29/22 13:12	06/30/22 16:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		3.9	1.5	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.48	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorobutanoic acid (PFBA)	**3.6**	**J**	3.9	0.93	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.31	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.35	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.38	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.32	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluoroheptanoic acid (PFHpA)	**1.1**	**J**	1.5	0.42	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.95**	**J**	1.5	0.42	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorohexanoic acid (PFHxA)	**0.90**	**J**	1.5	0.50	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.71	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorooctanesulfonic acid (PFOS)	**3.2**		1.5	0.66	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorooctanoic acid (PFOA)	**3.4**		1.5	0.59	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluoropentanoic acid (PFPeA)	**0.68**	**J**	1.5	0.52	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.5	0.49	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluorotridecanoic acid (PFTriA)	ND		1.5	0.37	ng/L		06/29/22 13:12	06/30/22 16:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.42	ng/L		06/29/22 13:12	06/30/22 16:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*108*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C2 PFDoA	*88*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C2 PFHxA	*105*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C2 PFTeDA	*94*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C2 PFUnA	*98*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C3 PFBS	*99*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C4 PFBA	*110*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C4 PFHpA	*106*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C4 PFOA	*104*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*
13C4 PFOS	*82*		*50 - 150*	*06/29/22 13:12*	*06/30/22 16:42*	*1*

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	101		50 - 150	06/29/22 13:12	06/30/22 16:42	1
13C5 PFPeA	111		50 - 150	06/29/22 13:12	06/30/22 16:42	1
13C8 FOSA	92		50 - 150	06/29/22 13:12	06/30/22 16:42	1
18O2 PFHxS	90		50 - 150	06/29/22 13:12	06/30/22 16:42	1
d3-NMeFOSAA	116		50 - 150	06/29/22 13:12	06/30/22 16:42	1
d5-NEtFOSAA	110		50 - 150	06/29/22 13:12	06/30/22 16:42	1
M2-6:2 FTS	101		50 - 150	06/29/22 13:12	06/30/22 16:42	1
M2-8:2 FTS	110		50 - 150	06/29/22 13:12	06/30/22 16:42	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.2~~	~~J B~~ 24 U	24	0.094	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,4,6,7,8-HpCDF	~~0.59~~	~~J B~~ 24 U	24	0.015	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,4,7,8,9-HpCDF	~~0.73~~	~~J I B~~ 24 U	24	0.019	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,4,7,8-HxCDD	~~0.54~~	~~J I B~~ 24 U	24	0.029	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,4,7,8-HxCDF	~~0.65~~	~~J I B~~ 24 U	24	0.061	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,6,7,8-HxCDD	~~0.56~~	~~J I B~~ 24 U	24	0.030	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,6,7,8-HxCDF	~~0.76~~	~~J B~~ 24 U	24	0.061	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,7,8,9-HxCDD	~~0.62~~	~~J I B~~ 24 U	24	0.033	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,7,8,9-HxCDF	~~0.87~~	~~J I B~~ 24 U	24	0.080	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,7,8-PeCDD	~~0.64~~	~~J B~~ 24 U	24	0.056	pg/L		07/12/22 08:20	07/14/22 06:07	1
1,2,3,7,8-PeCDF	~~0.74~~	~~J I B~~ 24 U	24	0.067	pg/L		07/12/22 08:20	07/14/22 06:07	1
2,3,4,6,7,8-HxCDF	~~1.0~~	~~J I B~~ 24 U	24	0.081	pg/L		07/12/22 08:20	07/14/22 06:07	1
2,3,4,7,8-PeCDF	~~0.91~~	~~J I B~~ 24 U	24	0.070	pg/L		07/12/22 08:20	07/14/22 06:07	1
2,3,7,8-TCDD	ND		4.8	0.032	pg/L		07/12/22 08:20	07/14/22 06:07	1
2,3,7,8-TCDF	0.16	J	4.8	0.032	pg/L		07/12/22 08:20	07/14/22 06:07	1
OCDD	~~3.9~~	~~J I B~~ 110 U	110	0.19	pg/L		07/12/22 08:20	07/14/22 06:07	1
OCDF	~~1.7~~	~~J I B~~ 48 U	48	0.25	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total HpCDD	~~1.2~~	~~J I B~~ 24 U	24	0.094	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total HpCDF	~~1.3~~	~~J I B~~ 24 U	24	0.017	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total HxCDD	~~1.7~~	~~J I B~~ 24 U	24	0.031	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total HxCDF	~~3.3~~	~~J I B~~ 24 U	24	0.071	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total PeCDD	~~0.64~~	~~J I B~~ 24 U	24	0.056	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total PeCDF	~~1.7~~	~~J I B~~ 24 U	24	0.068	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total TCDD	ND		4.8	0.032	pg/L		07/12/22 08:20	07/14/22 06:07	1
Total TCDF	0.16	~~J I~~ JNX	4.8	0.032	pg/L		07/12/22 08:20	07/14/22 06:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	63		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,4,6,7,8-HpCDF	69		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,4,7,8,9-HpCDF	66		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,4,7,8-HxCDD	67		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,4,7,8-HxCDF	74		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,6,7,8-HxCDD	64		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,6,7,8-HxCDF	67		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,7,8,9-HxCDD	56		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,7,8,9-HxCDF	58		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,7,8-PeCDD	64		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-1,2,3,7,8-PeCDF	67		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-2,3,4,6,7,8-HxCDF	52		40 - 135	07/12/22 08:20	07/14/22 06:07	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-5
Date Collected: 06/24/22 14:10
Date Received: 06/28/22 09:30

Lab Sample ID: 480-199353-2
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	52		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-2,3,7,8-TCDD	66		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-2,3,7,8-TCDF	51		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-OCDD	59		40 - 135	07/12/22 08:20	07/14/22 06:07	1
13C-OCDF	60		40 - 135	07/12/22 08:20	07/14/22 06:07	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/30/22 09:41	07/01/22 04:22	1
Arsenic	ND		0.015	0.0056	mg/L		06/30/22 09:41	07/01/22 04:22	1
Barium	**0.0060**		0.0020	0.00070	mg/L		06/30/22 09:41	07/01/22 04:22	1
Beryllium	ND		0.0020	0.00030	mg/L		06/30/22 09:41	07/01/22 04:22	1
Cadmium	ND		0.0020	0.00050	mg/L		06/30/22 09:41	07/01/22 04:22	1
Chromium	ND		0.0040	0.0010	mg/L		06/30/22 09:41	07/01/22 04:22	1
Cobalt	ND		0.0040	0.00063	mg/L		06/30/22 09:41	07/01/22 04:22	1
Copper	ND		0.010	0.0016	mg/L		06/30/22 09:41	07/01/22 04:22	1
Lead	ND		0.010	0.0030	mg/L		06/30/22 09:41	07/01/22 04:22	1
Nickel	ND		0.010	0.0013	mg/L		06/30/22 09:41	07/01/22 04:22	1
Selenium	ND		0.025	0.0087	mg/L		06/30/22 09:41	07/01/22 04:22	1
Silver	ND		0.0060	0.0017	mg/L		06/30/22 09:41	07/01/22 04:22	1
Thallium	ND		0.020	0.010	mg/L		06/30/22 09:41	07/01/22 04:22	1
Tin	ND		0.010	0.0051	mg/L		06/30/22 09:41	07/01/22 04:22	1
Vanadium	ND		0.0050	0.0015	mg/L		06/30/22 09:41	07/01/22 04:22	1
Zinc	ND		0.010	0.0015	mg/L		06/30/22 09:41	07/01/22 04:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/29/22 10:14	06/29/22 13:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.096**		0.010	0.0050	mg/L		07/05/22 13:53	07/05/22 16:51	1
Sulfide	ND		1.0	0.67	mg/L			06/29/22 09:25	1

Client Sample ID: MW-2022-1D

Date Collected: 06/23/22 16:30
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/29/22 18:51	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/29/22 18:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/29/22 18:51	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/29/22 18:51	1
1,1-Dichloroethane	**0.60**	**J**	1.0	0.38	ug/L			06/29/22 18:51	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/29/22 18:51	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/29/22 18:51	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/29/22 18:51	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/29/22 18:51	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/29/22 18:51	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/29/22 18:51	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			06/29/22 18:51	1
2-Chloroethyl vinyl ether	R ~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			06/29/22 18:51	1
2-Hexanone	ND		5.0	1.2	ug/L			06/29/22 18:51	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/29/22 18:51	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/29/22 18:51	1
Acetone	ND		10	3.0	ug/L			06/29/22 18:51	1
Acetonitrile	ND		15	4.9	ug/L			06/29/22 18:51	1
Acrolein	ND		20	0.91	ug/L			06/29/22 18:51	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/29/22 18:51	1
Benzene	ND		1.0	0.41	ug/L			06/29/22 18:51	1
Bromoform	ND		1.0	0.26	ug/L			06/29/22 18:51	1
Bromomethane	ND		1.0	0.69	ug/L			06/29/22 18:51	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/29/22 18:51	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/29/22 18:51	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/29/22 18:51	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/29/22 18:51	1
Chloroethane	ND		1.0	0.32	ug/L			06/29/22 18:51	1
Chloroform	**1.1**		1.0	0.34	ug/L			06/29/22 18:51	1
Chloromethane	ND		1.0	0.35	ug/L			06/29/22 18:51	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/29/22 18:51	1
Dibromomethane	ND		1.0	0.41	ug/L			06/29/22 18:51	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/29/22 18:51	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/29/22 18:51	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/29/22 18:51	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/29/22 18:51	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/29/22 18:51	1
Iodomethane	ND		1.0	0.30	ug/L			06/29/22 18:51	1
Methacrylonitrile	ND		5.0	0.69	ug/L			06/29/22 18:51	1
Methyl methacrylate	ND		1.0	0.61	ug/L			06/29/22 18:51	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/29/22 18:51	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/29/22 18:51	1
o-Xylene	ND		1.0	0.76	ug/L			06/29/22 18:51	1
Propionitrile	ND		10	5.8	ug/L			06/29/22 18:51	1
Styrene	ND		1.0	0.73	ug/L			06/29/22 18:51	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/29/22 18:51	1
Toluene	ND		1.0	0.51	ug/L			06/29/22 18:51	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/29/22 18:51	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/29/22 18:51	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-1D
Date Collected: 06/23/22 16:30
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			06/29/22 18:51	1
Trichloroethene	ND		1.0	0.46	ug/L			06/29/22 18:51	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/29/22 18:51	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/29/22 18:51	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/29/22 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*77 - 120*		*06/29/22 18:51*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*06/29/22 18:51*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*06/29/22 18:51*	*1*
Toluene-d8 (Surr)	*89*		*80 - 120*		*06/29/22 18:51*	*1*

Client Sample ID: MW-2022-5

Date Collected: 06/24/22 14:10
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/29/22 19:14	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/29/22 19:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/29/22 19:14	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/29/22 19:14	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/29/22 19:14	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/29/22 19:14	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/29/22 19:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/29/22 19:14	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/29/22 19:14	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/29/22 19:14	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/29/22 19:14	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			06/29/22 19:14	1
2-Chloroethyl vinyl ether	R ~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			06/29/22 19:14	1
2-Hexanone	ND		5.0	1.2	ug/L			06/29/22 19:14	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/29/22 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/29/22 19:14	1
Acetone	ND		10	3.0	ug/L			06/29/22 19:14	1
Acetonitrile	ND		15	4.9	ug/L			06/29/22 19:14	1
Acrolein	ND		20	0.91	ug/L			06/29/22 19:14	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/29/22 19:14	1
Benzene	ND		1.0	0.41	ug/L			06/29/22 19:14	1
Bromoform	ND		1.0	0.26	ug/L			06/29/22 19:14	1
Bromomethane	ND		1.0	0.69	ug/L			06/29/22 19:14	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/29/22 19:14	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/29/22 19:14	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/29/22 19:14	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/29/22 19:14	1
Chloroethane	ND		1.0	0.32	ug/L			06/29/22 19:14	1
Chloroform	ND		1.0	0.34	ug/L			06/29/22 19:14	1
Chloromethane	ND		1.0	0.35	ug/L			06/29/22 19:14	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/29/22 19:14	1
Dibromomethane	ND		1.0	0.41	ug/L			06/29/22 19:14	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/29/22 19:14	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/29/22 19:14	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/29/22 19:14	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/29/22 19:14	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/29/22 19:14	1
Iodomethane	ND		1.0	0.30	ug/L			06/29/22 19:14	1
Methacrylonitrile	ND		5.0	0.69	ug/L			06/29/22 19:14	1
Methyl methacrylate	ND		1.0	0.61	ug/L			06/29/22 19:14	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/29/22 19:14	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/29/22 19:14	1
o-Xylene	ND		1.0	0.76	ug/L			06/29/22 19:14	1
Propionitrile	ND		10	5.8	ug/L			06/29/22 19:14	1
Styrene	ND		1.0	0.73	ug/L			06/29/22 19:14	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/29/22 19:14	1
Toluene	ND		1.0	0.51	ug/L			06/29/22 19:14	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/29/22 19:14	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/29/22 19:14	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-5
Date Collected: 06/24/22 14:10
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			06/29/22 19:14	1
Trichloroethene	ND		1.0	0.46	ug/L			06/29/22 19:14	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/29/22 19:14	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/29/22 19:14	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/29/22 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*77 - 120*		*06/29/22 19:14*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*06/29/22 19:14*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*06/29/22 19:14*	*1*
Toluene-d8 (Surr)	*90*		*80 - 120*		*06/29/22 19:14*	*1*

Client Sample ID: TRIP BLANK 062322

Lab Sample ID: 480-199379-3

Date Collected: 06/23/22 00:00

Matrix: Water

Date Received: 06/29/22 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/29/22 19:38	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/29/22 19:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/29/22 19:38	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/29/22 19:38	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/29/22 19:38	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/29/22 19:38	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/29/22 19:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/29/22 19:38	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/29/22 19:38	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/29/22 19:38	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/29/22 19:38	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			06/29/22 19:38	1
2-Chloroethyl vinyl ether	R ~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			06/29/22 19:38	1
2-Hexanone	ND		5.0	1.2	ug/L			06/29/22 19:38	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/29/22 19:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/29/22 19:38	1
Acetone	**3.0**	**J**	10	3.0	ug/L			06/29/22 19:38	1
Acetonitrile	ND		15	4.9	ug/L			06/29/22 19:38	1
Acrolein	ND		20	0.91	ug/L			06/29/22 19:38	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/29/22 19:38	1
Benzene	ND		1.0	0.41	ug/L			06/29/22 19:38	1
Bromoform	ND		1.0	0.26	ug/L			06/29/22 19:38	1
Bromomethane	ND		1.0	0.69	ug/L			06/29/22 19:38	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/29/22 19:38	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/29/22 19:38	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/29/22 19:38	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/29/22 19:38	1
Chloroethane	ND		1.0	0.32	ug/L			06/29/22 19:38	1
Chloroform	ND		1.0	0.34	ug/L			06/29/22 19:38	1
Chloromethane	ND		1.0	0.35	ug/L			06/29/22 19:38	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/29/22 19:38	1
Dibromomethane	ND		1.0	0.41	ug/L			06/29/22 19:38	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/29/22 19:38	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/29/22 19:38	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/29/22 19:38	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/29/22 19:38	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/29/22 19:38	1
Iodomethane	ND		1.0	0.30	ug/L			06/29/22 19:38	1
Methacrylonitrile	ND		5.0	0.69	ug/L			06/29/22 19:38	1
Methyl methacrylate	ND		1.0	0.61	ug/L			06/29/22 19:38	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/29/22 19:38	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/29/22 19:38	1
o-Xylene	ND		1.0	0.76	ug/L			06/29/22 19:38	1
Propionitrile	ND		10	5.8	ug/L			06/29/22 19:38	1
Styrene	ND		1.0	0.73	ug/L			06/29/22 19:38	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/29/22 19:38	1
Toluene	ND		1.0	0.51	ug/L			06/29/22 19:38	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/29/22 19:38	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/29/22 19:38	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: TRIP BLANK 062322
Date Collected: 06/23/22 00:00
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			06/29/22 19:38	1
Trichloroethene	ND		1.0	0.46	ug/L			06/29/22 19:38	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/29/22 19:38	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/29/22 19:38	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/29/22 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*77 - 120*		*06/29/22 19:38*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*06/29/22 19:38*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*06/29/22 19:38*	*1*
Toluene-d8 (Surr)	*89*		*80 - 120*		*06/29/22 19:38*	*1*

Client Sample ID: MW-2022-8

Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			06/29/22 20:01	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/29/22 20:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/29/22 20:01	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/29/22 20:01	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/29/22 20:01	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/29/22 20:01	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			06/29/22 20:01	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/29/22 20:01	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/29/22 20:01	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/29/22 20:01	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/29/22 20:01	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			06/29/22 20:01	1
2-Chloroethyl vinyl ether	R ~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			06/29/22 20:01	1
2-Hexanone	ND		5.0	1.2	ug/L			06/29/22 20:01	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			06/29/22 20:01	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/29/22 20:01	1
Acetone	ND		10	3.0	ug/L			06/29/22 20:01	1
Acetonitrile	ND		15	4.9	ug/L			06/29/22 20:01	1
Acrolein	ND		20	0.91	ug/L			06/29/22 20:01	1
Acrylonitrile	ND		5.0	0.83	ug/L			06/29/22 20:01	1
Benzene	ND		1.0	0.41	ug/L			06/29/22 20:01	1
Bromoform	ND		1.0	0.26	ug/L			06/29/22 20:01	1
Bromomethane	ND		1.0	0.69	ug/L			06/29/22 20:01	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/29/22 20:01	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/29/22 20:01	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/29/22 20:01	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			06/29/22 20:01	1
Chloroethane	ND		1.0	0.32	ug/L			06/29/22 20:01	1
Chloroform	ND		1.0	0.34	ug/L			06/29/22 20:01	1
Chloromethane	ND		1.0	0.35	ug/L			06/29/22 20:01	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/29/22 20:01	1
Dibromomethane	ND		1.0	0.41	ug/L			06/29/22 20:01	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			06/29/22 20:01	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/29/22 20:01	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			06/29/22 20:01	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/29/22 20:01	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			06/29/22 20:01	1
Iodomethane	ND		1.0	0.30	ug/L			06/29/22 20:01	1
Methacrylonitrile	ND		5.0	0.69	ug/L			06/29/22 20:01	1
Methyl methacrylate	ND		1.0	0.61	ug/L			06/29/22 20:01	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/29/22 20:01	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			06/29/22 20:01	1
o-Xylene	ND		1.0	0.76	ug/L			06/29/22 20:01	1
Propionitrile	ND		10	5.8	ug/L			06/29/22 20:01	1
Styrene	ND		1.0	0.73	ug/L			06/29/22 20:01	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/29/22 20:01	1
Toluene	ND		1.0	0.51	ug/L			06/29/22 20:01	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/29/22 20:01	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/29/22 20:01	1

Client Sample ID: MW-2022-8

Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			06/29/22 20:01	1
Trichloroethene	ND		1.0	0.46	ug/L			06/29/22 20:01	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/29/22 20:01	1
Vinyl acetate	ND		5.0	0.85	ug/L			06/29/22 20:01	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/29/22 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*77 - 120*		*06/29/22 20:01*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*06/29/22 20:01*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*06/29/22 20:01*	*1*
Toluene-d8 (Surr)	*89*		*80 - 120*		*06/29/22 20:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,3,5-Trinitrobenzene	ND	UJ	10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,3-Dichlorobenzene	ND	UJ	10	0.48	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,4-Dichlorobenzene	ND	UJ	10	0.46	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,4-Dioxane	ND		10	1.1	ug/L		06/30/22 08:47	07/01/22 19:42	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		06/30/22 08:47	07/01/22 19:42	1
1-Naphthylamine	ND	UJ	10	1.3	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		06/30/22 08:47	07/01/22 19:42	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Chlorophenol	ND		5.0	0.53	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Methylnaphthalene	ND	UJ	5.0	0.60	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Methylphenol	ND		5.0	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Naphthylamine	ND	UJ	10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Nitroaniline	ND		10	0.42	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Nitrophenol	ND		5.0	0.48	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Picoline	ND		80	1.4	ug/L		06/30/22 08:47	07/01/22 19:42	1
2-Toluidine	ND	UJ	10	1.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		06/30/22 08:47	07/01/22 19:42	1
3,3'-Dichlorobenzidine	ND	UJ	5.0	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
3,3'-Dimethylbenzidine	ND	UJ	40	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
3-Methylcholanthrene	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
3-Methylphenol	ND		10	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
3-Nitroaniline	ND		10	0.48	ug/L		06/30/22 08:47	07/01/22 19:42	1

Client Sample ID: MW-2022-8

Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Aminobiphenyl	ND	*-*1 UJ	10	0.81	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Chloroaniline	ND	*1 UJ	5.0	0.59	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Methylphenol	ND		10	0.36	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Nitroaniline	ND		10	0.25	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Nitrophenol	ND		10	1.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
4-Nitroquinoline-1-oxide	ND	UJ	10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		06/30/22 08:47	07/01/22 19:42	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		06/30/22 08:47	07/01/22 19:42	1
Acenaphthene	ND		5.0	0.41	ug/L		06/30/22 08:47	07/01/22 19:42	1
Acenaphthylene	ND		5.0	0.38	ug/L		06/30/22 08:47	07/01/22 19:42	1
Acetophenone	ND		5.0	0.54	ug/L		06/30/22 08:47	07/01/22 19:42	1
Aniline	ND		10	0.61	ug/L		06/30/22 08:47	07/01/22 19:42	1
Anthracene	ND		5.0	0.28	ug/L		06/30/22 08:47	07/01/22 19:42	1
Aramite, Total	ND		20	1.6	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzidine	ND	*1 UJ	80	2.2	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		06/30/22 08:47	07/01/22 19:42	1
Benzyl alcohol	ND		20	2.0	ug/L		06/30/22 08:47	07/01/22 19:42	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		06/30/22 08:47	07/01/22 19:42	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		06/30/22 08:47	07/01/22 19:42	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/30/22 08:47	07/01/22 19:42	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		06/30/22 08:47	07/01/22 19:42	1
Chrysene	ND		5.0	0.33	ug/L		06/30/22 08:47	07/01/22 19:42	1
Diallate	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		06/30/22 08:47	07/01/22 19:42	1
Dibenzofuran	ND		10	0.51	ug/L		06/30/22 08:47	07/01/22 19:42	1
Diethyl phthalate	ND		5.0	0.22	ug/L		06/30/22 08:47	07/01/22 19:42	1
Dimethoate	ND		10	0.54	ug/L		06/30/22 08:47	07/01/22 19:42	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		06/30/22 08:47	07/01/22 19:42	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		06/30/22 08:47	07/01/22 19:42	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		06/30/22 08:47	07/01/22 19:42	1
Dinoseb	ND		10	2.9	ug/L		06/30/22 08:47	07/01/22 19:42	1
Diphenylamine	ND		10	0.82	ug/L		06/30/22 08:47	07/01/22 19:42	1
Disulfoton	ND		10	0.42	ug/L		06/30/22 08:47	07/01/22 19:42	1
Chlorobenzilate	ND		20	0.67	ug/L		06/30/22 08:47	07/01/22 19:42	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		06/30/22 08:47	07/01/22 19:42	1
Famphur	ND	*-*1 UJ	40	1.9	ug/L		06/30/22 08:47	07/01/22 19:42	1
Fluoranthene	ND		5.0	0.40	ug/L		06/30/22 08:47	07/01/22 19:42	1
Fluorene	ND		5.0	0.36	ug/L		06/30/22 08:47	07/01/22 19:42	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		06/30/22 08:47	07/01/22 19:42	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		06/30/22 08:47	07/01/22 19:42	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-8
Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		06/30/22 08:47	07/01/22 19:42	1
Hexachloroethane	ND		5.0	0.59	ug/L		06/30/22 08:47	07/01/22 19:42	1
Hexachloropropene	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		06/30/22 08:47	07/01/22 19:42	1
Isodrin	ND		10	0.18	ug/L		06/30/22 08:47	07/01/22 19:42	1
Isophorone	ND		5.0	0.43	ug/L		06/30/22 08:47	07/01/22 19:42	1
Isosafrole	ND		10	0.58	ug/L		06/30/22 08:47	07/01/22 19:42	1
Kepone	ND		50	1.8	ug/L		06/30/22 08:47	07/01/22 19:42	1
Methapyrilene	ND		50	1.8	ug/L		06/30/22 08:47	07/01/22 19:42	1
Methyl methanesulfonate	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
Naphthalene	ND		5.0	0.76	ug/L		06/30/22 08:47	07/01/22 19:42	1
Nitrobenzene	ND		5.0	0.29	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		06/30/22 08:47	07/01/22 19:42	1
Ethyl Parathion	ND		10	0.64	ug/L		06/30/22 08:47	07/01/22 19:42	1
Methyl parathion	ND		10	0.37	ug/L		06/30/22 08:47	07/01/22 19:42	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		06/30/22 08:47	07/01/22 19:42	1
Pentachlorobenzene	ND		10	0.53	ug/L		06/30/22 08:47	07/01/22 19:42	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
Pentachlorophenol	ND		10	2.2	ug/L		06/30/22 08:47	07/01/22 19:42	1
Phenacetin	ND		10	0.61	ug/L		06/30/22 08:47	07/01/22 19:42	1
Phenanthrene	ND		5.0	0.44	ug/L		06/30/22 08:47	07/01/22 19:42	1
Phenol	ND		5.0	0.39	ug/L		06/30/22 08:47	07/01/22 19:42	1
Phorate	ND		10	0.50	ug/L		06/30/22 08:47	07/01/22 19:42	1
p-Phenylene diamine	R ~~ND~~	~~*-~~	~~800~~	~~200~~	~~ug/L~~		06/30/22 08:47	07/01/22 19:42	1
Pronamide	ND		10	2.5	ug/L		06/30/22 08:47	07/01/22 19:42	1
Pyrene	ND		5.0	0.34	ug/L		06/30/22 08:47	07/01/22 19:42	1
Pyridine	ND		25	0.41	ug/L		06/30/22 08:47	07/01/22 19:42	1
Safrole	ND		10	0.46	ug/L		06/30/22 08:47	07/01/22 19:42	1
Sulfotepp	ND		10	0.64	ug/L		06/30/22 08:47	07/01/22 19:42	1
Thionazin	ND		10	0.38	ug/L		06/30/22 08:47	07/01/22 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*41 - 120*	*06/30/22 08:47*	*07/01/22 19:42*	*1*
2-Fluorobiphenyl (Surr)	*77*		*48 - 120*	*06/30/22 08:47*	*07/01/22 19:42*	*1*
2-Fluorophenol (Surr)	*44*		*35 - 120*	*06/30/22 08:47*	*07/01/22 19:42*	*1*
Nitrobenzene-d5 (Surr)	*72*		*46 - 120*	*06/30/22 08:47*	*07/01/22 19:42*	*1*
Phenol-d5 (Surr)	*32*		*22 - 120*	*06/30/22 08:47*	*07/01/22 19:42*	*1*
p-Terphenyl-d14 (Surr)	*79*		*60 - 148*	*06/30/22 08:47*	*07/01/22 19:42*	*1*

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-8
Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	H	5.0	0.58	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,2,4-Trichlorobenzene	ND	H	10	0.44	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,2-Dichlorobenzene	ND	H	10	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,2-Diphenylhydrazine	ND	H	10	0.35	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,3,5-Trinitrobenzene	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,3-Dichlorobenzene	ND	H	10	0.48	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,3-Dinitrobenzene	ND	H	20	0.82	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,4-Dioxane	ND	H	10	1.1	ug/L		07/07/22 11:20	07/08/22 18:23	1
1,4-Naphthoquinone	ND	H	10	0.24	ug/L		07/07/22 11:20	07/08/22 18:23	1
1-Naphthylamine	ND	H	10	1.3	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,3,4,6-Tetrachlorophenol	ND	H	5.0	0.32	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,4,5-Trichlorophenol	ND	H	5.0	0.48	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,4,6-Trichlorophenol	ND	H	5.0	0.61	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,4-Dichlorophenol	ND	H	5.0	0.51	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,4-Dimethylphenol	ND	H	5.0	0.50	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,4-Dinitrophenol	ND	H	10	2.2	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,4-Dinitrotoluene	ND	H	5.0	0.45	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,6-Dichlorophenol	ND	H	10	0.46	ug/L		07/07/22 11:20	07/08/22 18:23	1
2,6-Dinitrotoluene	ND	H	5.0	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Acetylaminofluorene	ND	H	10	2.3	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Chloronaphthalene	ND	H	5.0	0.46	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Chlorophenol	ND	H	5.0	0.53	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Methylnaphthalene	ND	H	5.0	0.60	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Methylphenol	ND	H	5.0	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Naphthylamine	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Nitroaniline	ND	H	10	0.42	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Nitrophenol	ND	H	5.0	0.48	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Picoline	ND	H	80	1.4	ug/L		07/07/22 11:20	07/08/22 18:23	1
2-Toluidine	ND	H	10	1.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
3 & 4 Methylphenol	ND	H	10	0.36	ug/L		07/07/22 11:20	07/08/22 18:23	1
3,3'-Dichlorobenzidine	ND	H	5.0	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
3,3'-Dimethylbenzidine	ND	H *- *1	40	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
3-Methylcholanthrene	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
3-Methylphenol	ND	H	10	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
3-Nitroaniline	ND	H	10	0.48	ug/L		07/07/22 11:20	07/08/22 18:23	1
4,6-Dinitro-2-methylphenol	ND	H	10	2.2	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Aminobiphenyl	ND	H	10	0.81	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Bromophenyl phenyl ether	ND	H	5.0	0.45	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Chloro-3-methylphenol	ND	H	5.0	0.45	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Chloroaniline	ND	H	5.0	0.59	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Chlorophenyl phenyl ether	ND	H	5.0	0.35	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Methylphenol	ND	H	10	0.36	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Nitroaniline	ND	H *+	10	0.25	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Nitrophenol	ND	H	10	1.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
4-Nitroquinoline-1-oxide	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
7,12-Dimethylbenz(a)anthracene	ND	H	10	0.62	ug/L		07/07/22 11:20	07/08/22 18:23	1
a,a-Dimethylphenethylamine	ND	H *-	100	40	ug/L		07/07/22 11:20	07/08/22 18:23	1
Acenaphthene	ND	H	5.0	0.41	ug/L		07/07/22 11:20	07/08/22 18:23	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-8
Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	H	5.0	0.38	ug/L		07/07/22 11:20	07/08/22 18:23	1
Acetophenone	ND	H	5.0	0.54	ug/L		07/07/22 11:20	07/08/22 18:23	1
Aniline	ND	H	10	0.61	ug/L		07/07/22 11:20	07/08/22 18:23	1
Anthracene	ND	H	5.0	0.28	ug/L		07/07/22 11:20	07/08/22 18:23	1
Aramite, Total	ND	H	20	1.6	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzidine	ND	H *1	80	2.2	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzo[a]anthracene	ND	H	5.0	0.36	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzo[a]pyrene	ND	H	5.0	0.47	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzo[b]fluoranthene	ND	H	5.0	0.34	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzo[g,h,i]perylene	ND	H	5.0	0.35	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzo[k]fluoranthene	ND	H	5.0	0.73	ug/L		07/07/22 11:20	07/08/22 18:23	1
Benzyl alcohol	ND	H	20	2.0	ug/L		07/07/22 11:20	07/08/22 18:23	1
bis (2-chloroisopropyl) ether	ND	H	5.0	0.52	ug/L		07/07/22 11:20	07/08/22 18:23	1
Bis(2-chloroethoxy)methane	ND	H	5.0	0.35	ug/L		07/07/22 11:20	07/08/22 18:23	1
Bis(2-chloroethyl)ether	ND	H	5.0	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L		07/07/22 11:20	07/08/22 18:23	1
Butyl benzyl phthalate	ND	H	5.0	1.0	ug/L		07/07/22 11:20	07/08/22 18:23	1
Chrysene	ND	H	5.0	0.33	ug/L		07/07/22 11:20	07/08/22 18:23	1
Diallate	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
Dibenz(a,h)anthracene	ND	H	5.0	0.42	ug/L		07/07/22 11:20	07/08/22 18:23	1
Dibenzofuran	ND	H	10	0.51	ug/L		07/07/22 11:20	07/08/22 18:23	1
Diethyl phthalate	ND	H	5.0	0.22	ug/L		07/07/22 11:20	07/08/22 18:23	1
Dimethoate	ND	H	10	0.54	ug/L		07/07/22 11:20	07/08/22 18:23	1
Dimethyl phthalate	ND	H	5.0	0.36	ug/L		07/07/22 11:20	07/08/22 18:23	1
Di-n-butyl phthalate	ND	H	5.0	0.31	ug/L		07/07/22 11:20	07/08/22 18:23	1
Di-n-octyl phthalate	ND	H	5.0	0.47	ug/L		07/07/22 11:20	07/08/22 18:23	1
Dinoseb	ND	H	10	2.9	ug/L		07/07/22 11:20	07/08/22 18:23	1
Diphenylamine	ND	H	10	0.82	ug/L		07/07/22 11:20	07/08/22 18:23	1
Disulfoton	ND	H	10	0.42	ug/L		07/07/22 11:20	07/08/22 18:23	1
Chlorobenzilate	ND	H	20	0.67	ug/L		07/07/22 11:20	07/08/22 18:23	1
Ethyl methanesulfonate	ND	H	10	0.39	ug/L		07/07/22 11:20	07/08/22 18:23	1
Famphur	ND	H *- *1	40	1.9	ug/L		07/07/22 11:20	07/08/22 18:23	1
Fluoranthene	ND	H	5.0	0.40	ug/L		07/07/22 11:20	07/08/22 18:23	1
Fluorene	ND	H	5.0	0.36	ug/L		07/07/22 11:20	07/08/22 18:23	1
Hexachlorobenzene	ND	H	5.0	0.51	ug/L		07/07/22 11:20	07/08/22 18:23	1
Hexachlorobutadiene	ND	H	5.0	0.68	ug/L		07/07/22 11:20	07/08/22 18:23	1
Hexachlorocyclopentadiene	ND	H	5.0	0.59	ug/L		07/07/22 11:20	07/08/22 18:23	1
Hexachloroethane	ND	H	5.0	0.59	ug/L		07/07/22 11:20	07/08/22 18:23	1
Hexachloropropene	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
Indeno[1,2,3-cd]pyrene	ND	H	5.0	0.47	ug/L		07/07/22 11:20	07/08/22 18:23	1
Isodrin	ND	H	10	0.18	ug/L		07/07/22 11:20	07/08/22 18:23	1
Isophorone	ND	H	5.0	0.43	ug/L		07/07/22 11:20	07/08/22 18:23	1
Isosafrole	ND	H	10	0.58	ug/L		07/07/22 11:20	07/08/22 18:23	1
Kepone	ND	H	50	1.8	ug/L		07/07/22 11:20	07/08/22 18:23	1
Methapyrilene	ND	H *1	50	1.8	ug/L		07/07/22 11:20	07/08/22 18:23	1
Methyl methanesulfonate	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
Naphthalene	ND	H	5.0	0.76	ug/L		07/07/22 11:20	07/08/22 18:23	1
Nitrobenzene	ND	H	5.0	0.29	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitro-o-toluidine	ND	H	10	0.66	ug/L		07/07/22 11:20	07/08/22 18:23	1

Client Sample ID: MW-2022-8
Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	H	10	0.36	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosodimethylamine	ND	H	10	2.2	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosodi-n-butylamine	ND	H	10	0.60	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosodi-n-propylamine	ND	H	5.0	0.54	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosodiphenylamine	ND	H	5.0	0.51	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosomethylethylamine	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosomorpholine	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosopiperidine	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
N-Nitrosopyrrolidine	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
o,o',o''-Triethylphosphorothioate	ND	H	10	0.43	ug/L		07/07/22 11:20	07/08/22 18:23	1
Ethyl Parathion	ND	H	10	0.64	ug/L		07/07/22 11:20	07/08/22 18:23	1
Methyl parathion	ND	H	10	0.37	ug/L		07/07/22 11:20	07/08/22 18:23	1
p-Dimethylamino azobenzene	ND	H	10	0.75	ug/L		07/07/22 11:20	07/08/22 18:23	1
Pentachlorobenzene	ND	H	10	0.53	ug/L		07/07/22 11:20	07/08/22 18:23	1
Pentachloronitrobenzene	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
Pentachlorophenol	ND	H	10	2.2	ug/L		07/07/22 11:20	07/08/22 18:23	1
Phenacetin	ND	H	10	0.61	ug/L		07/07/22 11:20	07/08/22 18:23	1
Phenanthrene	ND	H	5.0	0.44	ug/L		07/07/22 11:20	07/08/22 18:23	1
Phenol	ND	H	5.0	0.39	ug/L		07/07/22 11:20	07/08/22 18:23	1
Phorate	ND	H	10	0.50	ug/L		07/07/22 11:20	07/08/22 18:23	1
p-Phenylene diamine	ND	H *-	800	200	ug/L		07/07/22 11:20	07/08/22 18:23	1
Pronamide	ND	H	10	2.5	ug/L		07/07/22 11:20	07/08/22 18:23	1
Pyrene	ND	H	5.0	0.34	ug/L		07/07/22 11:20	07/08/22 18:23	1
Pyridine	ND	H	25	0.41	ug/L		07/07/22 11:20	07/08/22 18:23	1
Safrole	ND	H	10	0.46	ug/L		07/07/22 11:20	07/08/22 18:23	1
Sulfotepp	ND	H	10	0.64	ug/L		07/07/22 11:20	07/08/22 18:23	1
Thionazin	ND	H	10	0.38	ug/L		07/07/22 11:20	07/08/22 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*41 - 120*	*07/07/22 11:20*	*07/08/22 18:23*	*1*
2-Fluorobiphenyl (Surr)	*87*		*48 - 120*	*07/07/22 11:20*	*07/08/22 18:23*	*1*
2-Fluorophenol (Surr)	*51*		*35 - 120*	*07/07/22 11:20*	*07/08/22 18:23*	*1*
Nitrobenzene-d5 (Surr)	*74*		*46 - 120*	*07/07/22 11:20*	*07/08/22 18:23*	*1*
Phenol-d5 (Surr)	*37*		*22 - 120*	*07/07/22 11:20*	*07/08/22 18:23*	*1*
p-Terphenyl-d14 (Surr)	*88*		*60 - 148*	*07/07/22 11:20*	*07/08/22 18:23*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	*+ UJ	0.050	0.0092	ug/L		06/29/22 16:11	06/30/22 12:33	1
4,4'-DDE	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 12:33	1
4,4'-DDT	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 12:33	1
Aldrin	ND		0.050	0.0081	ug/L		06/29/22 16:11	06/30/22 12:33	1
alpha-BHC	ND		0.050	0.0077	ug/L		06/29/22 16:11	06/30/22 12:33	1
beta-BHC	**0.027**	**J**	0.050	0.025	ug/L		06/29/22 16:11	06/30/22 12:33	1
Chlordane (technical)	ND		0.50	0.29	ug/L		06/29/22 16:11	06/30/22 12:33	1
Chlorobenzilate	ND		5.0	0.090	ug/L		06/29/22 16:11	06/30/22 12:33	1
cis-Chlordane	ND		0.050	0.015	ug/L		06/29/22 16:11	06/30/22 12:33	1
delta-BHC	ND	UJ	0.050	0.010	ug/L		06/29/22 16:11	06/30/22 12:33	1
Dieldrin	ND		0.050	0.0098	ug/L		06/29/22 16:11	06/30/22 12:33	1
Endosulfan I	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 12:33	1

Client Sample ID: MW-2022-8

Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 12:33	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		06/29/22 16:11	06/30/22 12:33	1
Endrin	ND	UJ	0.050	0.014	ug/L		06/29/22 16:11	06/30/22 12:33	1
Endrin aldehyde	ND	UJ	0.050	0.016	ug/L		06/29/22 16:11	06/30/22 12:33	1
Endrin ketone	ND	UJ	0.050	0.012	ug/L		06/29/22 16:11	06/30/22 12:33	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		06/29/22 16:11	06/30/22 12:33	1
Heptachlor	ND		0.050	0.0085	ug/L		06/29/22 16:11	06/30/22 12:33	1
Heptachlor epoxide	ND	UJ	0.050	0.0074	ug/L		06/29/22 16:11	06/30/22 12:33	1
Methoxychlor	ND		0.050	0.014	ug/L		06/29/22 16:11	06/30/22 12:33	1
Toxaphene	ND		0.50	0.12	ug/L		06/29/22 16:11	06/30/22 12:33	1
trans-Chlordane	ND		0.050	0.011	ug/L		06/29/22 16:11	06/30/22 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*77*		*20 - 120*	*06/29/22 16:11*	*06/30/22 12:33*	*1*
DCB Decachlorobiphenyl	*89*		*20 - 120*	*06/29/22 16:11*	*06/30/22 12:33*	*1*
Tetrachloro-m-xylene	*123*	*S1+*	*44 - 120*	*06/29/22 16:11*	*06/30/22 12:33*	*1*
Tetrachloro-m-xylene	*85*		*44 - 120*	*06/29/22 16:11*	*06/30/22 12:33*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:42	1
PCB-1221	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:42	1
PCB-1232	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:42	1
PCB-1242	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:42	1
PCB-1248	ND		0.50	0.18	ug/L		06/29/22 16:18	06/30/22 17:42	1
PCB-1254	ND		0.50	0.25	ug/L		06/29/22 16:18	06/30/22 17:42	1
PCB-1260	ND		0.50	0.25	ug/L		06/29/22 16:18	06/30/22 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*39 - 121*	*06/29/22 16:18*	*06/30/22 17:42*	*1*
Tetrachloro-m-xylene	*76*		*39 - 121*	*06/29/22 16:18*	*06/30/22 17:42*	*1*
DCB Decachlorobiphenyl	*62*		*19 - 120*	*06/29/22 16:18*	*06/30/22 17:42*	*1*
DCB Decachlorobiphenyl	*65*		*19 - 120*	*06/29/22 16:18*	*06/30/22 17:42*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		06/29/22 10:34	06/30/22 15:03	1
2,4-D	ND		0.48	0.16	ug/L		06/29/22 10:34	06/30/22 15:03	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		06/29/22 10:34	06/30/22 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*90*		*48 - 132*	*06/29/22 10:34*	*06/30/22 15:03*	*1*
2,4-Dichlorophenylacetic acid	*81*		*48 - 132*	*06/29/22 10:34*	*06/30/22 15:03*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		07/01/22 03:10	07/04/22 06:52	1
Disulfoton	ND		0.94	0.38	ug/L		07/01/22 03:10	07/04/22 06:52	1
Famphur	ND		0.94	0.30	ug/L		07/01/22 03:10	07/04/22 06:52	1
Methyl parathion	ND		0.94	0.32	ug/L		07/01/22 03:10	07/04/22 06:52	1
Ethyl Parathion	ND		0.94	0.34	ug/L		07/01/22 03:10	07/04/22 06:52	1

Client Sample ID: MW-2022-8
Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4
Matrix: Water

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		0.94	0.36	ug/L		07/01/22 03:10	07/04/22 06:52	1
Sulfotepp	ND		0.94	0.38	ug/L		07/01/22 03:10	07/04/22 06:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*92*		*25 - 127*	*07/01/22 03:10*	*07/04/22 06:52*	*1*
Tributyl phosphate	*89*		*25 - 127*	*07/01/22 03:10*	*07/04/22 06:52*	*1*
Triphenylphosphate	*97*		*70 - 155*	*07/01/22 03:10*	*07/04/22 06:52*	*1*
Triphenylphosphate	*98*		*70 - 155*	*07/01/22 03:10*	*07/04/22 06:52*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.61	ng/L		07/05/22 10:14	07/08/22 16:24	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		3.9	1.0	ng/L		07/05/22 10:14	07/08/22 16:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		3.9	1.3	ng/L		07/05/22 10:14	07/08/22 16:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		3.9	1.5	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.49	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorobutanoic acid (PFBA)	**1.5**	**J**	3.9	0.95	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.36	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.39	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.32	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.43	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.43	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.51	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.73	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.67	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.60	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.54	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.51	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.38	ng/L		07/05/22 10:14	07/08/22 16:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.43	ng/L		07/05/22 10:14	07/08/22 16:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C2 PFDoA	*95*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C2 PFHxA	*100*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C2 PFTeDA	*99*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C2 PFUnA	*103*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C3 PFBS	*85*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C4 PFBA	*97*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C4 PFHpA	*100*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C4 PFOA	*105*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C4 PFOS	*71*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C5 PFNA	*99*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*
13C5 PFPeA	*106*		*50 - 150*	*07/05/22 10:14*	*07/08/22 16:24*	*1*

Client Sample ID: MW-2022-8

Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	78		50 - 150	07/05/22 10:14	07/08/22 16:24	1
18O2 PFHxS	78		50 - 150	07/05/22 10:14	07/08/22 16:24	1
d3-NMeFOSAA	104		50 - 150	07/05/22 10:14	07/08/22 16:24	1
d5-NEtFOSAA	102		50 - 150	07/05/22 10:14	07/08/22 16:24	1
M2-6:2 FTS	87		50 - 150	07/05/22 10:14	07/08/22 16:24	1
M2-8:2 FTS	90		50 - 150	07/05/22 10:14	07/08/22 16:24	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~2.2~~	~~J I B~~ 24 U	24	0.18	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,4,6,7,8-HpCDF	~~0.33~~	~~J I B~~ 24 U	24	0.018	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,4,7,8,9-HpCDF	ND		24	0.024	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,4,7,8-HxCDD	ND		24	0.026	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,4,7,8-HxCDF	ND		24	0.10	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,6,7,8-HxCDD	ND		24	0.028	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,6,7,8-HxCDF	ND		24	0.099	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,7,8,9-HxCDD	ND		24	0.034	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,7,8,9-HxCDF	ND		24	0.15	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,7,8-PeCDD	ND		24	0.075	pg/L		07/20/22 09:25	07/20/22 22:23	1
1,2,3,7,8-PeCDF	ND		24	0.037	pg/L		07/20/22 09:25	07/20/22 22:23	1
2,3,4,6,7,8-HxCDF	ND		24	0.13	pg/L		07/20/22 09:25	07/20/22 22:23	1
2,3,4,7,8-PeCDF	ND		24	0.035	pg/L		07/20/22 09:25	07/20/22 22:23	1
2,3,7,8-TCDD	ND		4.8	0.050	pg/L		07/20/22 09:25	07/20/22 22:23	1
2,3,7,8-TCDF	0.20	~~J I~~ JNX	4.8	0.053	pg/L		07/20/22 09:25	07/20/22 22:23	1
OCDD	7.9	J	110	0.082	pg/L		07/20/22 09:25	07/20/22 22:23	1
OCDF	~~0.62~~	~~J B~~ 48 U	48	0.033	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total HpCDD	~~2.2~~	~~J I B~~ 24 U	24	0.18	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total HpCDF	~~0.33~~	~~J I B~~ 24 U	24	0.021	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total HxCDD	ND		24	0.030	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total HxCDF	ND		24	0.15	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total PeCDD	ND		24	0.075	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total PeCDF	ND		24	0.037	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total TCDD	ND		4.8	0.050	pg/L		07/20/22 09:25	07/20/22 22:23	1
Total TCDF	0.20	~~J I~~ JNX	4.8	0.053	pg/L		07/20/22 09:25	07/20/22 22:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	70		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,4,6,7,8-HpCDF	77		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,4,7,8,9-HpCDF	79		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,4,7,8-HxCDD	67		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,4,7,8-HxCDF	76		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,6,7,8-HxCDD	76		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,6,7,8-HxCDF	87		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,7,8,9-HxCDD	65		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,7,8,9-HxCDF	68		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,7,8-PeCDD	58		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-1,2,3,7,8-PeCDF	64		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-2,3,4,6,7,8-HxCDF	56		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-2,3,4,7,8-PeCDF	52		40 - 135	07/20/22 09:25	07/20/22 22:23	1
13C-2,3,7,8-TCDD	76		40 - 135	07/20/22 09:25	07/20/22 22:23	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199353-1
SDG: 480-199353-1

Client Sample ID: MW-2022-8
Date Collected: 06/27/22 15:05
Date Received: 06/29/22 08:00

Lab Sample ID: 480-199379-4
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*56*		*40 - 135*	*07/20/22 09:25*	*07/20/22 22:23*	*1*
13C-OCDD	*81*		*40 - 135*	*07/20/22 09:25*	*07/20/22 22:23*	*1*
13C-OCDF	*82*		*40 - 135*	*07/20/22 09:25*	*07/20/22 22:23*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/01/22 09:06	07/05/22 17:28	1
Arsenic	ND		0.015	0.0056	mg/L		07/01/22 09:06	07/05/22 17:28	1
Barium	**0.021**		0.0020	0.00070	mg/L		07/01/22 09:06	07/05/22 17:28	1
Beryllium	ND		0.0020	0.00030	mg/L		07/01/22 09:06	07/05/22 17:28	1
Cadmium	ND		0.0020	0.00050	mg/L		07/01/22 09:06	07/05/22 17:28	1
Chromium	**0.0012**	**J**	0.0040	0.0010	mg/L		07/01/22 09:06	07/05/22 17:28	1
Cobalt	ND		0.0040	0.00063	mg/L		07/01/22 09:06	07/05/22 17:28	1
Copper	ND		0.010	0.0016	mg/L		07/01/22 09:06	07/05/22 17:28	1
Lead	ND		0.010	0.0030	mg/L		07/01/22 09:06	07/05/22 17:28	1
Nickel	ND		0.010	0.0013	mg/L		07/01/22 09:06	07/05/22 17:28	1
Selenium	ND		0.025	0.0087	mg/L		07/01/22 09:06	07/05/22 17:28	1
Silver	ND		0.0060	0.0017	mg/L		07/01/22 09:06	07/05/22 17:28	1
Thallium	ND		0.020	0.010	mg/L		07/01/22 09:06	07/05/22 17:28	1
Tin	ND		0.010	0.0051	mg/L		07/01/22 09:06	07/05/22 17:28	1
Vanadium	ND		0.0050	0.0015	mg/L		07/01/22 09:06	07/05/22 17:28	1
Zinc	ND		0.010	0.0015	mg/L		07/01/22 09:06	07/05/22 17:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/30/22 11:40	06/30/22 14:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.0069**	**J**	0.010	0.0050	mg/L		07/05/22 13:53	07/05/22 17:02	1
Sulfide	ND		1.0	0.67	mg/L			06/30/22 17:20	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDFs), Perfluoroalkyl Substances (PFAs), Metals, and Miscellaneous Analyses

SDGs # 480-199600-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47715R
Review Level: Tier I/II
Project: 30131071.0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Matrix Spike/Matrix Spike Duplicate Analysis 10
3.3 Laboratory Control Sample Analysis 11
3.4 System Performance and Overall Assessment 11
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 Blank Contamination 14
5.3 System Performance and Overall Assessment 14
5.4 Data Validation Checklist 14
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 15
6.2 Blank Contamination 15
6.3 Compound Identification 17
6.4 System Performance and Overall Assessment 17
6.5 Data Validation Checklist 18
7 Perfluoroalkyl Substances Analyses 18
7.1 Holding Times 18
7.2 System Performance and Overall Assessment 19
7.3 Data Validation Checklist 19

8 Metals Analyses 19
8.1 Holding Times 19
8.2 System Performance and Overall Assessment 20
8.3 Data Validation Checklist 20
9 General Chemistry Analyses 20
9.1 Holding Times 20
9.2 Blank Contamination 21
9.3 System Performance and Overall Assessment 21
9.4 Data Validation Checklist for General Chemistry 21
10 Overall Data Usability 22

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Data Validation Checklist for Volatile Organic Compounds 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Sample with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 10
Table 8. Sample with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits 11
Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 10. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 11. Data Validation Checklist for SemiVolatile Organic Compounds 12
Table 12. Holding Time for Method SW-846 8082A 12
Table 13. Data Validation Checklist for Polychlorinated Biphenyls 13
Table 14. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 15. Summary of Blank Contamination Qualification 14
Table 16. Data Validation Checklist for Herbicides / Pesticides 14
Table 17. Holding Time for Method SW-846 8290A 15
Table 18. Summary of Blank Contamination Qualifications 16
Table 19. Data Validation Checklist for Dioxines and Furans 18
Table 20. Holding Time for Method 537 18
Table 21. Data Validation Checklist for Perfluoroalkyl Substances 19

Table 22. Holding Time for Method SW-846 6010C/7470A 19
Table 23. Data Validation Checklist for Metals 20
Table 24. Specified Holding Times 20
Table 25. Summary of Blank Contamination Qualification 21
Table 26. Data Validation Checklist for Cyanide and Sulfide 21
Table 27. Overall Summary of Data Usability 22

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199600-1 performed on behalf of the General Electric Company (GE) for groundwater sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-1S	480-199600-1	Water	7/5/2022		X	X	X	X	X	X	X
MW-2022-7	480-199600-2	Water	7/5/2022		X	X	X	X	X	X	X
TRIP BLANK 070522	480-199600-3	Water	7/5/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
PFAS = Per and polyfluoroalkyl substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, USEPA Modified method 537, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).
- USEPA Method 537 Modified, Eurofins Laboratories SOP BR-LC-009, Rev. 8.0 Per- and Poly-fluorinated Substances (PFAS) in Water, Soils, Sediments and Tissue (April 2022)

- Department of Defense (DoD) Quality Systems Manual (QSM) 5.3, USEPA Data Review and Validation Guideline for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, (November 2018)
- DoD Final Data Validation Guidelines Module 3: PFAS, (May 2020)

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	2	0	1	0	0	0	3
SVOCs	2	0	0	0	0	0	2
PCBs	2	0	0	0	0	0	2
PEST	2	0	0	0	0	0	2
HERB	2	0	0	0	0	0	2
PCDD/PCDF	2	0	0	0	0	0	2
PFAS	2	0	0	0	0	0	2
Metals	2	0	0	0	0	0	2
MISC	2	0	0	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

Table 5. Data Validation Checklist for Volatile Organic Compounds

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample location associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Table 7. Sample with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Sample Location	Compounds	MS Recovery	MSD Recovery
MW-2022-7	a,a-Dimethylphenethylamine	<10%	<10%
	p-Phenylene diamine	<10%	<10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Table 8. Sample with Matrix Spike / Matrix Spike Duplicate Recoveries Outside Control Limits

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Locations	Compounds	LCS Recovery
MW-2022-1S MW-2022-7	a,a-Dimethylphenethylamine	<10%
	Benzidine	<10%
	p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 10. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

Table 11. Data Validation Checklist for SemiVolatile Organic Compounds

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Laboratory Control Sample (LCS)		X	X		
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

Table 13. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criteria.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualification

Sample Location	Compound	Sample Result	Qualification
MW-2022-7	4,4'-DDT	Detected sample results <RL and <BAL	“U” at the RL

Note:

RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

Table 16. Data Validation Checklist for Herbicides / Pesticides

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 17. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 18. Summary of Blank Contamination Qualifications

Sample Locations	Compounds	Sample Result	Qualification
MW-2022-1S	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 2,3,7,8-TCDD OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF Total TCDD	Detected sample results <RL and <BAL	““U” at the RL
MW-2022-7	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	““U” at the RL

Sample Locations	Compounds	Sample Result	Qualification
	1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD Total PeCDF		

RL = reporting limit
MB = method blank

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

Table 19. Data Validation Checklist for Dioxines and Furans

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 20. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C

The holding time has been changed from the original holding time documented in EPA 537 of 14 days for extraction to 28 days. This was documented in EPA Technical Brief EPA/600/F-17/022h Updated January 2020. Utilizing the new guidance of 28 days all samples were analyzed within the specified holding time criteria.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

Table 21. Data Validation Checklist for Perfluoroalkyl Substances

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

Table 23. Data Validation Checklist for Metals

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 24. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9

All samples were analyzed within the specified holding times.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 25. Summary of Blank Contamination Qualification

Sample Location	Analytes	Sample Result	Qualification
MW-2022-1S	Cyanide, Total	Detected sample results <RL and <BAL	"U" at the RL

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

Table 26. Data Validation Checklist for Cyanide and Sulfide

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Blanks					
A. Method Blanks		X	X		
B. Equipment/Field Blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

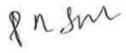
Table 27. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	3
SVOCs	97.6%	6
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the

FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 25, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 25, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:

Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:
City: Syracuse	TAT Requested (days): Standard
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No
Phone: 315-671-9374(Tel)	PO #: 30132437.001
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-
Project Name: GE Woods Pond Parcel	Project #: 48024970
Site: Upland Disposal Facility	SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-1S	7/5/22	15:15	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-7	7/5/22	17:20	G	Water		X	X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-7 MS	7/5/22	17:20	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-7 MSD	7/5/22	17:20	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 070522	7/5/22	--	G	Water									X							2	

480-199600 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature] / Arcadis	7/6/22 1010	Arcadis	[signature]	7-6-22 1010	EETN
[signature]	7-6-2022 1500	EETN	[signature]	7/7/22 1000	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.4, 2.8, 3.1

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water

Date Received: 07/07/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/08/22 00:17	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/08/22 00:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/08/22 00:17	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/08/22 00:17	1
1,1-Dichloroethane	**0.39**	**J**	1.0	0.38	ug/L			07/08/22 00:17	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/08/22 00:17	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/08/22 00:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/08/22 00:17	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/08/22 00:17	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/08/22 00:17	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/08/22 00:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/08/22 00:17	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/08/22 00:17	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/08/22 00:17	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/08/22 00:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/08/22 00:17	1
Acetone	ND		10	3.0	ug/L			07/08/22 00:17	1
Acetonitrile	ND		15	4.9	ug/L			07/08/22 00:17	1
Acrolein	ND		20	0.91	ug/L			07/08/22 00:17	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/08/22 00:17	1
Benzene	ND		1.0	0.41	ug/L			07/08/22 00:17	1
Bromoform	ND		1.0	0.26	ug/L			07/08/22 00:17	1
Bromomethane	ND		1.0	0.69	ug/L			07/08/22 00:17	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/08/22 00:17	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/08/22 00:17	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/08/22 00:17	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/08/22 00:17	1
Chloroethane	ND		1.0	0.32	ug/L			07/08/22 00:17	1
Chloroform	ND		1.0	0.34	ug/L			07/08/22 00:17	1
Chloromethane	ND		1.0	0.35	ug/L			07/08/22 00:17	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/08/22 00:17	1
Dibromomethane	ND		1.0	0.41	ug/L			07/08/22 00:17	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/08/22 00:17	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/08/22 00:17	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/08/22 00:17	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/08/22 00:17	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/08/22 00:17	1
Iodomethane	ND		1.0	0.30	ug/L			07/08/22 00:17	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/08/22 00:17	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/08/22 00:17	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/08/22 00:17	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/08/22 00:17	1
o-Xylene	ND		1.0	0.76	ug/L			07/08/22 00:17	1
Propionitrile	ND		10	5.8	ug/L			07/08/22 00:17	1
Styrene	ND		1.0	0.73	ug/L			07/08/22 00:17	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/08/22 00:17	1
Toluene	ND		1.0	0.51	ug/L			07/08/22 00:17	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/08/22 00:17	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/08/22 00:17	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water

Date Received: 07/07/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/08/22 00:17	1
Trichloroethene	ND		1.0	0.46	ug/L			07/08/22 00:17	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/08/22 00:17	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/08/22 00:17	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/08/22 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*07/08/22 00:17*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*07/08/22 00:17*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*07/08/22 00:17*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/08/22 00:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,4-Dioxane	ND		10	1.1	ug/L		07/08/22 08:20	07/11/22 20:01	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/08/22 08:20	07/11/22 20:01	1
1-Naphthylamine	ND		10	1.3	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/08/22 08:20	07/11/22 20:01	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Naphthylamine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Nitroaniline	ND		10	0.42	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Picoline	ND		80	1.4	ug/L		07/08/22 08:20	07/11/22 20:01	1
2-Toluidine	ND		10	1.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/08/22 08:20	07/11/22 20:01	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
3-Methylphenol	ND		10	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
3-Nitroaniline	ND		10	0.48	ug/L		07/08/22 08:20	07/11/22 20:01	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water

Date Received: 07/07/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Methylphenol	ND		10	0.36	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Nitroaniline	ND		10	0.25	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Nitrophenol	ND		10	1.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/08/22 08:20	07/11/22 20:01	1
a,a-Dimethylphenethylamine	ND	*-	100	40	ug/L		07/08/22 08:20	07/11/22 20:01	R 1
Acenaphthene	ND		5.0	0.41	ug/L		07/08/22 08:20	07/11/22 20:01	1
Acenaphthylene	ND		5.0	0.38	ug/L		07/08/22 08:20	07/11/22 20:01	1
Acetophenone	ND		5.0	0.54	ug/L		07/08/22 08:20	07/11/22 20:01	1
Aniline	ND		10	0.61	ug/L		07/08/22 08:20	07/11/22 20:01	1
Anthracene	ND		5.0	0.28	ug/L		07/08/22 08:20	07/11/22 20:01	1
Aramite, Total	ND		20	1.6	ug/L		07/08/22 08:20	07/11/22 20:01	1
Benzidine	ND		80	2.2	ug/L		07/08/22 08:20	07/11/22 20:01	R 1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/08/22 08:20	07/11/22 20:01	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/08/22 08:20	07/11/22 20:01	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/08/22 08:20	07/11/22 20:01	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/08/22 08:20	07/11/22 20:01	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/08/22 08:20	07/11/22 20:01	1
Benzyl alcohol	ND		20	2.0	ug/L		07/08/22 08:20	07/11/22 20:01	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/08/22 08:20	07/11/22 20:01	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/08/22 08:20	07/11/22 20:01	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/08/22 08:20	07/11/22 20:01	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/08/22 08:20	07/11/22 20:01	1
Chrysene	ND		5.0	0.33	ug/L		07/08/22 08:20	07/11/22 20:01	1
Diallate	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/08/22 08:20	07/11/22 20:01	1
Dibenzofuran	ND		10	0.51	ug/L		07/08/22 08:20	07/11/22 20:01	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/08/22 08:20	07/11/22 20:01	1
Dimethoate	ND		10	0.54	ug/L		07/08/22 08:20	07/11/22 20:01	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/08/22 08:20	07/11/22 20:01	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/08/22 08:20	07/11/22 20:01	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/08/22 08:20	07/11/22 20:01	1
Dinoseb	ND		10	2.9	ug/L		07/08/22 08:20	07/11/22 20:01	1
Diphenylamine	ND		10	0.82	ug/L		07/08/22 08:20	07/11/22 20:01	1
Disulfoton	ND		10	0.42	ug/L		07/08/22 08:20	07/11/22 20:01	1
Chlorobenzilate	ND		20	0.67	ug/L		07/08/22 08:20	07/11/22 20:01	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/08/22 08:20	07/11/22 20:01	1
Famphur	ND		40	1.9	ug/L		07/08/22 08:20	07/11/22 20:01	1
Fluoranthene	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 20:01	1
Fluorene	ND		5.0	0.36	ug/L		07/08/22 08:20	07/11/22 20:01	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/08/22 08:20	07/11/22 20:01	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/08/22 08:20	07/11/22 20:01	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water

Date Received: 07/07/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/08/22 08:20	07/11/22 20:01	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/08/22 08:20	07/11/22 20:01	1
Hexachloropropene	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/08/22 08:20	07/11/22 20:01	1
Isodrin	ND		10	0.18	ug/L		07/08/22 08:20	07/11/22 20:01	1
Isophorone	ND		5.0	0.43	ug/L		07/08/22 08:20	07/11/22 20:01	1
Isosafrole	ND		10	0.58	ug/L		07/08/22 08:20	07/11/22 20:01	1
Kepone	ND		50	1.8	ug/L		07/08/22 08:20	07/11/22 20:01	1
Methapyrilene	ND	*	50	1.8	ug/L		07/08/22 08:20	07/11/22 20:01	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
Naphthalene	ND		5.0	0.76	ug/L		07/08/22 08:20	07/11/22 20:01	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/08/22 08:20	07/11/22 20:01	1
Ethyl Parathion	ND		10	0.64	ug/L		07/08/22 08:20	07/11/22 20:01	1
Methyl parathion	ND		10	0.37	ug/L		07/08/22 08:20	07/11/22 20:01	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/08/22 08:20	07/11/22 20:01	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/08/22 08:20	07/11/22 20:01	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
Pentachlorophenol	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 20:01	1
Phenacetin	ND		10	0.61	ug/L		07/08/22 08:20	07/11/22 20:01	1
Phenanthrene	ND		5.0	0.44	ug/L		07/08/22 08:20	07/11/22 20:01	1
Phenol	ND		5.0	0.39	ug/L		07/08/22 08:20	07/11/22 20:01	1
Phorate	ND		10	0.50	ug/L		07/08/22 08:20	07/11/22 20:01	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/08/22 08:20	07/11/22 20:01	R 1
Pronamide	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 20:01	1
Pyrene	ND		5.0	0.34	ug/L		07/08/22 08:20	07/11/22 20:01	1
Pyridine	ND		25	0.41	ug/L		07/08/22 08:20	07/11/22 20:01	1
Safrole	ND		10	0.46	ug/L		07/08/22 08:20	07/11/22 20:01	1
Sulfotepp	ND		10	0.64	ug/L		07/08/22 08:20	07/11/22 20:01	1
Thionazin	ND		10	0.38	ug/L		07/08/22 08:20	07/11/22 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*117*		*41 - 120*	*07/08/22 08:20*	*07/11/22 20:01*	*1*
2-Fluorobiphenyl (Surr)	*86*		*48 - 120*	*07/08/22 08:20*	*07/11/22 20:01*	*1*
2-Fluorophenol (Surr)	*52*		*35 - 120*	*07/08/22 08:20*	*07/11/22 20:01*	*1*
Nitrobenzene-d5 (Surr)	*77*		*46 - 120*	*07/08/22 08:20*	*07/11/22 20:01*	*1*
Phenol-d5 (Surr)	*39*		*22 - 120*	*07/08/22 08:20*	*07/11/22 20:01*	*1*
p-Terphenyl-d14 (Surr)	*85*		*60 - 148*	*07/08/22 08:20*	*07/11/22 20:01*	*1*

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water

Date Received: 07/07/22 10:00

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/08/22 08:32	07/09/22 12:58	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:58	1
4,4'-DDT	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:58	1
Aldrin	ND		0.050	0.0081	ug/L		07/08/22 08:32	07/09/22 12:58	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/08/22 08:32	07/09/22 12:58	1
beta-BHC	ND		0.050	0.025	ug/L		07/08/22 08:32	07/09/22 12:58	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/08/22 08:32	07/09/22 12:58	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/08/22 08:32	07/09/22 12:58	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/08/22 08:32	07/09/22 12:58	1
delta-BHC	ND		0.050	0.010	ug/L		07/08/22 08:32	07/09/22 12:58	1
Dieldrin	ND		0.050	0.0098	ug/L		07/08/22 08:32	07/09/22 12:58	1
Endosulfan I	**0.012**	**J**	0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:58	1
Endosulfan II	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:58	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:58	1
Endrin	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:58	1
Endrin aldehyde	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:58	1
Endrin ketone	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:58	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/08/22 08:32	07/09/22 12:58	1
Heptachlor	ND		0.050	0.0085	ug/L		07/08/22 08:32	07/09/22 12:58	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/08/22 08:32	07/09/22 12:58	1
Methoxychlor	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:58	1
Toxaphene	ND		0.50	0.12	ug/L		07/08/22 08:32	07/09/22 12:58	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*34*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:58*	*1*
DCB Decachlorobiphenyl	*68*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:58*	*1*
Tetrachloro-m-xylene	*65*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:58*	*1*
Tetrachloro-m-xylene	*70*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:58*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:40	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:40	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:40	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:40	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:40	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 22:40	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*39 - 121*	*07/11/22 09:40*	*07/11/22 22:40*	*1*
Tetrachloro-m-xylene	*59*		*39 - 121*	*07/11/22 09:40*	*07/11/22 22:40*	*1*
DCB Decachlorobiphenyl	*51*		*19 - 120*	*07/11/22 09:40*	*07/11/22 22:40*	*1*
DCB Decachlorobiphenyl	*55*		*19 - 120*	*07/11/22 09:40*	*07/11/22 22:40*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/08/22 07:34	07/10/22 11:37	1
2,4-D	ND		0.48	0.16	ug/L		07/08/22 07:34	07/10/22 11:37	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water
Date Received: 07/07/22 10:00

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/08/22 07:34	07/10/22 11:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*48 - 132*	*07/08/22 07:34*	*07/10/22 11:37*	*1*
2,4-Dichlorophenylacetic acid	*85*		*48 - 132*	*07/08/22 07:34*	*07/10/22 11:37*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		07/12/22 06:00	07/14/22 15:18	1
Disulfoton	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 15:18	1
Famphur	ND		0.94	0.30	ug/L		07/12/22 06:00	07/14/22 15:18	1
Methyl parathion	ND		0.94	0.32	ug/L		07/12/22 06:00	07/14/22 15:18	1
Ethyl Parathion	ND		0.94	0.34	ug/L		07/12/22 06:00	07/14/22 15:18	1
Phorate	ND		0.94	0.36	ug/L		07/12/22 06:00	07/14/22 15:18	1
Sulfotepp	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*96*		*25 - 127*	*07/12/22 06:00*	*07/14/22 15:18*	*1*
Tributyl phosphate	*91*		*25 - 127*	*07/12/22 06:00*	*07/14/22 15:18*	*1*
Triphenylphosphate	*98*		*70 - 155*	*07/12/22 06:00*	*07/14/22 15:18*	*1*
Triphenylphosphate	*101*		*70 - 155*	*07/12/22 06:00*	*07/14/22 15:18*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.64	ng/L		07/11/22 10:35	07/12/22 00:38	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		07/11/22 10:35	07/12/22 00:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.3	ng/L		07/11/22 10:35	07/12/22 00:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorobutanesulfonic acid (PFBS)	**3.0**		1.7	0.52	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorobutanoic acid (PFBA)	**4.1**	**J**	4.2	1.0	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.33	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.38	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.37**	**J**	1.7	0.34	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluoroheptanoic acid (PFHpA)	**0.68**	**J**	1.7	0.45	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorohexanesulfonic acid (PFHxS)	**19**		1.7	0.46	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorohexanoic acid (PFHxA)	**5.1**		1.7	0.54	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.41	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.77	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.7	0.71	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorooctanoic acid (PFOA)	**0.65**	**J**	1.7	0.63	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluoropentanoic acid (PFPeA)	**12**		1.7	0.57	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		07/11/22 10:35	07/12/22 00:38	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.40	ng/L		07/11/22 10:35	07/12/22 00:38	1

Client Sample ID: MW-2022-1S
Date Collected: 07/05/22 15:15
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		07/11/22 10:35	07/12/22 00:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*104*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C2 PFDoA	*97*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C2 PFHxA	*99*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C2 PFTeDA	*102*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C2 PFUnA	*105*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C3 PFBS	*82*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C4 PFBA	*70*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C4 PFHpA	*98*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C4 PFOA	*104*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C4 PFOS	*76*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C5 PFNA	*98*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C5 PFPeA	*90*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
13C8 FOSA	*79*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
18O2 PFHxS	*79*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
d3-NMeFOSAA	*115*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
d5-NEtFOSAA	*122*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
M2-6:2 FTS	*104*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*
M2-8:2 FTS	*115*		*50 - 150*	*07/11/22 10:35*	*07/12/22 00:38*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**1.2**	**J B**	25	U	0.17	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,4,6,7,8-HpCDF	**4.8**	**J B**	25	U	0.13	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,4,7,8,9-HpCDF	ND		25		0.20	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,4,7,8-HxCDD	**0.92**	**J I B**	25		0.017	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,4,7,8-HxCDF	**1.6**	**J B**	25		0.15	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,6,7,8-HxCDD	**0.37**	**J I B**	25		0.018	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,6,7,8-HxCDF	**0.67**	**J I B**	25		0.15	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,7,8,9-HxCDD	**0.27**	**J I**	25		0.020	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,7,8,9-HxCDF	**0.45**	**J**	25		0.17	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,7,8-PeCDD	**0.33**	**J I**	25		0.10	pg/L		07/25/22 15:53	07/26/22 18:53	1
1,2,3,7,8-PeCDF	ND		25		0.13	pg/L		07/25/22 15:53	07/26/22 18:53	1
2,3,4,6,7,8-HxCDF	**0.59**	**J I B**	25	U	0.13	pg/L		07/25/22 15:53	07/26/22 18:53	1
2,3,4,7,8-PeCDF	**0.59**	**J I** JNX	25		0.080	pg/L		07/25/22 15:53	07/26/22 18:53	1
2,3,7,8-TCDD	**0.24**	**J I B**	4.9	U	0.043	pg/L		07/25/22 15:53	07/26/22 18:53	1
2,3,7,8-TCDF	**0.52**	**J**	4.9		0.039	pg/L		07/25/22 15:53	07/26/22 18:53	1
OCDD	**5.3**	**J B**	110		0.13	pg/L		07/25/22 15:53	07/26/22 18:53	1
OCDF	**11**	**J B**	49		0.25	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total HpCDD	**1.2**	**J I B**	25	U	0.17	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total HpCDF	**4.8**	**J B**	25		0.16	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total HxCDD	**1.6**	**J I B**	25		0.018	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total HxCDF	**3.3**	**J I B**	25		0.15	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total PeCDD	**0.33**	**J I** JNX	25		0.10	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total PeCDF	**0.59**	**J I B**	25	U	0.10	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total TCDD	**0.24**	**J I B**	4.9	U	0.043	pg/L		07/25/22 15:53	07/26/22 18:53	1
Total TCDF	**0.52**	**J I** JNX	4.9		0.039	pg/L		07/25/22 15:53	07/26/22 18:53	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-199600-1

Date Collected: 07/05/22 15:15
Matrix: Water

Date Received: 07/07/22 10:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	67		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,4,6,7,8-HpCDF	68		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,4,7,8,9-HpCDF	64		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,4,7,8-HxCDD	73		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,4,7,8-HxCDF	69		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,6,7,8-HxCDD	81		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,6,7,8-HxCDF	79		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,7,8,9-HxCDD	76		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,7,8,9-HxCDF	80		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,7,8-PeCDD	79		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-1,2,3,7,8-PeCDF	69		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-2,3,4,6,7,8-HxCDF	71		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-2,3,4,7,8-PeCDF	77		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-2,3,7,8-TCDD	83		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-2,3,7,8-TCDF	62		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-OCDD	61		40 - 135	07/25/22 15:53	07/26/22 18:53	1
13C-OCDF	61		40 - 135	07/25/22 15:53	07/26/22 18:53	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/11/22 09:15	07/11/22 21:56	1
Arsenic	ND		0.015	0.0056	mg/L		07/11/22 09:15	07/11/22 21:56	1
Barium	**0.017**		0.0020	0.00070	mg/L		07/11/22 09:15	07/11/22 21:56	1
Beryllium	ND		0.0020	0.00030	mg/L		07/11/22 09:15	07/11/22 21:56	1
Cadmium	ND		0.0020	0.00050	mg/L		07/11/22 09:15	07/11/22 21:56	1
Chromium	**0.0010**	**J**	0.0040	0.0010	mg/L		07/11/22 09:15	07/11/22 21:56	1
Cobalt	ND		0.0040	0.00063	mg/L		07/11/22 09:15	07/11/22 21:56	1
Copper	**0.0022**	**J**	0.010	0.0016	mg/L		07/11/22 09:15	07/11/22 21:56	1
Lead	ND		0.010	0.0030	mg/L		07/11/22 09:15	07/11/22 21:56	1
Nickel	ND		0.010	0.0013	mg/L		07/11/22 09:15	07/11/22 21:56	1
Selenium	ND		0.025	0.0087	mg/L		07/11/22 09:15	07/11/22 21:56	1
Silver	ND		0.0060	0.0017	mg/L		07/11/22 09:15	07/11/22 21:56	1
Thallium	ND		0.020	0.010	mg/L		07/11/22 09:15	07/11/22 21:56	1
Tin	ND		0.010	0.0051	mg/L		07/11/22 09:15	07/11/22 21:56	1
Vanadium	ND		0.0050	0.0015	mg/L		07/11/22 09:15	07/11/22 21:56	1
Zinc	**0.0016**	**J**	0.010	0.0015	mg/L		07/11/22 09:15	07/11/22 21:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/08/22 11:02	07/08/22 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL		MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	~~0.0067~~	~~J B *~~	0.010	U	0.0050	mg/L		07/12/22 09:41	07/12/22 12:57	1
Sulfide	ND		1.0		0.67	mg/L			07/08/22 16:56	1

Client Sample ID: MW-2022-7
Lab Sample ID: 480-199600-2

Date Collected: 07/05/22 17:20
Matrix: Water

Date Received: 07/07/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/08/22 00:40	1
1,1,1-Trichloroethane	ND	F1	1.0	0.82	ug/L			07/08/22 00:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/08/22 00:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/08/22 00:40	1
1,1-Dichloroethane	ND	F1	1.0	0.38	ug/L			07/08/22 00:40	1
1,1-Dichloroethene	ND	F1	1.0	0.29	ug/L			07/08/22 00:40	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/08/22 00:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/08/22 00:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/08/22 00:40	1
1,2-Dichloropropane	ND	F1	1.0	0.72	ug/L			07/08/22 00:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/08/22 00:40	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/08/22 00:40	1
2-Chloroethyl vinyl ether	ND	F1	5.0	0.96	ug/L			07/08/22 00:40	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/08/22 00:40	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/08/22 00:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/08/22 00:40	1
Acetone	ND	F2	10	3.0	ug/L			07/08/22 00:40	1
Acetonitrile	ND		15	4.9	ug/L			07/08/22 00:40	1
Acrolein	ND		20	0.91	ug/L			07/08/22 00:40	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/08/22 00:40	1
Benzene	ND	F1	1.0	0.41	ug/L			07/08/22 00:40	1
Bromoform	ND		1.0	0.26	ug/L			07/08/22 00:40	1
Bromomethane	ND		1.0	0.69	ug/L			07/08/22 00:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/08/22 00:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/08/22 00:40	1
Chlorobenzene	ND	F1	1.0	0.75	ug/L			07/08/22 00:40	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/08/22 00:40	1
Chloroethane	ND		1.0	0.32	ug/L			07/08/22 00:40	1
Chloroform	ND		1.0	0.34	ug/L			07/08/22 00:40	1
Chloromethane	ND		1.0	0.35	ug/L			07/08/22 00:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/08/22 00:40	1
Dibromomethane	ND	F1	1.0	0.41	ug/L			07/08/22 00:40	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/08/22 00:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/08/22 00:40	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/08/22 00:40	1
Ethylbenzene	ND	F1	1.0	0.74	ug/L			07/08/22 00:40	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/08/22 00:40	1
Iodomethane	ND	F1	1.0	0.30	ug/L			07/08/22 00:40	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/08/22 00:40	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/08/22 00:40	1
Methylene Chloride	ND	F1	1.0	0.44	ug/L			07/08/22 00:40	1
m-Xylene & p-Xylene	ND	F1	2.0	0.66	ug/L			07/08/22 00:40	1
o-Xylene	ND	F1	1.0	0.76	ug/L			07/08/22 00:40	1
Propionitrile	ND		10	5.8	ug/L			07/08/22 00:40	1
Styrene	ND	F1	1.0	0.73	ug/L			07/08/22 00:40	1
Tetrachloroethene	ND	F1	1.0	0.36	ug/L			07/08/22 00:40	1
Toluene	ND		1.0	0.51	ug/L			07/08/22 00:40	1
trans-1,2-Dichloroethene	ND	F1	1.0	0.90	ug/L			07/08/22 00:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/08/22 00:40	1

Client Sample ID: MW-2022-7
Date Collected: 07/05/22 17:20
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/08/22 00:40	1
Trichloroethene	ND	F1	1.0	0.46	ug/L			07/08/22 00:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/08/22 00:40	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/08/22 00:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/08/22 00:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*07/08/22 00:40*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*07/08/22 00:40*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*07/08/22 00:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/08/22 00:40*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,3,5-Trinitrobenzene	ND	F1	10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,4-Dioxane	ND		10	1.1	ug/L		07/08/22 08:20	07/11/22 19:33	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/08/22 08:20	07/11/22 19:33	1
1-Naphthylamine	ND	F1	10	1.3	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/08/22 08:20	07/11/22 19:33	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Naphthylamine	ND	F1	10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Nitroaniline	ND		10	0.42	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Picoline	ND	F1 *-	80	1.4	ug/L		07/08/22 08:20	07/11/22 19:33	1
2-Toluidine	ND	F1	10	1.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/08/22 08:20	07/11/22 19:33	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1
3,3'-Dimethylbenzidine	ND	F1 *-	40	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
3-Methylphenol	ND		10	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1
3-Nitroaniline	ND		10	0.48	ug/L		07/08/22 08:20	07/11/22 19:33	1

Client Sample ID: MW-2022-7
Date Collected: 07/05/22 17:20
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Methylphenol	ND		10	0.36	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Nitroaniline	ND		10	0.25	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Nitrophenol	ND		10	1.5	ug/L		07/08/22 08:20	07/11/22 19:33	1	
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1	
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/08/22 08:20	07/11/22 19:33	1	
a,a-Dimethylphenethylamine	ND	*-	100	40	ug/L		07/08/22 08:20	07/11/22 19:33	1	R
Acenaphthene	ND		5.0	0.41	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Acenaphthylene	ND		5.0	0.38	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Acetophenone	ND		5.0	0.54	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Aniline	ND		10	0.61	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Anthracene	ND		5.0	0.28	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Aramite, Total	ND		20	1.6	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Benzidine	ND		80	2.2	ug/L		07/08/22 08:20	07/11/22 19:33	1	R
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Benzyl alcohol	ND		20	2.0	ug/L		07/08/22 08:20	07/11/22 19:33	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Chrysene	ND		5.0	0.33	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Diallate	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Dibenzofuran	ND		10	0.51	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Dimethoate	ND		10	0.54	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Dinoseb	ND	F1	10	2.9	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Diphenylamine	ND		10	0.82	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Disulfoton	ND		10	0.42	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Chlorobenzilate	ND		20	0.67	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Famphur	ND	F1	40	1.9	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Fluoranthene	ND		5.0	0.40	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Fluorene	ND		5.0	0.36	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/08/22 08:20	07/11/22 19:33	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/08/22 08:20	07/11/22 19:33	1	

Client Sample ID: MW-2022-7
Date Collected: 07/05/22 17:20
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/08/22 08:20	07/11/22 19:33	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/08/22 08:20	07/11/22 19:33	1
Hexachloropropene	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/08/22 08:20	07/11/22 19:33	1
Isodrin	ND		10	0.18	ug/L		07/08/22 08:20	07/11/22 19:33	1
Isophorone	ND		5.0	0.43	ug/L		07/08/22 08:20	07/11/22 19:33	1
Isosafrole	ND		10	0.58	ug/L		07/08/22 08:20	07/11/22 19:33	1
Kepone	ND		50	1.8	ug/L		07/08/22 08:20	07/11/22 19:33	1
Methapyrilene	ND	*	50	1.8	ug/L		07/08/22 08:20	07/11/22 19:33	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
Naphthalene	ND		5.0	0.76	ug/L		07/08/22 08:20	07/11/22 19:33	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/08/22 08:20	07/11/22 19:33	1
Ethyl Parathion	ND		10	0.64	ug/L		07/08/22 08:20	07/11/22 19:33	1
Methyl parathion	ND		10	0.37	ug/L		07/08/22 08:20	07/11/22 19:33	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/08/22 08:20	07/11/22 19:33	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/08/22 08:20	07/11/22 19:33	1
Pentachloronitrobenzene	ND	F1	10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
Pentachlorophenol	ND		10	2.2	ug/L		07/08/22 08:20	07/11/22 19:33	1
Phenacetin	ND		10	0.61	ug/L		07/08/22 08:20	07/11/22 19:33	1
Phenanthrene	ND		5.0	0.44	ug/L		07/08/22 08:20	07/11/22 19:33	1
Phenol	ND		5.0	0.39	ug/L		07/08/22 08:20	07/11/22 19:33	1
Phorate	ND		10	0.50	ug/L		07/08/22 08:20	07/11/22 19:33	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/08/22 08:20	07/11/22 19:33	R 1
Pronamide	ND		10	2.5	ug/L		07/08/22 08:20	07/11/22 19:33	1
Pyrene	ND		5.0	0.34	ug/L		07/08/22 08:20	07/11/22 19:33	1
Pyridine	ND	F1	25	0.41	ug/L		07/08/22 08:20	07/11/22 19:33	1
Safrole	ND		10	0.46	ug/L		07/08/22 08:20	07/11/22 19:33	1
Sulfotepp	ND	F1	10	0.64	ug/L		07/08/22 08:20	07/11/22 19:33	1
Thionazin	ND		10	0.38	ug/L		07/08/22 08:20	07/11/22 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*41 - 120*	*07/08/22 08:20*	*07/11/22 19:33*	*1*
2-Fluorobiphenyl (Surr)	*76*		*48 - 120*	*07/08/22 08:20*	*07/11/22 19:33*	*1*
2-Fluorophenol (Surr)	*46*		*35 - 120*	*07/08/22 08:20*	*07/11/22 19:33*	*1*
Nitrobenzene-d5 (Surr)	*70*		*46 - 120*	*07/08/22 08:20*	*07/11/22 19:33*	*1*
Phenol-d5 (Surr)	*34*		*22 - 120*	*07/08/22 08:20*	*07/11/22 19:33*	*1*
p-Terphenyl-d14 (Surr)	*76*		*60 - 148*	*07/08/22 08:20*	*07/11/22 19:33*	*1*

Client Sample ID: MW-2022-7
Date Collected: 07/05/22 17:20
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-2
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/08/22 08:32	07/09/22 12:00	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:00	1
4,4'-DDT	~~0.012 J B~~		0.050 U	0.011	ug/L		07/08/22 08:32	07/09/22 12:00	1
Aldrin	ND		0.050	0.0081	ug/L		07/08/22 08:32	07/09/22 12:00	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/08/22 08:32	07/09/22 12:00	1
beta-BHC	ND		0.050	0.025	ug/L		07/08/22 08:32	07/09/22 12:00	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/08/22 08:32	07/09/22 12:00	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/08/22 08:32	07/09/22 12:00	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/08/22 08:32	07/09/22 12:00	1
delta-BHC	ND		0.050	0.010	ug/L		07/08/22 08:32	07/09/22 12:00	1
Dieldrin	ND		0.050	0.0098	ug/L		07/08/22 08:32	07/09/22 12:00	1
Endosulfan I	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:00	1
Endosulfan II	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:00	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:00	1
Endrin	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:00	1
Endrin aldehyde	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:00	1
Endrin ketone	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:00	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/08/22 08:32	07/09/22 12:00	1
Heptachlor	ND		0.050	0.0085	ug/L		07/08/22 08:32	07/09/22 12:00	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/08/22 08:32	07/09/22 12:00	1
Methoxychlor	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:00	1
Toxaphene	ND		0.50	0.12	ug/L		07/08/22 08:32	07/09/22 12:00	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*33*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:00*	*1*
DCB Decachlorobiphenyl	*67*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:00*	*1*
Tetrachloro-m-xylene	*61*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:00*	*1*
Tetrachloro-m-xylene	*64*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:00*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:20	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:20	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:20	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:20	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:20	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 21:20	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*67*		*39 - 121*	*07/11/22 09:40*	*07/11/22 21:20*	*1*
Tetrachloro-m-xylene	*69*		*39 - 121*	*07/11/22 09:40*	*07/11/22 21:20*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*07/11/22 09:40*	*07/11/22 21:20*	*1*
DCB Decachlorobiphenyl	*53*		*19 - 120*	*07/11/22 09:40*	*07/11/22 21:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/08/22 07:34	07/10/22 10:42	1
2,4-D	ND		0.48	0.16	ug/L		07/08/22 07:34	07/10/22 10:42	1

Client Sample ID: MW-2022-7
Date Collected: 07/05/22 17:20
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-2
Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/08/22 07:34	07/10/22 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*48 - 132*	*07/08/22 07:34*	*07/10/22 10:42*	*1*
2,4-Dichlorophenylacetic acid	*67*		*48 - 132*	*07/08/22 07:34*	*07/10/22 10:42*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		07/12/22 06:00	07/14/22 15:49	1
Disulfoton	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 15:49	1
Famphur	ND		0.94	0.30	ug/L		07/12/22 06:00	07/14/22 15:49	1
Methyl parathion	ND		0.94	0.32	ug/L		07/12/22 06:00	07/14/22 15:49	1
Ethyl Parathion	ND		0.94	0.34	ug/L		07/12/22 06:00	07/14/22 15:49	1
Phorate	ND		0.94	0.36	ug/L		07/12/22 06:00	07/14/22 15:49	1
Sulfotepp	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*25 - 127*	*07/12/22 06:00*	*07/14/22 15:49*	*1*
Tributyl phosphate	*83*		*25 - 127*	*07/12/22 06:00*	*07/14/22 15:49*	*1*
Triphenylphosphate	*96*		*70 - 155*	*07/12/22 06:00*	*07/14/22 15:49*	*1*
Triphenylphosphate	*96*		*70 - 155*	*07/12/22 06:00*	*07/14/22 15:49*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		07/11/22 10:35	07/12/22 00:46	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		07/11/22 10:35	07/12/22 00:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		07/11/22 10:35	07/12/22 00:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.5	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.50	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorobutanoic acid (PFBA)	ND		4.1	0.98	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.62	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.55	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		07/11/22 10:35	07/12/22 00:46	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		07/11/22 10:35	07/12/22 00:46	1

Client Sample ID: MW-2022-7
Date Collected: 07/05/22 17:20
Date Received: 07/07/22 10:00

Lab Sample ID: 480-199600-2
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	106		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C2 PFDoA	96		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C2 PFHxA	110		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C2 PFTeDA	117		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C2 PFUnA	103		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C3 PFBS	93		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C4 PFBA	114		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C4 PFHpA	104		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C4 PFOA	106		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C4 PFOS	79		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C5 PFNA	104		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C5 PFPeA	111		50 - 150	07/11/22 10:35	07/12/22 00:46	1
13C8 FOSA	80		50 - 150	07/11/22 10:35	07/12/22 00:46	1
18O2 PFHxS	85		50 - 150	07/11/22 10:35	07/12/22 00:46	1
d3-NMeFOSAA	110		50 - 150	07/11/22 10:35	07/12/22 00:46	1
d5-NEtFOSAA	111		50 - 150	07/11/22 10:35	07/12/22 00:46	1
M2-6:2 FTS	94		50 - 150	07/11/22 10:35	07/12/22 00:46	1
M2-8:2 FTS	102		50 - 150	07/11/22 10:35	07/12/22 00:46	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.4	J I B	24		0.15	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,4,6,7,8-HpCDF	1.2	J I B	24		0.038	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,4,7,8,9-HpCDF	0.65	J B	24		0.051	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,4,7,8-HxCDD	0.50	J B	24		0.038	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,4,7,8-HxCDF	0.72	J B	24		0.087	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,6,7,8-HxCDD	0.79	J I B	24		0.038	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,6,7,8-HxCDF	0.73	J I B	24	U	0.089	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,7,8,9-HxCDD	0.50	J I B	24		0.036	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,7,8,9-HxCDF	1.1	J I B	24		0.091	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,7,8-PeCDD	0.60	J I B	24		0.067	pg/L		07/29/22 07:51	08/01/22 13:39	1
1,2,3,7,8-PeCDF	0.74	J I B	24		0.11	pg/L		07/29/22 07:51	08/01/22 13:39	1
2,3,4,6,7,8-HxCDF	0.87	J B	24		0.083	pg/L		07/29/22 07:51	08/01/22 13:39	1
2,3,4,7,8-PeCDF	ND		24		0.086	pg/L		07/29/22 07:51	08/01/22 13:39	1
2,3,7,8-TCDD	ND		4.8		0.068	pg/L		07/29/22 07:51	08/01/22 13:39	1
2,3,7,8-TCDF	0.29	~~J I~~ JNX	4.8		0.051	pg/L		07/29/22 07:51	08/01/22 13:39	1
OCDD	5.2	J I B	110		0.24	pg/L		07/29/22 07:51	08/01/22 13:39	1
OCDF	2.2	J B	48		0.080	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total HpCDD	1.4	J I B	24		0.15	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total HpCDF	1.9	J I B	24	U	0.044	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total HxCDD	1.8	J I B	24		0.037	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total HxCDF	3.4	J I B	24		0.088	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total PeCDD	0.60	J I B	24		0.067	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total PeCDF	0.74	J I B	24		0.096	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total TCDD	ND		4.8		0.068	pg/L		07/29/22 07:51	08/01/22 13:39	1
Total TCDF	0.29	~~J I~~ JNX	4.8		0.051	pg/L		07/29/22 07:51	08/01/22 13:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	58		40 - 135	07/29/22 07:51	08/01/22 13:39	1
13C-1,2,3,4,6,7,8-HpCDF	61		40 - 135	07/29/22 07:51	08/01/22 13:39	1
13C-1,2,3,4,7,8,9-HpCDF	58		40 - 135	07/29/22 07:51	08/01/22 13:39	1

Client Sample ID: MW-2022-7
Lab Sample ID: 480-199600-2
Date Collected: 07/05/22 17:20
Matrix: Water
Date Received: 07/07/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*61*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,6,7,8-HxCDF	*56*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,7,8,9-HxCDD	*58*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,7,8,9-HxCDF	*61*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-1,2,3,7,8-PeCDF	*60*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-2,3,4,6,7,8-HxCDF	*59*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-2,3,4,7,8-PeCDF	*59*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-2,3,7,8-TCDD	*56*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-2,3,7,8-TCDF	*57*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-OCDD	*53*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*
13C-OCDF	*54*		*40 - 135*	*07/29/22 07:51*	*08/01/22 13:39*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/11/22 09:15	07/11/22 22:00	1
Arsenic	ND		0.015	0.0056	mg/L		07/11/22 09:15	07/11/22 22:00	1
Barium	**0.11**		0.0020	0.00070	mg/L		07/11/22 09:15	07/11/22 22:00	1
Beryllium	ND		0.0020	0.00030	mg/L		07/11/22 09:15	07/11/22 22:00	1
Cadmium	ND		0.0020	0.00050	mg/L		07/11/22 09:15	07/11/22 22:00	1
Chromium	ND		0.0040	0.0010	mg/L		07/11/22 09:15	07/11/22 22:00	1
Cobalt	**0.0054**		0.0040	0.00063	mg/L		07/11/22 09:15	07/11/22 22:00	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		07/11/22 09:15	07/11/22 22:00	1
Lead	ND		0.010	0.0030	mg/L		07/11/22 09:15	07/11/22 22:00	1
Nickel	**0.0059**	**J**	0.010	0.0013	mg/L		07/11/22 09:15	07/11/22 22:00	1
Selenium	ND		0.025	0.0087	mg/L		07/11/22 09:15	07/11/22 22:00	1
Silver	ND		0.0060	0.0017	mg/L		07/11/22 09:15	07/11/22 22:00	1
Thallium	ND		0.020	0.010	mg/L		07/11/22 09:15	07/11/22 22:00	1
Tin	ND		0.010	0.0051	mg/L		07/11/22 09:15	07/11/22 22:00	1
Vanadium	ND		0.0050	0.0015	mg/L		07/11/22 09:15	07/11/22 22:00	1
Zinc	ND		0.010	0.0015	mg/L		07/11/22 09:15	07/11/22 22:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/08/22 11:02	07/08/22 14:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.0073**	**~~J F1~~ J**	0.010	0.0050	mg/L		07/11/22 12:29	07/11/22 13:37	1
Sulfide	ND		1.0	0.67	mg/L			07/08/22 16:56	1

Client Sample ID: TRIP BLANK 070522
Lab Sample ID: 480-199600-3
Date Collected: 07/05/22 00:00
Matrix: Water
Date Received: 07/07/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/08/22 01:03	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/08/22 01:03	1

Client Sample ID: TRIP BLANK 070522
Lab Sample ID: 480-199600-3

Date Collected: 07/05/22 00:00
Matrix: Water
Date Received: 07/07/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/08/22 01:03	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/08/22 01:03	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/08/22 01:03	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/08/22 01:03	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/08/22 01:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/08/22 01:03	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/08/22 01:03	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/08/22 01:03	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/08/22 01:03	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/08/22 01:03	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/08/22 01:03	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/08/22 01:03	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/08/22 01:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/08/22 01:03	1
Acetone	ND		10	3.0	ug/L			07/08/22 01:03	1
Acetonitrile	ND		15	4.9	ug/L			07/08/22 01:03	1
Acrolein	ND		20	0.91	ug/L			07/08/22 01:03	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/08/22 01:03	1
Benzene	ND		1.0	0.41	ug/L			07/08/22 01:03	1
Bromoform	ND		1.0	0.26	ug/L			07/08/22 01:03	1
Bromomethane	ND		1.0	0.69	ug/L			07/08/22 01:03	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/08/22 01:03	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/08/22 01:03	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/08/22 01:03	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/08/22 01:03	1
Chloroethane	ND		1.0	0.32	ug/L			07/08/22 01:03	1
Chloroform	ND		1.0	0.34	ug/L			07/08/22 01:03	1
Chloromethane	ND		1.0	0.35	ug/L			07/08/22 01:03	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/08/22 01:03	1
Dibromomethane	ND		1.0	0.41	ug/L			07/08/22 01:03	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/08/22 01:03	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/08/22 01:03	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/08/22 01:03	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/08/22 01:03	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/08/22 01:03	1
Iodomethane	ND		1.0	0.30	ug/L			07/08/22 01:03	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/08/22 01:03	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/08/22 01:03	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/08/22 01:03	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/08/22 01:03	1
o-Xylene	ND		1.0	0.76	ug/L			07/08/22 01:03	1
Propionitrile	ND		10	5.8	ug/L			07/08/22 01:03	1
Styrene	ND		1.0	0.73	ug/L			07/08/22 01:03	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/08/22 01:03	1
Toluene	ND		1.0	0.51	ug/L			07/08/22 01:03	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/08/22 01:03	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/08/22 01:03	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/08/22 01:03	1
Trichloroethene	ND		1.0	0.46	ug/L			07/08/22 01:03	1

Client: ARCADIS U.S. Inc
Job ID: 480-199600-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK 070522
Lab Sample ID: 480-199600-3
Date Collected: 07/05/22 00:00
Matrix: Water
Date Received: 07/07/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/08/22 01:03	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/08/22 01:03	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/08/22 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*07/08/22 01:03*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*07/08/22 01:03*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*07/08/22 01:03*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/08/22 01:03*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDFs), Perfluoroalkyl Substances (PFAs), Metals, and Miscellaneous Analyses

SDG # 480-199627-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47716R
Review Level: Tier I
Project: 30131071.0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Laboratory Control Sample Analysis 10
3.3 System Performance and Overall Assessment 11
3.4 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 11
4.1 Holding Times 11
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 12
5.1 Holding Times 12
5.2 System Performance and Overall Assessment 13
5.3 Data Validation Checklist 13
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 14
6.3 Compound Identification 15
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Perfluoroalkyl Substances Analyses 16
7.1 Holding Times 16
7.2 System Performance and Overall Assessment 16
7.3 Data Validation Checklist 17
8 Metals Analyses 17
8.1 Holding Times 17

8.2 Blank Contamination 17
8.3 System Performance and Overall Assessment 18
8.4 Data Validation Checklist 18
9 General Chemistry Analyses 18
9.1 Holding Times 18
9.2 System Performance and Overall Assessment 19
9.3 Data Validation Checklist for General Chemistry 19
10 Overall Data Usability 19

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Data Validation Checklist for Volatile Organic Compounds 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 8. Laboratory Control Sample Recovery Criteria and Qualifications 10
Table 9. Data Validation Checklist for SemiVolatile Organic Compounds 11
Table 10. Holding Time for Method SW-846 8082A 11
Table 11. Data Validation Checklist for Polychlorinated Biphenyls 12
Table 12. Holding Time for Method SW-846 8081B/8141B/8151A 12
Table 13. Data Validation Checklist for Herbicides / Pesticides 13
Table 14. Holding Time for Method SW-846 8290A 13
Table 15. Summary of Blank Contamination Qualifications 14
Table 16. Data Validation Checklist for Dioxines and Furans 15
Table 17. Holding Time for Method 537 16
Table 18. Data Validation Checklist for Perfluoroalkyl Substances 17
Table 19. Holding Time for Method SW-846 6010C/7470A 17
Table 20. Data Validation Checklist for Metals 18
Table 21. Specified Holding Times 19
Table 22. Data Validation Checklist for Cyanide and Sulfide 19
Table 23. Overall Summary of Data Usability 20

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199627-1 performed on behalf of the General Electric Company (GE) for groundwater sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-3	480-199627-1	Water	7/6/2022		X	X	X	X	X	X	X
MW-2022-RB-1	480-199627-2	Water	7/6/2022		X	X	X	X	X	X	X
TRIP BLANK 070622	480-199627-3	Water	7/6/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
PFAS = Per and polyfluoroalkyl substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, USEPA Modified method 537, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).
- USEPA Method 537 Modified, Eurofins Laboratories SOP BR-LC-009, Rev. 8.0 Per- and Poly-fluorinated Substances (PFAS) in Water, Soils, Sediments and Tissue (April 2022)

- Department of Defense (DoD) Quality Systems Manual (QSM) 5.3, USEPA Data Review and Validation Guideline for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, (November 2018)
- DoD Final Data Validation Guidelines Module 3: PFAS, (May 2020)

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	2	0	0	0	3
SVOCs	1	0	1	0	0	0	2
PCBs	1	0	1	0	0	0	2
PEST	1	0	1	0	0	0	2
HERB	1	0	1	0	0	0	2
PCDD/PCDF	1	0	1	0	0	0	2
PFAS	1	0	1	0	0	0	2
Metals	1	0	1	0	0	0	2
MISC	1	0	1	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

Table 5. Data Validation Checklist for Volatile Organic Compounds

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Locations	Compound	LCS Recovery
MW-2022-3 MW-2022-RB-1	p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

Table 9. Data Validation Checklist for SemiVolatile Organic Compounds

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Laboratory Control Sample (LCS)		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

Table 11. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criteria.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

Table 13. Data Validation Checklist for Herbicides / Pesticides

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample Locations	Compounds	Sample Result	Qualification
MW-2022-3	1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDF 1,2,3,7,8,9-HxCDD 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PeCDF OCDD OCDF Total HpCDF Total HxCDD Total HxCDF Total PeCDF	Detected sample results <RL and <BAL	““U” at the RL

RL = reporting limit
MB = method blank

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX (or JNXB if method blank contamination is present in the rinse blank sample).

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

Table 16. Data Validation Checklist for Dioxines and Furans

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 17. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C

The holding time has been changed from the original holding time documented in EPA 537 of 14 days for extraction to 28 days. This was documented in EPA Technical Brief EPA/600/F-17/022h Updated January 2020. Utilizing the new guidance of 28 days all samples were analyzed within the specified holding time criteria.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

Table 18. Data Validation Checklist for Perfluoroalkyl Substances

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is

compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Zinc was detected in method blank batch 632959; however, the associated sample results were non-detect. Hence, qualification was not required.

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist

Table 20. Data Validation Checklist for Metals

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks	X				X
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 21. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9

All samples were analyzed within the specified holding times.

9.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.3 Data Validation Checklist for General Chemistry

Table 22. Data Validation Checklist for Cyanide and Sulfide

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

10 Overall Data Usability

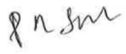
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 23. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	3
SVOCs	99.2%	2
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 26, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 27, 2022

Appendix A

Chain of Custody

Appendix B

Annotated Sample Analysis Data Sheets

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30132437.001			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS		Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	N	D	A	N	CB	B	N			
MW-2022-3	7/6/22	14:15	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-RB-1	7/6/22	18:00	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 070622	7/6/22	---	G	Water									X							2	

7-7-2022

480-199627 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	7/7/22 0900	Arcadis		7-7-2022 0900	EETN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	7-7-2022 1500	EETN		7/8/22 1000	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks
		#1 3.1, 3.4, 2.9

Client Sample ID: MW-2022-3
Lab Sample ID: 480-199627-1

Date Collected: 07/06/22 14:15
Matrix: Water

Date Received: 07/08/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/08/22 22:27	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/08/22 22:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/08/22 22:27	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/08/22 22:27	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/08/22 22:27	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/08/22 22:27	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/08/22 22:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/08/22 22:27	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/08/22 22:27	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/08/22 22:27	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/08/22 22:27	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/08/22 22:27	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/08/22 22:27	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/08/22 22:27	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/08/22 22:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/08/22 22:27	1
Acetone	ND		10	3.0	ug/L			07/08/22 22:27	1
Acetonitrile	ND		15	4.9	ug/L			07/08/22 22:27	1
Acrolein	ND		20	0.91	ug/L			07/08/22 22:27	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/08/22 22:27	1
Benzene	ND		1.0	0.41	ug/L			07/08/22 22:27	1
Bromoform	ND		1.0	0.26	ug/L			07/08/22 22:27	1
Bromomethane	ND		1.0	0.69	ug/L			07/08/22 22:27	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/08/22 22:27	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/08/22 22:27	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/08/22 22:27	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/08/22 22:27	1
Chloroethane	ND		1.0	0.32	ug/L			07/08/22 22:27	1
Chloroform	ND		1.0	0.34	ug/L			07/08/22 22:27	1
Chloromethane	ND		1.0	0.35	ug/L			07/08/22 22:27	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/08/22 22:27	1
Dibromomethane	ND		1.0	0.41	ug/L			07/08/22 22:27	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/08/22 22:27	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/08/22 22:27	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/08/22 22:27	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/08/22 22:27	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/08/22 22:27	1
Iodomethane	ND		1.0	0.30	ug/L			07/08/22 22:27	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/08/22 22:27	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/08/22 22:27	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/08/22 22:27	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/08/22 22:27	1
o-Xylene	ND		1.0	0.76	ug/L			07/08/22 22:27	1
Propionitrile	ND		10	5.8	ug/L			07/08/22 22:27	1
Styrene	ND		1.0	0.73	ug/L			07/08/22 22:27	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/08/22 22:27	1
Toluene	ND		1.0	0.51	ug/L			07/08/22 22:27	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/08/22 22:27	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/08/22 22:27	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-199627-1

Date Collected: 07/06/22 14:15
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/08/22 22:27	1
Trichloroethene	ND		1.0	0.46	ug/L			07/08/22 22:27	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/08/22 22:27	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/08/22 22:27	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/08/22 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*07/08/22 22:27*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*07/08/22 22:27*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*07/08/22 22:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/08/22 22:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	*1	5.0	0.58	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,2,4-Trichlorobenzene	ND	*1	10	0.44	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,2-Dichlorobenzene	ND	*1	10	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,4-Dioxane	ND		10	1.1	ug/L		07/11/22 09:50	07/12/22 18:22	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/11/22 09:50	07/12/22 18:22	1
1-Naphthylamine	ND		10	1.3	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 18:22	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Chloronaphthalene	ND	*1	5.0	0.46	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Methylnaphthalene	ND	*1	5.0	0.60	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Naphthylamine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Nitroaniline	ND		10	0.42	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Nitrophenol	ND	*1	5.0	0.48	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Picoline	ND		80	1.4	ug/L		07/11/22 09:50	07/12/22 18:22	1
2-Toluidine	ND		10	1.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 18:22	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
3-Methylphenol	ND		10	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
3-Nitroaniline	ND		10	0.48	ug/L		07/11/22 09:50	07/12/22 18:22	1

Client Sample ID: MW-2022-3
Date Collected: 07/06/22 14:15
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Chlorophenyl phenyl ether	ND	*1	5.0	0.35	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Methylphenol	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Nitroaniline	ND		10	0.25	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Nitrophenol	ND		10	1.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/11/22 09:50	07/12/22 18:22	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		07/11/22 09:50	07/12/22 18:22	1
Acenaphthene	ND		5.0	0.41	ug/L		07/11/22 09:50	07/12/22 18:22	1
Acenaphthylene	ND	*1	5.0	0.38	ug/L		07/11/22 09:50	07/12/22 18:22	1
Acetophenone	ND		5.0	0.54	ug/L		07/11/22 09:50	07/12/22 18:22	1
Aniline	ND		10	0.61	ug/L		07/11/22 09:50	07/12/22 18:22	1
Anthracene	ND		5.0	0.28	ug/L		07/11/22 09:50	07/12/22 18:22	1
Aramite, Total	ND		20	1.6	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzidine	ND		80	2.2	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/11/22 09:50	07/12/22 18:22	1
Benzyl alcohol	ND		20	2.0	ug/L		07/11/22 09:50	07/12/22 18:22	1
bis (2-chloroisopropyl) ether	ND	*1	5.0	0.52	ug/L		07/11/22 09:50	07/12/22 18:22	1
Bis(2-chloroethoxy)methane	ND	*1	5.0	0.35	ug/L		07/11/22 09:50	07/12/22 18:22	1
Bis(2-chloroethyl)ether	ND	*1	5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/11/22 09:50	07/12/22 18:22	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/11/22 09:50	07/12/22 18:22	1
Chrysene	ND		5.0	0.33	ug/L		07/11/22 09:50	07/12/22 18:22	1
Diallate	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/11/22 09:50	07/12/22 18:22	1
Dibenzofuran	ND	*1	10	0.51	ug/L		07/11/22 09:50	07/12/22 18:22	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/11/22 09:50	07/12/22 18:22	1
Dimethoate	ND		10	0.54	ug/L		07/11/22 09:50	07/12/22 18:22	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 18:22	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/11/22 09:50	07/12/22 18:22	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 18:22	1
Dinoseb	ND		10	2.9	ug/L		07/11/22 09:50	07/12/22 18:22	1
Diphenylamine	ND		10	0.82	ug/L		07/11/22 09:50	07/12/22 18:22	1
Disulfoton	ND		10	0.42	ug/L		07/11/22 09:50	07/12/22 18:22	1
Chlorobenzilate	ND		20	0.67	ug/L		07/11/22 09:50	07/12/22 18:22	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/11/22 09:50	07/12/22 18:22	1
Famphur	ND	*1	40	1.9	ug/L		07/11/22 09:50	07/12/22 18:22	1
Fluoranthene	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:22	1
Fluorene	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 18:22	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 18:22	1
Hexachlorobutadiene	ND	*1	5.0	0.68	ug/L		07/11/22 09:50	07/12/22 18:22	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-199627-1

Date Collected: 07/06/22 14:15
Matrix: Water

Date Received: 07/08/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 18:22	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 18:22	1
Hexachloropropene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 18:22	1
Isodrin	ND		10	0.18	ug/L		07/11/22 09:50	07/12/22 18:22	1
Isophorone	ND	*1	5.0	0.43	ug/L		07/11/22 09:50	07/12/22 18:22	1
Isosafrole	ND		10	0.58	ug/L		07/11/22 09:50	07/12/22 18:22	1
Kepone	ND		50	1.8	ug/L		07/11/22 09:50	07/12/22 18:22	1
Methapyrilene	ND		50	1.8	ug/L		07/11/22 09:50	07/12/22 18:22	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
Naphthalene	ND	*1	5.0	0.76	ug/L		07/11/22 09:50	07/12/22 18:22	1
Nitrobenzene	ND	*1	5.0	0.29	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/11/22 09:50	07/12/22 18:22	1
Ethyl Parathion	ND		10	0.64	ug/L		07/11/22 09:50	07/12/22 18:22	1
Methyl parathion	ND		10	0.37	ug/L		07/11/22 09:50	07/12/22 18:22	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/11/22 09:50	07/12/22 18:22	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/11/22 09:50	07/12/22 18:22	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
Pentachlorophenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:22	1
Phenacetin	ND		10	0.61	ug/L		07/11/22 09:50	07/12/22 18:22	1
Phenanthrene	ND		5.0	0.44	ug/L		07/11/22 09:50	07/12/22 18:22	1
Phenol	ND		5.0	0.39	ug/L		07/11/22 09:50	07/12/22 18:22	1
Phorate	ND		10	0.50	ug/L		07/11/22 09:50	07/12/22 18:22	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/11/22 09:50	07/12/22 18:22	R 1
Pronamide	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:22	1
Pyrene	ND		5.0	0.34	ug/L		07/11/22 09:50	07/12/22 18:22	1
Pyridine	ND		25	0.41	ug/L		07/11/22 09:50	07/12/22 18:22	1
Safrole	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 18:22	1
Sulfotepp	ND		10	0.64	ug/L		07/11/22 09:50	07/12/22 18:22	1
Thionazin	ND		10	0.38	ug/L		07/11/22 09:50	07/12/22 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*41 - 120*	*07/11/22 09:50*	*07/12/22 18:22*	*1*
2-Fluorobiphenyl (Surr)	*97*		*48 - 120*	*07/11/22 09:50*	*07/12/22 18:22*	*1*
2-Fluorophenol (Surr)	*71*		*35 - 120*	*07/11/22 09:50*	*07/12/22 18:22*	*1*
Nitrobenzene-d5 (Surr)	*88*		*46 - 120*	*07/11/22 09:50*	*07/12/22 18:22*	*1*
Phenol-d5 (Surr)	*48*		*22 - 120*	*07/11/22 09:50*	*07/12/22 18:22*	*1*
p-Terphenyl-d14 (Surr)	*100*		*60 - 148*	*07/11/22 09:50*	*07/12/22 18:22*	*1*

Client Sample ID: MW-2022-3
Date Collected: 07/06/22 14:15
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-1
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	*+	0.050	0.0092	ug/L		07/12/22 08:11	07/12/22 13:50	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 13:50	1
4,4'-DDT	ND	*+	0.050	0.011	ug/L		07/12/22 08:11	07/12/22 13:50	1
Aldrin	ND		0.050	0.0081	ug/L		07/12/22 08:11	07/12/22 13:50	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/12/22 08:11	07/12/22 13:50	1
beta-BHC	ND		0.050	0.025	ug/L		07/12/22 08:11	07/12/22 13:50	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/12/22 08:11	07/12/22 13:50	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/12/22 08:11	07/12/22 13:50	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/12/22 08:11	07/12/22 13:50	1
delta-BHC	ND		0.050	0.010	ug/L		07/12/22 08:11	07/12/22 13:50	1
Dieldrin	ND		0.050	0.0098	ug/L		07/12/22 08:11	07/12/22 13:50	1
Endosulfan I	ND		0.050	0.011	ug/L		07/12/22 08:11	07/12/22 13:50	1
Endosulfan II	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 13:50	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/12/22 08:11	07/12/22 13:50	1
Endrin	ND		0.050	0.014	ug/L		07/12/22 08:11	07/12/22 13:50	1
Endrin aldehyde	ND		0.050	0.016	ug/L		07/12/22 08:11	07/12/22 13:50	1
Endrin ketone	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 13:50	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/12/22 08:11	07/12/22 13:50	1
Heptachlor	ND		0.050	0.0085	ug/L		07/12/22 08:11	07/12/22 13:50	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/12/22 08:11	07/12/22 13:50	1
Methoxychlor	ND		0.050	0.014	ug/L		07/12/22 08:11	07/12/22 13:50	1
Toxaphene	ND		0.50	0.12	ug/L		07/12/22 08:11	07/12/22 13:50	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/12/22 08:11	07/12/22 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*46*		*20 - 120*	*07/12/22 08:11*	*07/12/22 13:50*	*1*
DCB Decachlorobiphenyl	*84*		*20 - 120*	*07/12/22 08:11*	*07/12/22 13:50*	*1*
Tetrachloro-m-xylene	*80*		*44 - 120*	*07/12/22 08:11*	*07/12/22 13:50*	*1*
Tetrachloro-m-xylene	*87*		*44 - 120*	*07/12/22 08:11*	*07/12/22 13:50*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:53	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:53	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:53	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:53	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 22:53	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 22:53	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*70*		*39 - 121*	*07/11/22 09:40*	*07/11/22 22:53*	*1*
Tetrachloro-m-xylene	*74*		*39 - 121*	*07/11/22 09:40*	*07/11/22 22:53*	*1*
DCB Decachlorobiphenyl	*57*		*19 - 120*	*07/11/22 09:40*	*07/11/22 22:53*	*1*
DCB Decachlorobiphenyl	*61*		*19 - 120*	*07/11/22 09:40*	*07/11/22 22:53*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/12/22 08:51	07/13/22 14:11	1
2,4-D	ND		0.48	0.16	ug/L		07/12/22 08:51	07/13/22 14:11	1

Client Sample ID: MW-2022-3
Date Collected: 07/06/22 14:15
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-1
Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/12/22 08:51	07/13/22 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*96*		*48 - 132*	*07/12/22 08:51*	*07/13/22 14:11*	*1*
2,4-Dichlorophenylacetic acid	*103*		*48 - 132*	*07/12/22 08:51*	*07/13/22 14:11*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		07/12/22 06:00	07/14/22 17:55	1
Disulfoton	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 17:55	1
Famphur	ND		0.94	0.30	ug/L		07/12/22 06:00	07/14/22 17:55	1
Methyl parathion	ND		0.94	0.32	ug/L		07/12/22 06:00	07/14/22 17:55	1
Ethyl Parathion	ND		0.94	0.34	ug/L		07/12/22 06:00	07/14/22 17:55	1
Phorate	ND		0.94	0.36	ug/L		07/12/22 06:00	07/14/22 17:55	1
Sulfotepp	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*25 - 127*	*07/12/22 06:00*	*07/14/22 17:55*	*1*
Tributyl phosphate	*87*		*25 - 127*	*07/12/22 06:00*	*07/14/22 17:55*	*1*
Triphenylphosphate	*96*		*70 - 155*	*07/12/22 06:00*	*07/14/22 17:55*	*1*
Triphenylphosphate	*99*		*70 - 155*	*07/12/22 06:00*	*07/14/22 17:55*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		07/11/22 10:35	07/12/22 01:10	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		07/11/22 10:35	07/12/22 01:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		07/11/22 10:35	07/12/22 01:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.6	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.51	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorobutanoic acid (PFBA)	ND		4.1	0.98	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.38	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.62	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.56	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		07/11/22 10:35	07/12/22 01:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		07/11/22 10:35	07/12/22 01:10	1

Client Sample ID: MW-2022-3
Date Collected: 07/06/22 14:15
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	107		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C2 PFDoA	99		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C2 PFHxA	109		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C2 PFTeDA	110		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C2 PFUnA	113		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C3 PFBS	89		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C4 PFBA	99		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C4 PFHpA	106		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C4 PFOA	104		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C4 PFOS	80		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C5 PFNA	102		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C5 PFPeA	111		50 - 150	07/11/22 10:35	07/12/22 01:10	1
13C8 FOSA	88		50 - 150	07/11/22 10:35	07/12/22 01:10	1
18O2 PFHxS	84		50 - 150	07/11/22 10:35	07/12/22 01:10	1
d3-NMeFOSAA	109		50 - 150	07/11/22 10:35	07/12/22 01:10	1
d5-NEtFOSAA	111		50 - 150	07/11/22 10:35	07/12/22 01:10	1
M2-6:2 FTS	91		50 - 150	07/11/22 10:35	07/12/22 01:10	1
M2-8:2 FTS	96		50 - 150	07/11/22 10:35	07/12/22 01:10	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24		0.15	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,4,6,7,8-HpCDF	~~0.34~~	~~J I B~~	24	U	0.020	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,4,7,8,9-HpCDF	~~0.30~~	~~J I B~~	24	U	0.029	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,4,7,8-HxCDD	ND		24		0.052	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,4,7,8-HxCDF	~~0.37~~	~~J I B~~	24	U	0.030	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,6,7,8-HxCDD	ND		24		0.052	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,6,7,8-HxCDF	ND		24		0.028	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,7,8,9-HxCDD	~~0.29~~	~~J I B~~	24	U	0.057	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,7,8,9-HxCDF	ND		24		0.040	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,7,8-PeCDD	ND		24		0.054	pg/L		07/29/22 07:51	07/29/22 20:47	1
1,2,3,7,8-PeCDF	ND		24		0.040	pg/L		07/29/22 07:51	07/29/22 20:47	1
2,3,4,6,7,8-HxCDF	~~0.31~~	~~J I B~~	24	U	0.027	pg/L		07/29/22 07:51	07/29/22 20:47	1
2,3,4,7,8-PeCDF	~~0.099~~	~~J B~~	24	U	0.029	pg/L		07/29/22 07:51	07/29/22 20:47	1
2,3,7,8-TCDD	ND		4.8		0.050	pg/L		07/29/22 07:51	07/29/22 20:47	1
2,3,7,8-TCDF	0.18	~~J I~~ JNX	4.8		0.041	pg/L		07/29/22 07:51	07/29/22 20:47	1
OCDD	~~3.8~~	~~J I B~~	110	U	0.046	pg/L		07/29/22 07:51	07/29/22 20:47	1
OCDF	~~1.0~~	~~J B~~	48	U	0.064	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total HpCDD	ND		24		0.15	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total HpCDF	~~0.64~~	~~J I B~~	24	U	0.024	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total HxCDD	~~0.29~~	~~J I B~~	24	U	0.054	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total HxCDF	~~0.68~~	~~J I B~~	24	U	0.031	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total PeCDD	ND		24		0.054	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total PeCDF	~~0.099~~	~~J I B~~	24	U	0.034	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total TCDD	ND		4.8		0.050	pg/L		07/29/22 07:51	07/29/22 20:47	1
Total TCDF	0.18	~~J I~~ JNX	4.8		0.041	pg/L		07/29/22 07:51	07/29/22 20:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	74		40 - 135	07/29/22 07:51	07/29/22 20:47	1
13C-1,2,3,4,6,7,8-HpCDF	68		40 - 135	07/29/22 07:51	07/29/22 20:47	1
13C-1,2,3,4,7,8,9-HpCDF	73		40 - 135	07/29/22 07:51	07/29/22 20:47	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-199627-1
Date Collected: 07/06/22 14:15
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,6,7,8-HxCDD	*84*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,7,8,9-HxCDD	*82*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-2,3,4,6,7,8-HxCDF	*72*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-2,3,7,8-TCDF	*57*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-OCDD	*80*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*
13C-OCDF	*75*		*40 - 135*	*07/29/22 07:51*	*07/29/22 20:47*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/11/22 09:19	07/11/22 17:16	1
Arsenic	ND		0.015	0.0056	mg/L		07/11/22 09:19	07/11/22 17:16	1
Barium	**0.0079**		0.0020	0.00070	mg/L		07/11/22 09:19	07/11/22 17:16	1
Beryllium	ND		0.0020	0.00030	mg/L		07/11/22 09:19	07/11/22 17:16	1
Cadmium	ND		0.0020	0.00050	mg/L		07/11/22 09:19	07/11/22 17:16	1
Chromium	ND		0.0040	0.0010	mg/L		07/11/22 09:19	07/11/22 17:16	1
Cobalt	ND		0.0040	0.00063	mg/L		07/11/22 09:19	07/11/22 17:16	1
Copper	ND		0.010	0.0016	mg/L		07/11/22 09:19	07/11/22 17:16	1
Lead	ND		0.010	0.0030	mg/L		07/11/22 09:19	07/11/22 17:16	1
Nickel	ND		0.010	0.0013	mg/L		07/11/22 09:19	07/11/22 17:16	1
Selenium	ND		0.025	0.0087	mg/L		07/11/22 09:19	07/11/22 17:16	1
Silver	ND		0.0060	0.0017	mg/L		07/11/22 09:19	07/11/22 17:16	1
Thallium	ND		0.020	0.010	mg/L		07/11/22 09:19	07/11/22 17:16	1
Tin	ND		0.010	0.0051	mg/L		07/11/22 09:19	07/11/22 17:16	1
Vanadium	ND		0.0050	0.0015	mg/L		07/11/22 09:19	07/11/22 17:16	1
Zinc	ND		0.010	0.0015	mg/L		07/11/22 09:19	07/11/22 17:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/11/22 10:23	07/11/22 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		07/11/22 12:29	07/11/22 13:48	1
Sulfide	ND		1.0	0.67	mg/L			07/12/22 10:14	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-199627-2
Date Collected: 07/06/22 18:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/08/22 22:50	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/08/22 22:50	1

Client Sample ID: MW-2022-RB-1
Date Collected: 07/06/22 18:00
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/08/22 22:50	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/08/22 22:50	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/08/22 22:50	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/08/22 22:50	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/08/22 22:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/08/22 22:50	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/08/22 22:50	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/08/22 22:50	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/08/22 22:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/08/22 22:50	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/08/22 22:50	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/08/22 22:50	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/08/22 22:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/08/22 22:50	1
Acetone	ND		10	3.0	ug/L			07/08/22 22:50	1
Acetonitrile	ND		15	4.9	ug/L			07/08/22 22:50	1
Acrolein	ND		20	0.91	ug/L			07/08/22 22:50	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/08/22 22:50	1
Benzene	ND		1.0	0.41	ug/L			07/08/22 22:50	1
Bromoform	ND		1.0	0.26	ug/L			07/08/22 22:50	1
Bromomethane	ND		1.0	0.69	ug/L			07/08/22 22:50	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/08/22 22:50	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/08/22 22:50	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/08/22 22:50	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/08/22 22:50	1
Chloroethane	ND		1.0	0.32	ug/L			07/08/22 22:50	1
Chloroform	ND		1.0	0.34	ug/L			07/08/22 22:50	1
Chloromethane	ND		1.0	0.35	ug/L			07/08/22 22:50	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/08/22 22:50	1
Dibromomethane	ND		1.0	0.41	ug/L			07/08/22 22:50	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/08/22 22:50	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/08/22 22:50	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/08/22 22:50	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/08/22 22:50	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/08/22 22:50	1
Iodomethane	ND		1.0	0.30	ug/L			07/08/22 22:50	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/08/22 22:50	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/08/22 22:50	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/08/22 22:50	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/08/22 22:50	1
o-Xylene	ND		1.0	0.76	ug/L			07/08/22 22:50	1
Propionitrile	ND		10	5.8	ug/L			07/08/22 22:50	1
Styrene	ND		1.0	0.73	ug/L			07/08/22 22:50	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/08/22 22:50	1
Toluene	ND		1.0	0.51	ug/L			07/08/22 22:50	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/08/22 22:50	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/08/22 22:50	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/08/22 22:50	1
Trichloroethene	ND		1.0	0.46	ug/L			07/08/22 22:50	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-199627-2

Date Collected: 07/06/22 18:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/08/22 22:50	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/08/22 22:50	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/08/22 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*07/08/22 22:50*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*07/08/22 22:50*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*07/08/22 22:50*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/08/22 22:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	*1	5.0	0.58	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,2,4-Trichlorobenzene	ND	*1	10	0.44	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,2-Dichlorobenzene	ND	*1	10	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,4-Dioxane	ND		10	1.1	ug/L		07/11/22 09:50	07/12/22 18:50	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/11/22 09:50	07/12/22 18:50	1
1-Naphthylamine	ND		10	1.3	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 18:50	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Chloronaphthalene	ND	*1	5.0	0.46	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Methylnaphthalene	ND	*1	5.0	0.60	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Naphthylamine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Nitroaniline	ND		10	0.42	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Nitrophenol	ND	*1	5.0	0.48	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Picoline	ND		80	1.4	ug/L		07/11/22 09:50	07/12/22 18:50	1
2-Toluidine	ND		10	1.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 18:50	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
3-Methylphenol	ND		10	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
3-Nitroaniline	ND		10	0.48	ug/L		07/11/22 09:50	07/12/22 18:50	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/11/22 09:50	07/12/22 18:50	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-199627-2

Date Collected: 07/06/22 18:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Chlorophenyl phenyl ether	ND	*1	5.0	0.35	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Methylphenol	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Nitroaniline	ND		10	0.25	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Nitrophenol	ND		10	1.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/11/22 09:50	07/12/22 18:50	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		07/11/22 09:50	07/12/22 18:50	1
Acenaphthene	ND		5.0	0.41	ug/L		07/11/22 09:50	07/12/22 18:50	1
Acenaphthylene	ND	*1	5.0	0.38	ug/L		07/11/22 09:50	07/12/22 18:50	1
Acetophenone	ND		5.0	0.54	ug/L		07/11/22 09:50	07/12/22 18:50	1
Aniline	ND		10	0.61	ug/L		07/11/22 09:50	07/12/22 18:50	1
Anthracene	ND		5.0	0.28	ug/L		07/11/22 09:50	07/12/22 18:50	1
Aramite, Total	ND		20	1.6	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzidine	ND		80	2.2	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/11/22 09:50	07/12/22 18:50	1
Benzyl alcohol	ND		20	2.0	ug/L		07/11/22 09:50	07/12/22 18:50	1
bis (2-chloroisopropyl) ether	ND	*1	5.0	0.52	ug/L		07/11/22 09:50	07/12/22 18:50	1
Bis(2-chloroethoxy)methane	ND	*1	5.0	0.35	ug/L		07/11/22 09:50	07/12/22 18:50	1
Bis(2-chloroethyl)ether	ND	*1	5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/11/22 09:50	07/12/22 18:50	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/11/22 09:50	07/12/22 18:50	1
Chrysene	ND		5.0	0.33	ug/L		07/11/22 09:50	07/12/22 18:50	1
Diallate	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/11/22 09:50	07/12/22 18:50	1
Dibenzofuran	ND	*1	10	0.51	ug/L		07/11/22 09:50	07/12/22 18:50	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/11/22 09:50	07/12/22 18:50	1
Dimethoate	ND		10	0.54	ug/L		07/11/22 09:50	07/12/22 18:50	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 18:50	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/11/22 09:50	07/12/22 18:50	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 18:50	1
Dinoseb	ND		10	2.9	ug/L		07/11/22 09:50	07/12/22 18:50	1
Diphenylamine	ND		10	0.82	ug/L		07/11/22 09:50	07/12/22 18:50	1
Disulfoton	ND		10	0.42	ug/L		07/11/22 09:50	07/12/22 18:50	1
Chlorobenzilate	ND		20	0.67	ug/L		07/11/22 09:50	07/12/22 18:50	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/11/22 09:50	07/12/22 18:50	1
Famphur	ND	*	40	1.9	ug/L		07/11/22 09:50	07/12/22 18:50	1
Fluoranthene	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 18:50	1
Fluorene	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 18:50	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 18:50	1
Hexachlorobutadiene	ND	*1	5.0	0.68	ug/L		07/11/22 09:50	07/12/22 18:50	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 18:50	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 18:50	1

Client Sample ID: MW-2022-RB-1
Date Collected: 07/06/22 18:00
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 18:50	1
Isodrin	ND		10	0.18	ug/L		07/11/22 09:50	07/12/22 18:50	1
Isophorone	ND	*1	5.0	0.43	ug/L		07/11/22 09:50	07/12/22 18:50	1
Isosafrole	ND		10	0.58	ug/L		07/11/22 09:50	07/12/22 18:50	1
Kepone	ND		50	1.8	ug/L		07/11/22 09:50	07/12/22 18:50	1
Methapyrilene	ND		50	1.8	ug/L		07/11/22 09:50	07/12/22 18:50	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
Naphthalene	ND	*1	5.0	0.76	ug/L		07/11/22 09:50	07/12/22 18:50	1
Nitrobenzene	ND	*1	5.0	0.29	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/11/22 09:50	07/12/22 18:50	1
Ethyl Parathion	ND		10	0.64	ug/L		07/11/22 09:50	07/12/22 18:50	1
Methyl parathion	ND		10	0.37	ug/L		07/11/22 09:50	07/12/22 18:50	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/11/22 09:50	07/12/22 18:50	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/11/22 09:50	07/12/22 18:50	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
Pentachlorophenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 18:50	1
Phenacetin	ND		10	0.61	ug/L		07/11/22 09:50	07/12/22 18:50	1
Phenanthrene	ND		5.0	0.44	ug/L		07/11/22 09:50	07/12/22 18:50	1
Phenol	ND		5.0	0.39	ug/L		07/11/22 09:50	07/12/22 18:50	1
Phorate	ND		10	0.50	ug/L		07/11/22 09:50	07/12/22 18:50	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/11/22 09:50	07/12/22 18:50	R 1
Pronamide	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 18:50	1
Pyrene	ND		5.0	0.34	ug/L		07/11/22 09:50	07/12/22 18:50	1
Pyridine	ND		25	0.41	ug/L		07/11/22 09:50	07/12/22 18:50	1
Safrole	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 18:50	1
Sulfotepp	ND		10	0.64	ug/L		07/11/22 09:50	07/12/22 18:50	1
Thionazin	ND		10	0.38	ug/L		07/11/22 09:50	07/12/22 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*67*		*41 - 120*	*07/11/22 09:50*	*07/12/22 18:50*	*1*
2-Fluorobiphenyl (Surr)	*73*		*48 - 120*	*07/11/22 09:50*	*07/12/22 18:50*	*1*
2-Fluorophenol (Surr)	*51*		*35 - 120*	*07/11/22 09:50*	*07/12/22 18:50*	*1*
Nitrobenzene-d5 (Surr)	*64*		*46 - 120*	*07/11/22 09:50*	*07/12/22 18:50*	*1*
Phenol-d5 (Surr)	*36*		*22 - 120*	*07/11/22 09:50*	*07/12/22 18:50*	*1*
p-Terphenyl-d14 (Surr)	*104*		*60 - 148*	*07/11/22 09:50*	*07/12/22 18:50*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	*+	0.050	0.0092	ug/L		07/12/22 08:11	07/12/22 14:10	1

Client Sample ID: MW-2022-RB-1
Date Collected: 07/06/22 18:00
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-2
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 14:10	1
4,4'-DDT	ND	*	0.050	0.011	ug/L		07/12/22 08:11	07/12/22 14:10	1
Aldrin	ND		0.050	0.0081	ug/L		07/12/22 08:11	07/12/22 14:10	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/12/22 08:11	07/12/22 14:10	1
beta-BHC	ND		0.050	0.025	ug/L		07/12/22 08:11	07/12/22 14:10	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/12/22 08:11	07/12/22 14:10	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/12/22 08:11	07/12/22 14:10	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/12/22 08:11	07/12/22 14:10	1
delta-BHC	ND		0.050	0.010	ug/L		07/12/22 08:11	07/12/22 14:10	1
Dieldrin	ND		0.050	0.0098	ug/L		07/12/22 08:11	07/12/22 14:10	1
Endosulfan I	ND		0.050	0.011	ug/L		07/12/22 08:11	07/12/22 14:10	1
Endosulfan II	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 14:10	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/12/22 08:11	07/12/22 14:10	1
Endrin	ND		0.050	0.014	ug/L		07/12/22 08:11	07/12/22 14:10	1
Endrin aldehyde	ND		0.050	0.016	ug/L		07/12/22 08:11	07/12/22 14:10	1
Endrin ketone	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 14:10	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/12/22 08:11	07/12/22 14:10	1
Heptachlor	ND		0.050	0.0085	ug/L		07/12/22 08:11	07/12/22 14:10	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/12/22 08:11	07/12/22 14:10	1
Methoxychlor	ND		0.050	0.014	ug/L		07/12/22 08:11	07/12/22 14:10	1
Toxaphene	ND		0.50	0.12	ug/L		07/12/22 08:11	07/12/22 14:10	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/12/22 08:11	07/12/22 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*53*		*20 - 120*	*07/12/22 08:11*	*07/12/22 14:10*	*1*
DCB Decachlorobiphenyl	*113*		*20 - 120*	*07/12/22 08:11*	*07/12/22 14:10*	*1*
Tetrachloro-m-xylene	*81*		*44 - 120*	*07/12/22 08:11*	*07/12/22 14:10*	*1*
Tetrachloro-m-xylene	*85*		*44 - 120*	*07/12/22 08:11*	*07/12/22 14:10*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:07	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:07	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:07	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:07	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:07	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 23:07	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*39 - 121*	*07/11/22 09:40*	*07/11/22 23:07*	*1*
Tetrachloro-m-xylene	*65*		*39 - 121*	*07/11/22 09:40*	*07/11/22 23:07*	*1*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*07/11/22 09:40*	*07/11/22 23:07*	*1*
DCB Decachlorobiphenyl	*69*		*19 - 120*	*07/11/22 09:40*	*07/11/22 23:07*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/12/22 08:51	07/13/22 14:29	1
2,4-D	ND		0.48	0.16	ug/L		07/12/22 08:51	07/13/22 14:29	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/12/22 08:51	07/13/22 14:29	1

Client Sample ID: MW-2022-RB-1
Date Collected: 07/06/22 18:00
Date Received: 07/08/22 10:00

Lab Sample ID: 480-199627-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*95*		*48 - 132*	*07/12/22 08:51*	*07/13/22 14:29*	*1*
2,4-Dichlorophenylacetic acid	*96*		*48 - 132*	*07/12/22 08:51*	*07/13/22 14:29*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		07/12/22 06:00	07/14/22 19:29	1
Disulfoton	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 19:29	1
Famphur	ND		0.94	0.30	ug/L		07/12/22 06:00	07/14/22 19:29	1
Methyl parathion	ND		0.94	0.32	ug/L		07/12/22 06:00	07/14/22 19:29	1
Ethyl Parathion	ND		0.94	0.34	ug/L		07/12/22 06:00	07/14/22 19:29	1
Phorate	ND		0.94	0.36	ug/L		07/12/22 06:00	07/14/22 19:29	1
Sulfotepp	ND		0.94	0.38	ug/L		07/12/22 06:00	07/14/22 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*25 - 127*	*07/12/22 06:00*	*07/14/22 19:29*	*1*
Tributyl phosphate	*83*		*25 - 127*	*07/12/22 06:00*	*07/14/22 19:29*	*1*
Triphenylphosphate	*94*		*70 - 155*	*07/12/22 06:00*	*07/14/22 19:29*	*1*
Triphenylphosphate	*95*		*70 - 155*	*07/12/22 06:00*	*07/14/22 19:29*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		07/11/22 10:35	07/12/22 01:19	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		07/11/22 10:35	07/12/22 01:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		07/11/22 10:35	07/12/22 01:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.5	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.51	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorobutanoic acid (PFBA)	ND		4.1	0.98	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.38	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.62	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.55	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		07/11/22 10:35	07/12/22 01:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		07/11/22 10:35	07/12/22 01:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*103*		*50 - 150*	*07/11/22 10:35*	*07/12/22 01:19*	*1*
13C2 PFDoA	*88*		*50 - 150*	*07/11/22 10:35*	*07/12/22 01:19*	*1*
13C2 PFHxA	*108*		*50 - 150*	*07/11/22 10:35*	*07/12/22 01:19*	*1*
13C2 PFTeDA	*94*		*50 - 150*	*07/11/22 10:35*	*07/12/22 01:19*	*1*

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-199627-2

Date Collected: 07/06/22 18:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	102		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C3 PFBS	88		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C4 PFBA	101		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C4 PFHpA	103		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C4 PFOA	106		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C4 PFOS	80		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C5 PFNA	95		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C5 PFPeA	112		50 - 150	07/11/22 10:35	07/12/22 01:19	1
13C8 FOSA	75		50 - 150	07/11/22 10:35	07/12/22 01:19	1
18O2 PFHxS	81		50 - 150	07/11/22 10:35	07/12/22 01:19	1
d3-NMeFOSAA	105		50 - 150	07/11/22 10:35	07/12/22 01:19	1
d5-NEtFOSAA	109		50 - 150	07/11/22 10:35	07/12/22 01:19	1
M2-6:2 FTS	87		50 - 150	07/11/22 10:35	07/12/22 01:19	1
M2-8:2 FTS	93		50 - 150	07/11/22 10:35	07/12/22 01:19	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.49	J I B JNXB	24	0.038	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,4,6,7,8-HpCDF	0.48	J I B JNXB	24	0.018	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,4,7,8,9-HpCDF	0.34	J B J	24	0.025	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,4,7,8-HxCDD	ND		24	0.034	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,4,7,8-HxCDF	ND		24	0.019	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,6,7,8-HxCDD	0.22	J I B	24	0.034	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,6,7,8-HxCDF	0.33	J I B	24	0.019	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,7,8,9-HxCDD	0.27	J I B	24	0.043	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,7,8,9-HxCDF	0.45	J I B	24	0.028	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,7,8-PeCDD	0.27	J I B JNXB	24	0.053	pg/L		07/29/22 07:51	07/29/22 21:36	1
1,2,3,7,8-PeCDF	0.22	J I B	24	0.038	pg/L		07/29/22 07:51	07/29/22 21:36	1
2,3,4,6,7,8-HxCDF	0.22	J I B	24	0.023	pg/L		07/29/22 07:51	07/29/22 21:36	1
2,3,4,7,8-PeCDF	0.26	J I B	24	0.030	pg/L		07/29/22 07:51	07/29/22 21:36	1
2,3,7,8-TCDD	ND		4.8	0.047	pg/L		07/29/22 07:51	07/29/22 21:36	1
2,3,7,8-TCDF	ND		4.8	0.043	pg/L		07/29/22 07:51	07/29/22 21:36	1
OCDD	3.9	J I B	100	0.072	pg/L		07/29/22 07:51	07/29/22 21:36	1
OCDF	0.42	J I B	48	0.029	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total HpCDD	0.49	J I B	24	0.038	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total HpCDF	0.82	J I B	24	0.022	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total HxCDD	0.49	J I B JNXB	24	0.037	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total HxCDF	1.0	J I B	24	0.022	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total PeCDD	0.27	J I B	24	0.053	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total PeCDF	0.48	J I B	24	0.034	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total TCDD	ND		4.8	0.047	pg/L		07/29/22 07:51	07/29/22 21:36	1
Total TCDF	ND		4.8	0.043	pg/L		07/29/22 07:51	07/29/22 21:36	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	84		40 - 135	07/29/22 07:51	07/29/22 21:36	1
13C-1,2,3,4,6,7,8-HpCDF	78		40 - 135	07/29/22 07:51	07/29/22 21:36	1
13C-1,2,3,4,7,8,9-HpCDF	83		40 - 135	07/29/22 07:51	07/29/22 21:36	1
13C-1,2,3,4,7,8-HxCDD	83		40 - 135	07/29/22 07:51	07/29/22 21:36	1
13C-1,2,3,4,7,8-HxCDF	77		40 - 135	07/29/22 07:51	07/29/22 21:36	1
13C-1,2,3,6,7,8-HxCDD	93		40 - 135	07/29/22 07:51	07/29/22 21:36	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-199627-2

Date Collected: 07/06/22 18:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDF	*89*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-1,2,3,7,8,9-HxCDD	*84*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-2,3,4,6,7,8-HxCDF	*64*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-2,3,4,7,8-PeCDF	*65*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-2,3,7,8-TCDF	*53*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-OCDD	*89*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*
13C-OCDF	*85*		*40 - 135*	*07/29/22 07:51*	*07/29/22 21:36*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/11/22 09:19	07/11/22 17:20	1
Arsenic	ND		0.015	0.0056	mg/L		07/11/22 09:19	07/11/22 17:20	1
Barium	ND		0.0020	0.00070	mg/L		07/11/22 09:19	07/11/22 17:20	1
Beryllium	ND		0.0020	0.00030	mg/L		07/11/22 09:19	07/11/22 17:20	1
Cadmium	ND		0.0020	0.00050	mg/L		07/11/22 09:19	07/11/22 17:20	1
Chromium	ND		0.0040	0.0010	mg/L		07/11/22 09:19	07/11/22 17:20	1
Cobalt	ND		0.0040	0.00063	mg/L		07/11/22 09:19	07/11/22 17:20	1
Copper	ND		0.010	0.0016	mg/L		07/11/22 09:19	07/11/22 17:20	1
Lead	ND		0.010	0.0030	mg/L		07/11/22 09:19	07/11/22 17:20	1
Nickel	ND		0.010	0.0013	mg/L		07/11/22 09:19	07/11/22 17:20	1
Selenium	ND		0.025	0.0087	mg/L		07/11/22 09:19	07/11/22 17:20	1
Silver	ND		0.0060	0.0017	mg/L		07/11/22 09:19	07/11/22 17:20	1
Thallium	ND		0.020	0.010	mg/L		07/11/22 09:19	07/11/22 17:20	1
Tin	ND		0.010	0.0051	mg/L		07/11/22 09:19	07/11/22 17:20	1
Vanadium	ND		0.0050	0.0015	mg/L		07/11/22 09:19	07/11/22 17:20	1
Zinc	ND		0.010	0.0015	mg/L		07/11/22 09:19	07/11/22 17:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/11/22 10:23	07/11/22 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		07/11/22 12:29	07/11/22 13:50	1
Sulfide	ND		1.0	0.67	mg/L			07/12/22 10:14	1

Client Sample ID: TRIP BLANK 070622
Lab Sample ID: 480-199627-3

Date Collected: 07/06/22 00:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/08/22 23:13	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/08/22 23:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/08/22 23:13	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/08/22 23:13	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/08/22 23:13	1

Client Sample ID: TRIP BLANK 070622
Lab Sample ID: 480-199627-3

Date Collected: 07/06/22 00:00
Matrix: Water
Date Received: 07/08/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/08/22 23:13	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/08/22 23:13	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/08/22 23:13	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/08/22 23:13	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/08/22 23:13	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/08/22 23:13	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/08/22 23:13	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/08/22 23:13	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/08/22 23:13	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/08/22 23:13	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/08/22 23:13	1
Acetone	ND		10	3.0	ug/L			07/08/22 23:13	1
Acetonitrile	ND		15	4.9	ug/L			07/08/22 23:13	1
Acrolein	ND		20	0.91	ug/L			07/08/22 23:13	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/08/22 23:13	1
Benzene	ND		1.0	0.41	ug/L			07/08/22 23:13	1
Bromoform	ND		1.0	0.26	ug/L			07/08/22 23:13	1
Bromomethane	ND		1.0	0.69	ug/L			07/08/22 23:13	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/08/22 23:13	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/08/22 23:13	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/08/22 23:13	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/08/22 23:13	1
Chloroethane	ND		1.0	0.32	ug/L			07/08/22 23:13	1
Chloroform	ND		1.0	0.34	ug/L			07/08/22 23:13	1
Chloromethane	ND		1.0	0.35	ug/L			07/08/22 23:13	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/08/22 23:13	1
Dibromomethane	ND		1.0	0.41	ug/L			07/08/22 23:13	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/08/22 23:13	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/08/22 23:13	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/08/22 23:13	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/08/22 23:13	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/08/22 23:13	1
Iodomethane	ND		1.0	0.30	ug/L			07/08/22 23:13	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/08/22 23:13	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/08/22 23:13	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/08/22 23:13	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/08/22 23:13	1
o-Xylene	ND		1.0	0.76	ug/L			07/08/22 23:13	1
Propionitrile	ND		10	5.8	ug/L			07/08/22 23:13	1
Styrene	ND		1.0	0.73	ug/L			07/08/22 23:13	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/08/22 23:13	1
Toluene	ND		1.0	0.51	ug/L			07/08/22 23:13	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/08/22 23:13	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/08/22 23:13	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/08/22 23:13	1
Trichloroethene	ND		1.0	0.46	ug/L			07/08/22 23:13	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/08/22 23:13	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/08/22 23:13	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/08/22 23:13	1

Client: ARCADIS U.S. Inc
Job ID: 480-199627-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK 070622
Lab Sample ID: 480-199627-3
Date Collected: 07/06/22 00:00
Matrix: Water
Date Received: 07/08/22 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		07/08/22 23:13	1
4-Bromofluorobenzene (Surr)	104		73 - 120		07/08/22 23:13	1
Dibromofluoromethane (Surr)	109		75 - 123		07/08/22 23:13	1
Toluene-d8 (Surr)	99		80 - 120		07/08/22 23:13	1

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDFs), Perfluoroalkyl Substances (PFAs), Metals, and Miscellaneous Analyses

SDGs # 480-199492-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47719R
Review Level: Tier I/II
Project: 30131071.0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 Field Duplicate Analysis 9
2.3 System Performance and Overall Assessment 10
2.4 Data Validation Checklist 10
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Laboratory Control Sample Analysis 11
3.3 Field Duplicate Analysis 11
The calculated RPDs between the parent sample and field duplicate were acceptable. 12
3.4 System Performance and Overall Assessment 12
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 Field Duplicate Analysis 13
The calculated RPDs between the parent sample and field duplicate were acceptable. 13
4.3 System Performance and Overall Assessment 13
4.4 Data Validation Checklist 14
5 Pesticide/Herbicide Analyses 14
5.1 Holding Times 14
5.2 Blank Contamination 15
5.3 Field Duplicate Analysis 16
5.4 System Performance and Overall Assessment 16
5.5 Data Validation Checklist 16
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 17
6.1 Holding Times 17
6.2 Blank Contamination 17
6.3 Field Duplicate Analysis 20
6.4 Compound Identification 20

6.5 System Performance and Overall Assessment 20
6.6 Data Validation Checklist 21
7 Perfluoroalkyl Substances Analyses 21
7.1 Holding Times 21
7.2 Field Duplicate Analysis 22
7.3 System Performance and Overall Assessment 22
7.4 Data Validation Checklist 22
8 Metals Analyses 23
8.1 Holding Times 23
8.2 Field Duplicate Analysis 23
8.3 System Performance and Overall Assessment 24
8.4 Data Validation Checklist 24
9 General Chemistry Analyses 24
9.1 Holding Times 24
9.2 Blank Contamination 25
9.3 Field Duplicate Analysis 25
9.4 System Performance and Overall Assessment 26
9.5 Data Validation Checklist for General Chemistry 26
10 Overall Data Usability 27

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 6. Data Validation Checklist for Volatile Organic Compounds 10
Table 7. Holding Time for Method SW-846 8270D 10
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 9. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 11. Data Validation Checklist for SemiVolatile Organic Compounds 12
Table 12. Holding Time for Method SW-846 8082A 13
Table 14. Data Validation Checklist for Polychlorinated Biphenyls 14
Table 15. Holding Time for Method SW-846 8081B/8141B/8151A 14

Table 16. Summary of Blank Contamination Qualification 15
Table 18. Data Validation Checklist for Herbicides / Pesticides 16
Table 19. Holding Time for Method SW-846 8290A 17
Table 20. Summary of Blank Contamination Qualifications 18
Table 22. Data Validation Checklist for Dioxines and Furans 21
Table 23. Holding Time for Method 537 21
Table 25. Data Validation Checklist for Perfluoroalkyl Substances 22
Table 26. Holding Time for Method SW-846 6010C/7470A 23
Table 28. Data Validation Checklist for Metals 24
Table 29. Specified Holding Times 25
Table 30. Summary of Blank Contamination Qualification 25
Table 32. Data Validation Checklist for Cyanide and Sulfide 26
Table 33. Overall Summary of Data Usability 27

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199492-1 performed on behalf of the General Electric Company (GE) for groundwater sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-4S	480-199492-1	Water	6/29/2022		X	X	X	X	X	X	X
MW-2022-4D	480-199492-2	Water	6/30/2022		X	X	X	X	X	X	X
MW-2022-DUP-1	480-199492-3	Water	6/30/2022	MW-2022-4D	X	X	X	X	X	X	X
TRIPBLANK 062922	480-199492-4	Water	6/29/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
PFAS = Per and polyfluoroalkyl substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, USEPA Modified method 537, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).
- USEPA Method 537 Modified, Eurofins Laboratories SOP BR-LC-009, Rev. 8.0 Per- and Poly-fluorinated Substances (PFAS) in Water, Soils, Sediments and Tissue (April 2022)

- Department of Defense (DoD) Quality Systems Manual (QSM) 5.3, USEPA Data Review and Validation Guideline for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, (November 2018)
- DoD Final Data Validation Guidelines Module 3: PFAS, (May 2020)

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	3	0	1	0	0	0	4
SVOCs	3	0	0	0	0	0	3
PCBs	3	0	0	0	0	0	3
PEST	3	0	0	0	0	0	3
HERB	3	0	0	0	0	0	3
PCDD/PCDF	3	0	0	0	0	0	3
PFAS	3	0	0	0	0	0	3
Metals	3	0	0	0	0	0	3
MISC	3	0	0	0	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 5. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	All compounds	U	U	AC

Notes:
AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

Table 6. Data Validation Checklist for Volatile Organic Compounds

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X	X		
Field Duplicate RPD		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 7. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Locations	Compounds	LCS Recovery
MW-2022-4S MW-2022-4D MW-2022-DUP-1	p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 10. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	Benzo(g,h,i)perylene	5 U	0.37 J	AC

Notes:
AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

Table 11. Data Validation Checklist for SemiVolatile Organic Compounds

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Laboratory Control Sample (LCS)		X	X		
Field Duplicate RPD		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 13. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	All compounds	U	U	AC

Notes:
AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

4.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.4 Data Validation Checklist

Table 14. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Field Duplicate RPD		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 15. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criteria.

The analyses that exceeded the holding times are presented in the following table.

Sample Locations	Holding Time	Criteria
MW-2022-4S MW-2022-4D	Samples were extracted 10th day from collection	7 days from collection to extraction

Sample Locations	Holding Time	Criteria
MW-2022-DUP-1		

Sample results associated with samples analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 16. Summary of Blank Contamination Qualification

Sample Location	Compound	Sample Result	Qualification
MW-2022-4S MW-2022-4D MW-2022-DUP-1	Endrin aldehyde	Detected sample results <RL and <BAL	“U” at the RL

Note:

RL Reporting limit

5.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 17. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	All compounds	U	U	AC

Notes:
AC Acceptable
The calculated RPDs between the parent sample and field duplicate were acceptable.

5.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.5 Data Validation Checklist

Table 18. Data Validation Checklist for Herbicides / Pesticides

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Field Duplicate RPD		X		X	
Reporting limits (units)		X		X	
Blanks					

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 19. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the

estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 20. Summary of Blank Contamination Qualifications

Sample Locations	Compounds	Sample Result	Qualification
MW-2022-4S	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total PeCDD Total PeCDF	Detected sample results <RL and <BAL	""U" at the RL
MW-2022-4D	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF	Detected sample results <RL and <BAL	""U" at the RL

Sample Locations	Compounds	Sample Result	Qualification
	1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD Total PeCDF		
MW-2022-DUP-1	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDD Total PeCDF	Detected sample results <RL and <BAL	““U” at the RL

RL = reporting limit
MB = method blank

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 21. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	2,3,4,7,8-PeCDF	0.56 J	0.24 J	AC

Notes:
AC Acceptable
The calculated RPDs between the parent sample and field duplicate were acceptable.

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.6 Data Validation Checklist

Table 22. Data Validation Checklist for Dioxines and Furans

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Field Duplicate RPD		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 23. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C

The holding time has been changed from the original holding time documented in EPA 537 of 14 days for extraction to 28 days. This was documented in EPA Technical Brief EPA/600/F-17/022h Updated January 2020. Utilizing the new guidance of 28 days all samples were analyzed within the specified holding time criteria.

All samples were analyzed within the specified holding time criterion.

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 24. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	Perfluorohexane sulfonic acid (PFHxS)	0.49 J	0.47 J	AC
	Perfluorooctane sulfonic acid (PFOS)	1.4 J	1.2 J	AC

Notes:
AC Acceptable
The calculated RPDs between the parent sample and field duplicate were acceptable.

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

Table 25. Data Validation Checklist for Perfluoroalkyl Substances

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Field Duplicate RPD		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 26. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

8.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 27. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	Barium	0.0072	0.0072	AC

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD

Notes:
AC Acceptable
The calculated RPDs between the parent sample and field duplicate were acceptable.

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist

Table 28. Data Validation Checklist for Metals

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Field Duplicate RPD		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 29. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9

All samples were analyzed within the specified holding times.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 30. Summary of Blank Contamination Qualification

Sample Location	Analytes	Sample Result	Qualification
MW-2022-4D MW-2022-DUP-1	Cyanide, Total	Detected sample results <RL and <BAL	“U” at the RL

9.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 31. Field Duplicate Sample Results

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-4D/ MW-2022-DUP-1_20220630	All compounds	U	U	AC

Notes:
AC Acceptable
The calculated RPDs between the parent sample and field duplicate were acceptable.

9.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.5 Data Validation Checklist for General Chemistry

Table 32. Data Validation Checklist for Cyanide and Sulfide

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Field Duplicate RPD		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
B. Equipment/Field Blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 33. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	4
SVOCs	99.0%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: November 25, 2022

PEER REVIEW: Joseph C. Houser

DATE: November 28, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:

Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:
City: Syracuse	TAT Requested (days): Standard
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No
Phone: 315-671-9374(Tel)	PO #: 30132437.001
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-
Project Name: GE Woods Pond Parcel	Project #: 48024970
Site: Upland Disposal Facility	SSOW#:

Analysis Requested

Preservation Codes:
M - Hexane
ahydrate
K - EDTA
L - EDA
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N		
MW-2022-4S	6/29/22	16:05	G	Water			X	X	X	X	X	X	X	X	X	X	X	20	
MW-2022-4D	6/30/22	13:35	G	Water			X	X	X	X	X	X	X	X	X	X	X	20	
TripBlank 062922	6/29/22	---	G	Water									X					2	
MW-2022-DUP-1	6/30/22	---	G	Water			X	X	X	X	X	X	X	X	X	X	X	20	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/1/22 0900	Company	Received by:	Date/Time: 7-1-22 0900	Company EETN
Relinquished by:	Date/Time: 7-1-2022 1200	Company EETN	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7/2/22	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.4 #7

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

7/11/2022

Chain of Custody Record

480-199492 Chain of Custody

fins | Environment Testing America

8.1

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R		Page 1 of 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus.com	Massachusetts	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts		Job #: 480-199492-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 7/18/2022			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4S (480-199492-1)	6/29/22	16:05 Eastern		Water			X	2	
MW-2022-4D (480-199492-2)	6/30/22	13:35 Eastern		Water			X	2	
MW-2022-DUP-1 (480-199492-3)	6/30/22	Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		7/6/22 1800			7/7/22 9 10	EAPH
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

7/19/2022

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Eurofins | Environment Testing America

480-199492 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	2.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.[illegible]	Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Massachusetts	Job #: 480-199492-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 7/18/2022		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Tnzma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4S (480-199492-1)	6/29/22	16:05 Eastern		Water			X	2	
MW-2022-4D (480-199492-2)	6/30/22	13:35 Eastern		Water			X	2	
MW-2022-DUP-1 (480-199492-3)	6/30/22	Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/6/22 1800	Company: TAB	Received by:	Date/Time: 7/11/22 9:25	Company: DAB
Relinquished by:	Date/Time.	Company	Received by:	Date/Time.	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-73504.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-199492-1
Address: 2425 New Holland Pike,	Due Date Requested: 7/18/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4S (480-199492-1)	6/29/22	16:05 Eastern		Water			X	2	
MW-2022-4D (480-199492-2)	6/30/22	13:35 Eastern		Water			X	2	
MW-2022-DUP-1 (480-199492-3)	6/30/22	Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7/6/22 1800				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	7/7/22 10:30	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 2.5

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: MW-2022-4S
Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/05/22 15:25	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/05/22 15:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/05/22 15:25	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/05/22 15:25	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/05/22 15:25	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/05/22 15:25	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/05/22 15:25	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/05/22 15:25	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/05/22 15:25	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/05/22 15:25	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/05/22 15:25	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/05/22 15:25	1
2-Chloroethyl vinyl ether	ND	R	5.0	0.96	ug/L			07/05/22 15:25	1
2-Hexanone	ND		5.0	1.2	ug/L			07/05/22 15:25	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/05/22 15:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/05/22 15:25	1
Acetone	ND		10	3.0	ug/L			07/05/22 15:25	1
Acetonitrile	ND		15	4.9	ug/L			07/05/22 15:25	1
Acrolein	ND		20	0.91	ug/L			07/05/22 15:25	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/05/22 15:25	1
Benzene	ND		1.0	0.41	ug/L			07/05/22 15:25	1
Bromoform	ND		1.0	0.26	ug/L			07/05/22 15:25	1
Bromomethane	ND		1.0	0.69	ug/L			07/05/22 15:25	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/05/22 15:25	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/05/22 15:25	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/05/22 15:25	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/05/22 15:25	1
Chloroethane	ND		1.0	0.32	ug/L			07/05/22 15:25	1
Chloroform	ND		1.0	0.34	ug/L			07/05/22 15:25	1
Chloromethane	ND		1.0	0.35	ug/L			07/05/22 15:25	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/05/22 15:25	1
Dibromomethane	ND		1.0	0.41	ug/L			07/05/22 15:25	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/05/22 15:25	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/05/22 15:25	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/05/22 15:25	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/05/22 15:25	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/05/22 15:25	1
Iodomethane	ND		1.0	0.30	ug/L			07/05/22 15:25	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/05/22 15:25	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/05/22 15:25	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/05/22 15:25	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/05/22 15:25	1
o-Xylene	ND		1.0	0.76	ug/L			07/05/22 15:25	1
Propionitrile	ND		10	5.8	ug/L			07/05/22 15:25	1
Styrene	ND		1.0	0.73	ug/L			07/05/22 15:25	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/05/22 15:25	1
Toluene	ND		1.0	0.51	ug/L			07/05/22 15:25	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/05/22 15:25	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/05/22 15:25	1

Client Sample ID: MW-2022-4S
Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/05/22 15:25	1
Trichloroethene	ND		1.0	0.46	ug/L			07/05/22 15:25	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/05/22 15:25	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/05/22 15:25	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/05/22 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*07/05/22 15:25*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*07/05/22 15:25*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*07/05/22 15:25*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/05/22 15:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,4-Dioxane	ND		10	1.1	ug/L		07/05/22 08:35	07/06/22 22:01	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/05/22 08:35	07/06/22 22:01	1
1-Naphthylamine	ND		10	1.3	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/05/22 08:35	07/06/22 22:01	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Naphthylamine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Nitroaniline	ND		10	0.42	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Picoline	ND		80	1.4	ug/L		07/05/22 08:35	07/06/22 22:01	1
2-Toluidine	ND		10	1.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/05/22 08:35	07/06/22 22:01	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
3-Methylphenol	ND		10	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
3-Nitroaniline	ND		10	0.48	ug/L		07/05/22 08:35	07/06/22 22:01	1

Client Sample ID: MW-2022-4S
Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Methylphenol	ND		10	0.36	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Nitroaniline	ND	*+	10	0.25	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Nitrophenol	ND		10	1.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/05/22 08:35	07/06/22 22:01	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		07/05/22 08:35	07/06/22 22:01	1
Acenaphthene	ND		5.0	0.41	ug/L		07/05/22 08:35	07/06/22 22:01	1
Acenaphthylene	ND		5.0	0.38	ug/L		07/05/22 08:35	07/06/22 22:01	1
Acetophenone	ND		5.0	0.54	ug/L		07/05/22 08:35	07/06/22 22:01	1
Aniline	ND		10	0.61	ug/L		07/05/22 08:35	07/06/22 22:01	1
Anthracene	ND		5.0	0.28	ug/L		07/05/22 08:35	07/06/22 22:01	1
Aramite, Total	ND		20	1.6	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzidine	ND		80	2.2	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/05/22 08:35	07/06/22 22:01	1
Benzyl alcohol	ND		20	2.0	ug/L		07/05/22 08:35	07/06/22 22:01	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/05/22 08:35	07/06/22 22:01	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/05/22 08:35	07/06/22 22:01	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/05/22 08:35	07/06/22 22:01	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/05/22 08:35	07/06/22 22:01	1
Chrysene	ND		5.0	0.33	ug/L		07/05/22 08:35	07/06/22 22:01	1
Diallate	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/05/22 08:35	07/06/22 22:01	1
Dibenzofuran	ND		10	0.51	ug/L		07/05/22 08:35	07/06/22 22:01	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/05/22 08:35	07/06/22 22:01	1
Dimethoate	ND		10	0.54	ug/L		07/05/22 08:35	07/06/22 22:01	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/05/22 08:35	07/06/22 22:01	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/05/22 08:35	07/06/22 22:01	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/05/22 08:35	07/06/22 22:01	1
Dinoseb	ND	*+	10	2.9	ug/L		07/05/22 08:35	07/06/22 22:01	1
Diphenylamine	ND		10	0.82	ug/L		07/05/22 08:35	07/06/22 22:01	1
Disulfoton	ND		10	0.42	ug/L		07/05/22 08:35	07/06/22 22:01	1
Chlorobenzilate	ND		20	0.67	ug/L		07/05/22 08:35	07/06/22 22:01	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/05/22 08:35	07/06/22 22:01	1
Famphur	ND	*	40	1.9	ug/L		07/05/22 08:35	07/06/22 22:01	1
Fluoranthene	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 22:01	1
Fluorene	ND		5.0	0.36	ug/L		07/05/22 08:35	07/06/22 22:01	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/05/22 08:35	07/06/22 22:01	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/05/22 08:35	07/06/22 22:01	1

Client Sample ID: MW-2022-4S
Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/05/22 08:35	07/06/22 22:01	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/05/22 08:35	07/06/22 22:01	1
Hexachloropropene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/05/22 08:35	07/06/22 22:01	1
Isodrin	ND		10	0.18	ug/L		07/05/22 08:35	07/06/22 22:01	1
Isophorone	ND		5.0	0.43	ug/L		07/05/22 08:35	07/06/22 22:01	1
Isosafrole	ND		10	0.58	ug/L		07/05/22 08:35	07/06/22 22:01	1
Kepone	ND		50	1.8	ug/L		07/05/22 08:35	07/06/22 22:01	1
Methapyrilene	ND		50	1.8	ug/L		07/05/22 08:35	07/06/22 22:01	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
Naphthalene	ND		5.0	0.76	ug/L		07/05/22 08:35	07/06/22 22:01	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/05/22 08:35	07/06/22 22:01	1
Ethyl Parathion	ND		10	0.64	ug/L		07/05/22 08:35	07/06/22 22:01	1
Methyl parathion	ND		10	0.37	ug/L		07/05/22 08:35	07/06/22 22:01	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/05/22 08:35	07/06/22 22:01	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/05/22 08:35	07/06/22 22:01	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
Pentachlorophenol	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 22:01	1
Phenacetin	ND		10	0.61	ug/L		07/05/22 08:35	07/06/22 22:01	1
Phenanthrene	ND		5.0	0.44	ug/L		07/05/22 08:35	07/06/22 22:01	1
Phenol	ND		5.0	0.39	ug/L		07/05/22 08:35	07/06/22 22:01	1
Phorate	ND		10	0.50	ug/L		07/05/22 08:35	07/06/22 22:01	1
p-Phenylene diamine	R ND	*	800	200	ug/L		07/05/22 08:35	07/06/22 22:01	1
Pronamide	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 22:01	1
Pyrene	ND		5.0	0.34	ug/L		07/05/22 08:35	07/06/22 22:01	1
Pyridine	ND		25	0.41	ug/L		07/05/22 08:35	07/06/22 22:01	1
Safrole	ND		10	0.46	ug/L		07/05/22 08:35	07/06/22 22:01	1
Sulfotepp	ND		10	0.64	ug/L		07/05/22 08:35	07/06/22 22:01	1
Thionazin	ND		10	0.38	ug/L		07/05/22 08:35	07/06/22 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*110*		*41 - 120*	*07/05/22 08:35*	*07/06/22 22:01*	*1*
2-Fluorobiphenyl (Surr)	*90*		*48 - 120*	*07/05/22 08:35*	*07/06/22 22:01*	*1*
2-Fluorophenol (Surr)	*55*		*35 - 120*	*07/05/22 08:35*	*07/06/22 22:01*	*1*
Nitrobenzene-d5 (Surr)	*82*		*46 - 120*	*07/05/22 08:35*	*07/06/22 22:01*	*1*
Phenol-d5 (Surr)	*40*		*22 - 120*	*07/05/22 08:35*	*07/06/22 22:01*	*1*
p-Terphenyl-d14 (Surr)	*91*		*60 - 148*	*07/05/22 08:35*	*07/06/22 22:01*	*1*

Client Sample ID: MW-2022-4S

Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/06/22 08:21	07/06/22 16:23	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 16:23	1
4,4'-DDT	**0.017**	**J**	0.050	0.011	ug/L		07/06/22 08:21	07/06/22 16:23	1
Aldrin	ND		0.050	0.0081	ug/L		07/06/22 08:21	07/06/22 16:23	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/06/22 08:21	07/06/22 16:23	1
beta-BHC	ND		0.050	0.025	ug/L		07/06/22 08:21	07/06/22 16:23	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/06/22 08:21	07/06/22 16:23	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/06/22 08:21	07/06/22 16:23	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/06/22 08:21	07/06/22 16:23	1
delta-BHC	ND		0.050	0.010	ug/L		07/06/22 08:21	07/06/22 16:23	1
Dieldrin	ND		0.050	0.0098	ug/L		07/06/22 08:21	07/06/22 16:23	1
Endosulfan I	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 16:23	1
Endosulfan II	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 16:23	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/06/22 08:21	07/06/22 16:23	1
Endrin	ND		0.050	0.014	ug/L		07/06/22 08:21	07/06/22 16:23	1
Endrin aldehyde	0.050 U	~~0.016 J B~~	0.050	0.016	ug/L		07/06/22 08:21	07/06/22 16:23	1
Endrin ketone	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 16:23	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/06/22 08:21	07/06/22 16:23	1
Heptachlor	ND		0.050	0.0085	ug/L		07/06/22 08:21	07/06/22 16:23	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/06/22 08:21	07/06/22 16:23	1
Methoxychlor	ND	~~J~~	0.050	0.014	ug/L		07/06/22 08:21	07/06/22 16:23	1
Toxaphene	ND		0.50	0.12	ug/L		07/06/22 08:21	07/06/22 16:23	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*20 - 120*	*07/06/22 08:21*	*07/06/22 16:23*	*1*
DCB Decachlorobiphenyl	*101*		*20 - 120*	*07/06/22 08:21*	*07/06/22 16:23*	*1*
Tetrachloro-m-xylene	*67*		*44 - 120*	*07/06/22 08:21*	*07/06/22 16:23*	*1*
Tetrachloro-m-xylene	*74*		*44 - 120*	*07/06/22 08:21*	*07/06/22 16:23*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:06	1
PCB-1221	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:06	1
PCB-1232	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:06	1
PCB-1242	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:06	1
PCB-1248	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:06	1
PCB-1254	ND		0.50	0.25	ug/L		07/05/22 15:05	07/06/22 22:06	1
PCB-1260	ND		0.50	0.25	ug/L		07/05/22 15:05	07/06/22 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*77*		*39 - 121*	*07/05/22 15:05*	*07/06/22 22:06*	*1*
Tetrachloro-m-xylene	*81*		*39 - 121*	*07/05/22 15:05*	*07/06/22 22:06*	*1*
DCB Decachlorobiphenyl	*101*		*19 - 120*	*07/05/22 15:05*	*07/06/22 22:06*	*1*
DCB Decachlorobiphenyl	*107*		*19 - 120*	*07/05/22 15:05*	*07/06/22 22:06*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/06/22 07:18	07/07/22 12:56	1
2,4-D	ND		0.48	0.16	ug/L		07/06/22 07:18	07/07/22 12:56	1

Client Sample ID: MW-2022-4S

Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1

Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/06/22 07:18	07/07/22 12:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*98*		*48 - 132*	*07/06/22 07:18*	*07/07/22 12:56*	*1*
2,4-Dichlorophenylacetic acid	*92*		*48 - 132*	*07/06/22 07:18*	*07/07/22 12:56*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	0.94	0.25	ug/L		07/08/22 05:00	07/12/22 11:02	1
Disulfoton	ND	H	0.94	0.38	ug/L		07/08/22 05:00	07/12/22 11:02	1
Famphur	ND	H	0.94	0.30	ug/L		07/08/22 05:00	07/12/22 11:02	1
Methyl parathion	ND	H	0.94	0.32	ug/L		07/08/22 05:00	07/12/22 11:02	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		07/08/22 05:00	07/12/22 11:02	1
Phorate	ND	H	0.94	0.36	ug/L		07/08/22 05:00	07/12/22 11:02	1
Sulfotepp	ND	H	0.94	0.38	ug/L		07/08/22 05:00	07/12/22 11:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*25 - 127*	*07/08/22 05:00*	*07/12/22 11:02*	*1*
Tributyl phosphate	*86*		*25 - 127*	*07/08/22 05:00*	*07/12/22 11:02*	*1*
Triphenylphosphate	*94*		*70 - 155*	*07/08/22 05:00*	*07/12/22 11:02*	*1*
Triphenylphosphate	*95*		*70 - 155*	*07/08/22 05:00*	*07/12/22 11:02*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		07/13/22 08:30	07/13/22 15:24	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		07/13/22 08:30	07/13/22 15:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		07/13/22 08:30	07/13/22 15:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.6	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorobutanesulfonic acid (PFBS)	**0.55**	**J**	1.6	0.51	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorobutanoic acid (PFBA)	**5.4**		4.1	0.98	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.38	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.34	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluoroheptanoic acid (PFHpA)	**1.2**	**J**	1.6	0.44	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorohexanoic acid (PFHxA)	**1.3**	**J**	1.6	0.53	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.70	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorooctanoic acid (PFOA)	**1.6**		1.6	0.62	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluoropentanoic acid (PFPeA)	**1.1**	**J**	1.6	0.56	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		07/13/22 08:30	07/13/22 15:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		07/13/22 08:30	07/13/22 15:24	1

Client Sample ID: MW-2022-4S
Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	107		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C2 PFDoA	93		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C2 PFHxA	111		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C2 PFTeDA	94		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C2 PFUnA	100		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C3 PFBS	97		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C4 PFBA	104		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C4 PFHpA	106		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C4 PFOA	106		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C4 PFOS	79		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C5 PFNA	95		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C5 PFPeA	117		50 - 150	07/13/22 08:30	07/13/22 15:24	1
13C8 FOSA	84		50 - 150	07/13/22 08:30	07/13/22 15:24	1
18O2 PFHxS	85		50 - 150	07/13/22 08:30	07/13/22 15:24	1
d3-NMeFOSAA	105		50 - 150	07/13/22 08:30	07/13/22 15:24	1
d5-NEtFOSAA	101		50 - 150	07/13/22 08:30	07/13/22 15:24	1
M2-6:2 FTS	90		50 - 150	07/13/22 08:30	07/13/22 15:24	1
M2-8:2 FTS	94		50 - 150	07/13/22 08:30	07/13/22 15:24	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.3~~	~~J B~~ 24 U	24	0.14	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,4,6,7,8-HpCDF	~~0.16~~	~~J I B~~ 24 U	24	0.019	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,4,7,8,9-HpCDF	~~0.59~~	~~J I B~~ 24 U	24	0.024	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,4,7,8-HxCDD	~~0.42~~	~~J B~~ 24 U	24	0.037	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,4,7,8-HxCDF	ND		24	0.18	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,6,7,8-HxCDD	~~0.46~~	~~J I B~~ 24 U	24	0.038	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,6,7,8-HxCDF	ND		24	0.19	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,7,8,9-HxCDD	~~0.31~~	~~J I B~~ 24 U	24	0.037	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,7,8,9-HxCDF	ND		24	0.19	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,7,8-PeCDD	~~0.38~~	~~J I B~~ 24 U	24	0.077	pg/L		07/11/22 05:40	07/12/22 02:31	1
1,2,3,7,8-PeCDF	~~0.61~~	~~J I B~~ 24 U	24	0.033	pg/L		07/11/22 05:40	07/12/22 02:31	1
2,3,4,6,7,8-HxCDF	ND		24	0.17	pg/L		07/11/22 05:40	07/12/22 02:31	1
2,3,4,7,8-PeCDF	0.37	J	24	0.026	pg/L		07/11/22 05:40	07/12/22 02:31	1
2,3,7,8-TCDD	ND		4.8	0.042	pg/L		07/11/22 05:40	07/12/22 02:31	1
2,3,7,8-TCDF	ND		4.8	0.033	pg/L		07/11/22 05:40	07/12/22 02:31	1
OCDD	~~2.6~~	~~J I B~~ 110 U	110	0.18	pg/L		07/11/22 05:40	07/12/22 02:31	1
OCDF	~~1.0~~	~~J I B~~ 48 U	48	0.060	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total HpCDD	~~1.3~~	~~J I B~~ 24 U	24	0.14	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total HpCDF	~~0.75~~	~~J I B~~ 24 U	24	0.022	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total HxCDD	~~1.2~~	~~J I B~~ 24 U	24	0.037	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total HxCDF	ND		24	0.19	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total PeCDD	~~0.38~~	~~J I B~~ 24 U	24	0.077	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total PeCDF	~~0.98~~	~~J I B~~ 24 U	24	0.030	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total TCDD	ND		4.8	0.042	pg/L		07/11/22 05:40	07/12/22 02:31	1
Total TCDF	ND		4.8	0.033	pg/L		07/11/22 05:40	07/12/22 02:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	94		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,4,6,7,8-HpCDF	99		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,4,7,8,9-HpCDF	96		40 - 135	07/11/22 05:40	07/12/22 02:31	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: MW-2022-4S

Date Collected: 06/29/22 16:05
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-1

Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	99		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,4,7,8-HxCDF	104		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,6,7,8-HxCDD	94		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,6,7,8-HxCDF	93		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,7,8,9-HxCDD	93		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,7,8,9-HxCDF	98		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,7,8-PeCDD	100		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-1,2,3,7,8-PeCDF	102		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-2,3,4,6,7,8-HxCDF	104		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-2,3,4,7,8-PeCDF	102		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-2,3,7,8-TCDD	102		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-2,3,7,8-TCDF	106		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-OCDD	85		40 - 135	07/11/22 05:40	07/12/22 02:31	1
13C-OCDF	83		40 - 135	07/11/22 05:40	07/12/22 02:31	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/06/22 09:24	07/06/22 18:56	1
Arsenic	ND		0.015	0.0056	mg/L		07/06/22 09:24	07/06/22 18:56	1
Barium	**0.014**		0.0020	0.00070	mg/L		07/06/22 09:24	07/06/22 18:56	1
Beryllium	ND		0.0020	0.00030	mg/L		07/06/22 09:24	07/06/22 18:56	1
Cadmium	ND		0.0020	0.00050	mg/L		07/06/22 09:24	07/06/22 18:56	1
Chromium	ND		0.0040	0.0010	mg/L		07/06/22 09:24	07/06/22 18:56	1
Cobalt	ND		0.0040	0.00063	mg/L		07/06/22 09:24	07/06/22 18:56	1
Copper	ND		0.010	0.0016	mg/L		07/06/22 09:24	07/06/22 18:56	1
Lead	ND		0.010	0.0030	mg/L		07/06/22 09:24	07/06/22 18:56	1
Nickel	ND		0.010	0.0013	mg/L		07/06/22 09:24	07/06/22 18:56	1
Selenium	ND		0.025	0.0087	mg/L		07/06/22 09:24	07/06/22 18:56	1
Silver	ND		0.0060	0.0017	mg/L		07/06/22 09:24	07/06/22 18:56	1
Thallium	ND		0.020	0.010	mg/L		07/06/22 09:24	07/06/22 18:56	1
Tin	ND		0.010	0.0051	mg/L		07/06/22 09:24	07/06/22 18:56	1
Vanadium	ND		0.0050	0.0015	mg/L		07/06/22 09:24	07/06/22 18:56	1
Zinc	ND		0.010	0.0015	mg/L		07/06/22 09:24	07/06/22 18:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/05/22 10:10	07/05/22 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.0069**	**J**	0.010	0.0050	mg/L		07/05/22 16:06	07/06/22 13:20	1
Sulfide	ND		1.0	0.67	mg/L			07/05/22 10:26	1

Client Sample ID: MW-2022-4D

Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/05/22 15:48	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/05/22 15:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/05/22 15:48	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/05/22 15:48	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/05/22 15:48	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/05/22 15:48	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/05/22 15:48	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/05/22 15:48	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/05/22 15:48	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/05/22 15:48	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/05/22 15:48	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/05/22 15:48	1
2-Chloroethyl vinyl ether	ND	R	5.0	0.96	ug/L			07/05/22 15:48	1
2-Hexanone	ND		5.0	1.2	ug/L			07/05/22 15:48	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/05/22 15:48	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/05/22 15:48	1
Acetone	ND		10	3.0	ug/L			07/05/22 15:48	1
Acetonitrile	ND		15	4.9	ug/L			07/05/22 15:48	1
Acrolein	ND		20	0.91	ug/L			07/05/22 15:48	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/05/22 15:48	1
Benzene	ND		1.0	0.41	ug/L			07/05/22 15:48	1
Bromoform	ND		1.0	0.26	ug/L			07/05/22 15:48	1
Bromomethane	ND		1.0	0.69	ug/L			07/05/22 15:48	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/05/22 15:48	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/05/22 15:48	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/05/22 15:48	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/05/22 15:48	1
Chloroethane	ND		1.0	0.32	ug/L			07/05/22 15:48	1
Chloroform	ND		1.0	0.34	ug/L			07/05/22 15:48	1
Chloromethane	ND		1.0	0.35	ug/L			07/05/22 15:48	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/05/22 15:48	1
Dibromomethane	ND		1.0	0.41	ug/L			07/05/22 15:48	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/05/22 15:48	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/05/22 15:48	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/05/22 15:48	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/05/22 15:48	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/05/22 15:48	1
Iodomethane	ND		1.0	0.30	ug/L			07/05/22 15:48	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/05/22 15:48	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/05/22 15:48	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/05/22 15:48	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/05/22 15:48	1
o-Xylene	ND		1.0	0.76	ug/L			07/05/22 15:48	1
Propionitrile	ND		10	5.8	ug/L			07/05/22 15:48	1
Styrene	ND		1.0	0.73	ug/L			07/05/22 15:48	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/05/22 15:48	1
Toluene	ND		1.0	0.51	ug/L			07/05/22 15:48	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/05/22 15:48	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/05/22 15:48	1

Client Sample ID: MW-2022-4D
Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/05/22 15:48	1
Trichloroethene	ND		1.0	0.46	ug/L			07/05/22 15:48	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/05/22 15:48	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/05/22 15:48	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/05/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*07/05/22 15:48*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*07/05/22 15:48*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*07/05/22 15:48*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/05/22 15:48*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,4-Dioxane	ND		10	1.1	ug/L		07/05/22 08:35	07/06/22 23:52	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/05/22 08:35	07/06/22 23:52	1
1-Naphthylamine	ND		10	1.3	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/05/22 08:35	07/06/22 23:52	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Naphthylamine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Nitroaniline	ND		10	0.42	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Picoline	ND		80	1.4	ug/L		07/05/22 08:35	07/06/22 23:52	1
2-Toluidine	ND		10	1.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/05/22 08:35	07/06/22 23:52	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
3-Methylphenol	ND		10	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
3-Nitroaniline	ND		10	0.48	ug/L		07/05/22 08:35	07/06/22 23:52	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: MW-2022-4D
Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Methylphenol	ND		10	0.36	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Nitroaniline	ND	*+	10	0.25	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Nitrophenol	ND		10	1.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/05/22 08:35	07/06/22 23:52	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		07/05/22 08:35	07/06/22 23:52	1
Acenaphthene	ND		5.0	0.41	ug/L		07/05/22 08:35	07/06/22 23:52	1
Acenaphthylene	ND		5.0	0.38	ug/L		07/05/22 08:35	07/06/22 23:52	1
Acetophenone	ND		5.0	0.54	ug/L		07/05/22 08:35	07/06/22 23:52	1
Aniline	ND		10	0.61	ug/L		07/05/22 08:35	07/06/22 23:52	1
Anthracene	ND		5.0	0.28	ug/L		07/05/22 08:35	07/06/22 23:52	1
Aramite, Total	ND		20	1.6	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzidine	ND		80	2.2	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/05/22 08:35	07/06/22 23:52	1
Benzyl alcohol	ND		20	2.0	ug/L		07/05/22 08:35	07/06/22 23:52	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/05/22 08:35	07/06/22 23:52	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/05/22 08:35	07/06/22 23:52	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/05/22 08:35	07/06/22 23:52	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/05/22 08:35	07/06/22 23:52	1
Chrysene	ND		5.0	0.33	ug/L		07/05/22 08:35	07/06/22 23:52	1
Diallate	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/05/22 08:35	07/06/22 23:52	1
Dibenzofuran	ND		10	0.51	ug/L		07/05/22 08:35	07/06/22 23:52	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/05/22 08:35	07/06/22 23:52	1
Dimethoate	ND		10	0.54	ug/L		07/05/22 08:35	07/06/22 23:52	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/05/22 08:35	07/06/22 23:52	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/05/22 08:35	07/06/22 23:52	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/05/22 08:35	07/06/22 23:52	1
Dinoseb	ND	*+	10	2.9	ug/L		07/05/22 08:35	07/06/22 23:52	1
Diphenylamine	ND		10	0.82	ug/L		07/05/22 08:35	07/06/22 23:52	1
Disulfoton	ND		10	0.42	ug/L		07/05/22 08:35	07/06/22 23:52	1
Chlorobenzilate	ND		20	0.67	ug/L		07/05/22 08:35	07/06/22 23:52	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/05/22 08:35	07/06/22 23:52	1
Famphur	ND	*	40	1.9	ug/L		07/05/22 08:35	07/06/22 23:52	1
Fluoranthene	ND		5.0	0.40	ug/L		07/05/22 08:35	07/06/22 23:52	1
Fluorene	ND		5.0	0.36	ug/L		07/05/22 08:35	07/06/22 23:52	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/05/22 08:35	07/06/22 23:52	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/05/22 08:35	07/06/22 23:52	1

Client Sample ID: MW-2022-4D
Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/05/22 08:35	07/06/22 23:52	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/05/22 08:35	07/06/22 23:52	1
Hexachloropropene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/05/22 08:35	07/06/22 23:52	1
Isodrin	ND		10	0.18	ug/L		07/05/22 08:35	07/06/22 23:52	1
Isophorone	ND		5.0	0.43	ug/L		07/05/22 08:35	07/06/22 23:52	1
Isosafrole	ND		10	0.58	ug/L		07/05/22 08:35	07/06/22 23:52	1
Kepone	ND		50	1.8	ug/L		07/05/22 08:35	07/06/22 23:52	1
Methapyrilene	ND		50	1.8	ug/L		07/05/22 08:35	07/06/22 23:52	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
Naphthalene	ND		5.0	0.76	ug/L		07/05/22 08:35	07/06/22 23:52	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/05/22 08:35	07/06/22 23:52	1
Ethyl Parathion	ND		10	0.64	ug/L		07/05/22 08:35	07/06/22 23:52	1
Methyl parathion	ND		10	0.37	ug/L		07/05/22 08:35	07/06/22 23:52	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/05/22 08:35	07/06/22 23:52	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/05/22 08:35	07/06/22 23:52	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
Pentachlorophenol	ND		10	2.2	ug/L		07/05/22 08:35	07/06/22 23:52	1
Phenacetin	ND		10	0.61	ug/L		07/05/22 08:35	07/06/22 23:52	1
Phenanthrene	ND		5.0	0.44	ug/L		07/05/22 08:35	07/06/22 23:52	1
Phenol	ND		5.0	0.39	ug/L		07/05/22 08:35	07/06/22 23:52	1
Phorate	ND		10	0.50	ug/L		07/05/22 08:35	07/06/22 23:52	1
p-Phenylene diamine	R ND	*	800	200	ug/L		07/05/22 08:35	07/06/22 23:52	1
Pronamide	ND		10	2.5	ug/L		07/05/22 08:35	07/06/22 23:52	1
Pyrene	ND		5.0	0.34	ug/L		07/05/22 08:35	07/06/22 23:52	1
Pyridine	ND		25	0.41	ug/L		07/05/22 08:35	07/06/22 23:52	1
Safrole	ND		10	0.46	ug/L		07/05/22 08:35	07/06/22 23:52	1
Sulfotepp	ND		10	0.64	ug/L		07/05/22 08:35	07/06/22 23:52	1
Thionazin	ND		10	0.38	ug/L		07/05/22 08:35	07/06/22 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*104*		*41 - 120*	*07/05/22 08:35*	*07/06/22 23:52*	*1*
2-Fluorobiphenyl (Surr)	*85*		*48 - 120*	*07/05/22 08:35*	*07/06/22 23:52*	*1*
2-Fluorophenol (Surr)	*55*		*35 - 120*	*07/05/22 08:35*	*07/06/22 23:52*	*1*
Nitrobenzene-d5 (Surr)	*79*		*46 - 120*	*07/05/22 08:35*	*07/06/22 23:52*	*1*
Phenol-d5 (Surr)	*40*		*22 - 120*	*07/05/22 08:35*	*07/06/22 23:52*	*1*
p-Terphenyl-d14 (Surr)	*86*		*60 - 148*	*07/05/22 08:35*	*07/06/22 23:52*	*1*

Client Sample ID: MW-2022-4D

Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/06/22 08:21	07/06/22 16:42	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 16:42	1
4,4'-DDT	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 16:42	1
Aldrin	ND		0.050	0.0081	ug/L		07/06/22 08:21	07/06/22 16:42	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/06/22 08:21	07/06/22 16:42	1
beta-BHC	ND		0.050	0.025	ug/L		07/06/22 08:21	07/06/22 16:42	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/06/22 08:21	07/06/22 16:42	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/06/22 08:21	07/06/22 16:42	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/06/22 08:21	07/06/22 16:42	1
delta-BHC	ND		0.050	0.010	ug/L		07/06/22 08:21	07/06/22 16:42	1
Dieldrin	ND		0.050	0.0098	ug/L		07/06/22 08:21	07/06/22 16:42	1
Endosulfan I	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 16:42	1
Endosulfan II	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 16:42	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/06/22 08:21	07/06/22 16:42	1
Endrin	ND		0.050	0.014	ug/L		07/06/22 08:21	07/06/22 16:42	1
Endrin aldehyde	0.050 U	~~0.017 J B~~	0.050	0.016	ug/L		07/06/22 08:21	07/06/22 16:42	1
Endrin ketone	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 16:42	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/06/22 08:21	07/06/22 16:42	1
Heptachlor	ND		0.050	0.0085	ug/L		07/06/22 08:21	07/06/22 16:42	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/06/22 08:21	07/06/22 16:42	1
Methoxychlor	ND	~~J~~	0.050	0.014	ug/L		07/06/22 08:21	07/06/22 16:42	1
Toxaphene	ND		0.50	0.12	ug/L		07/06/22 08:21	07/06/22 16:42	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*64*		*20 - 120*	*07/06/22 08:21*	*07/06/22 16:42*	*1*
DCB Decachlorobiphenyl	*113*		*20 - 120*	*07/06/22 08:21*	*07/06/22 16:42*	*1*
Tetrachloro-m-xylene	*74*		*44 - 120*	*07/06/22 08:21*	*07/06/22 16:42*	*1*
Tetrachloro-m-xylene	*82*		*44 - 120*	*07/06/22 08:21*	*07/06/22 16:42*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:20	1
PCB-1221	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:20	1
PCB-1232	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:20	1
PCB-1242	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:20	1
PCB-1248	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:20	1
PCB-1254	ND		0.50	0.25	ug/L		07/05/22 15:05	07/06/22 22:20	1
PCB-1260	ND		0.50	0.25	ug/L		07/05/22 15:05	07/06/22 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*100*		*39 - 121*	*07/05/22 15:05*	*07/06/22 22:20*	*1*
Tetrachloro-m-xylene	*104*		*39 - 121*	*07/05/22 15:05*	*07/06/22 22:20*	*1*
DCB Decachlorobiphenyl	*114*		*19 - 120*	*07/05/22 15:05*	*07/06/22 22:20*	*1*
DCB Decachlorobiphenyl	*117*		*19 - 120*	*07/05/22 15:05*	*07/06/22 22:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/06/22 07:18	07/07/22 13:15	1
2,4-D	ND		0.48	0.16	ug/L		07/06/22 07:18	07/07/22 13:15	1

Client Sample ID: MW-2022-4D

Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2

Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/06/22 07:18	07/07/22 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*97*		*48 - 132*	*07/06/22 07:18*	*07/07/22 13:15*	*1*
2,4-Dichlorophenylacetic acid	*95*		*48 - 132*	*07/06/22 07:18*	*07/07/22 13:15*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	0.94	0.25	ug/L		07/08/22 05:00	07/12/22 11:34	1
Disulfoton	ND	H	0.94	0.38	ug/L		07/08/22 05:00	07/12/22 11:34	1
Famphur	ND	H	0.94	0.30	ug/L		07/08/22 05:00	07/12/22 11:34	1
Methyl parathion	ND	H	0.94	0.32	ug/L		07/08/22 05:00	07/12/22 11:34	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		07/08/22 05:00	07/12/22 11:34	1
Phorate	ND	H	0.94	0.36	ug/L		07/08/22 05:00	07/12/22 11:34	1
Sulfotepp	ND	H	0.94	0.38	ug/L		07/08/22 05:00	07/12/22 11:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*25 - 127*	*07/08/22 05:00*	*07/12/22 11:34*	*1*
Tributyl phosphate	*82*		*25 - 127*	*07/08/22 05:00*	*07/12/22 11:34*	*1*
Triphenylphosphate	*89*		*70 - 155*	*07/08/22 05:00*	*07/12/22 11:34*	*1*
Triphenylphosphate	*91*		*70 - 155*	*07/08/22 05:00*	*07/12/22 11:34*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.60	ng/L		07/13/22 08:30	07/13/22 15:32	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		3.9	1.0	ng/L		07/13/22 08:30	07/13/22 15:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		3.9	1.3	ng/L		07/13/22 08:30	07/13/22 15:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		3.9	1.5	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.49	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorobutanoic acid (PFBA)	ND		3.9	0.94	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.31	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.36	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.38	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.32	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.42	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorohexanesulfonic acid (PFHxS)	**0.49**	**J**	1.6	0.43	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.51	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.38	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.72	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorooctanesulfonic acid (PFOS)	**1.4**	**J**	1.6	0.67	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.60	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.53	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.50	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.38	ng/L		07/13/22 08:30	07/13/22 15:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.43	ng/L		07/13/22 08:30	07/13/22 15:32	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: MW-2022-4D

Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2

Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	97		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C2 PFDoA	86		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C2 PFHxA	102		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C2 PFTeDA	86		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C2 PFUnA	92		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C3 PFBS	88		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C4 PFBA	96		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C4 PFHpA	105		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C4 PFOA	102		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C4 PFOS	74		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C5 PFNA	95		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C5 PFPeA	109		50 - 150	07/13/22 08:30	07/13/22 15:32	1
13C8 FOSA	77		50 - 150	07/13/22 08:30	07/13/22 15:32	1
18O2 PFHxS	83		50 - 150	07/13/22 08:30	07/13/22 15:32	1
d3-NMeFOSAA	95		50 - 150	07/13/22 08:30	07/13/22 15:32	1
d5-NEtFOSAA	94		50 - 150	07/13/22 08:30	07/13/22 15:32	1
M2-6:2 FTS	85		50 - 150	07/13/22 08:30	07/13/22 15:32	1
M2-8:2 FTS	79		50 - 150	07/13/22 08:30	07/13/22 15:32	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~0.88~~ ~~J I B~~ 24 U		24	0.17	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,4,6,7,8-HpCDF	~~0.48~~ ~~J I B~~ 24 U		24	0.020	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,4,7,8,9-HpCDF	~~0.29~~ ~~J B~~ 24 U		24	0.027	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,4,7,8-HxCDD	ND		24	0.043	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,4,7,8-HxCDF	ND		24	0.048	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,6,7,8-HxCDD	~~0.38~~ ~~J I B~~ 24 U		24	0.040	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,6,7,8-HxCDF	~~0.41~~ ~~J I B~~ 24 U		24	0.048	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,7,8,9-HxCDD	~~0.37~~ ~~J B~~ 24 U		24	0.038	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,7,8,9-HxCDF	~~0.28~~ ~~J I B~~ 24 U		24	0.054	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,7,8-PeCDD	~~0.32~~ ~~J B~~ 24 U		24	0.034	pg/L		07/11/22 05:40	07/12/22 03:22	1
1,2,3,7,8-PeCDF	~~0.51~~ ~~J I B~~ 24 U		24	0.053	pg/L		07/11/22 05:40	07/12/22 03:22	1
2,3,4,6,7,8-HxCDF	~~0.29~~ ~~J I B~~ 24 U		24	0.047	pg/L		07/11/22 05:40	07/12/22 03:22	1
2,3,4,7,8-PeCDF	0.56 ~~J I~~ JNX		24	0.041	pg/L		07/11/22 05:40	07/12/22 03:22	1
2,3,7,8-TCDD	ND		4.7	0.049	pg/L		07/11/22 05:40	07/12/22 03:22	1
2,3,7,8-TCDF	ND		4.7	0.041	pg/L		07/11/22 05:40	07/12/22 03:22	1
OCDD	~~2.4~~ ~~J B~~ 24 U		100	0.27	pg/L		07/11/22 05:40	07/12/22 03:22	1
OCDF	~~0.84~~ ~~J B~~ 24 U		47	0.038	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total HpCDD	~~0.88~~ ~~J I B~~ 24 U		24	0.17	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total HpCDF	~~0.77~~ ~~J I B~~ 24 U		24	0.024	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total HxCDD	~~0.75~~ ~~J I B~~ 24 U		24	0.041	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total HxCDF	~~0.98~~ ~~J I B~~ 24 U		24	0.049	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total PeCDD	~~0.32~~ ~~J I B~~ 24 U		24	0.034	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total PeCDF	~~1.1~~ ~~J I B~~ 24 U		24	0.047	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total TCDD	ND		4.7	0.049	pg/L		07/11/22 05:40	07/12/22 03:22	1
Total TCDF	ND		4.7	0.041	pg/L		07/11/22 05:40	07/12/22 03:22	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	79		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,4,6,7,8-HpCDF	83		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,4,7,8,9-HpCDF	79		40 - 135	07/11/22 05:40	07/12/22 03:22	1

Client Sample ID: MW-2022-4D
Date Collected: 06/30/22 13:35
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-2
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	81		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,4,7,8-HxCDF	89		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,6,7,8-HxCDD	77		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,6,7,8-HxCDF	79		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,7,8,9-HxCDD	79		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,7,8,9-HxCDF	83		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,7,8-PeCDD	98		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-1,2,3,7,8-PeCDF	96		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-2,3,4,6,7,8-HxCDF	84		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-2,3,4,7,8-PeCDF	96		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-2,3,7,8-TCDD	85		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-2,3,7,8-TCDF	87		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-OCDD	71		40 - 135	07/11/22 05:40	07/12/22 03:22	1
13C-OCDF	70		40 - 135	07/11/22 05:40	07/12/22 03:22	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/06/22 09:24	07/06/22 19:00	1
Arsenic	ND		0.015	0.0056	mg/L		07/06/22 09:24	07/06/22 19:00	1
Barium	**0.0072**		0.0020	0.00070	mg/L		07/06/22 09:24	07/06/22 19:00	1
Beryllium	ND		0.0020	0.00030	mg/L		07/06/22 09:24	07/06/22 19:00	1
Cadmium	ND		0.0020	0.00050	mg/L		07/06/22 09:24	07/06/22 19:00	1
Chromium	ND		0.0040	0.0010	mg/L		07/06/22 09:24	07/06/22 19:00	1
Cobalt	ND		0.0040	0.00063	mg/L		07/06/22 09:24	07/06/22 19:00	1
Copper	ND		0.010	0.0016	mg/L		07/06/22 09:24	07/06/22 19:00	1
Lead	ND		0.010	0.0030	mg/L		07/06/22 09:24	07/06/22 19:00	1
Nickel	ND		0.010	0.0013	mg/L		07/06/22 09:24	07/06/22 19:00	1
Selenium	ND		0.025	0.0087	mg/L		07/06/22 09:24	07/06/22 19:00	1
Silver	ND		0.0060	0.0017	mg/L		07/06/22 09:24	07/06/22 19:00	1
Thallium	ND		0.020	0.010	mg/L		07/06/22 09:24	07/06/22 19:00	1
Tin	ND		0.010	0.0051	mg/L		07/06/22 09:24	07/06/22 19:00	1
Vanadium	ND		0.0050	0.0015	mg/L		07/06/22 09:24	07/06/22 19:00	1
Zinc	ND		0.010	0.0015	mg/L		07/06/22 09:24	07/06/22 19:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/05/22 10:10	07/05/22 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	~~0.0073~~	~~J B~~	0.010	0.0050	mg/L		07/06/22 11:03	07/06/22 15:08	1
Sulfide	ND		1.0	0.67	mg/L			07/05/22 10:26	1

0.010 U

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: MW-2022-DUP-1
Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/05/22 16:11	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/05/22 16:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/05/22 16:11	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/05/22 16:11	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/05/22 16:11	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/05/22 16:11	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/05/22 16:11	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/05/22 16:11	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/05/22 16:11	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/05/22 16:11	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/05/22 16:11	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/05/22 16:11	1
2-Chloroethyl vinyl ether	ND	R	5.0	0.96	ug/L			07/05/22 16:11	1
2-Hexanone	ND		5.0	1.2	ug/L			07/05/22 16:11	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/05/22 16:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/05/22 16:11	1
Acetone	ND		10	3.0	ug/L			07/05/22 16:11	1
Acetonitrile	ND		15	4.9	ug/L			07/05/22 16:11	1
Acrolein	ND		20	0.91	ug/L			07/05/22 16:11	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/05/22 16:11	1
Benzene	ND		1.0	0.41	ug/L			07/05/22 16:11	1
Bromoform	ND		1.0	0.26	ug/L			07/05/22 16:11	1
Bromomethane	ND		1.0	0.69	ug/L			07/05/22 16:11	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/05/22 16:11	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/05/22 16:11	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/05/22 16:11	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/05/22 16:11	1
Chloroethane	ND		1.0	0.32	ug/L			07/05/22 16:11	1
Chloroform	ND		1.0	0.34	ug/L			07/05/22 16:11	1
Chloromethane	ND		1.0	0.35	ug/L			07/05/22 16:11	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/05/22 16:11	1
Dibromomethane	ND		1.0	0.41	ug/L			07/05/22 16:11	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/05/22 16:11	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/05/22 16:11	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/05/22 16:11	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/05/22 16:11	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/05/22 16:11	1
Iodomethane	ND		1.0	0.30	ug/L			07/05/22 16:11	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/05/22 16:11	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/05/22 16:11	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/05/22 16:11	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/05/22 16:11	1
o-Xylene	ND		1.0	0.76	ug/L			07/05/22 16:11	1
Propionitrile	ND		10	5.8	ug/L			07/05/22 16:11	1
Styrene	ND		1.0	0.73	ug/L			07/05/22 16:11	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/05/22 16:11	1
Toluene	ND		1.0	0.51	ug/L			07/05/22 16:11	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/05/22 16:11	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/05/22 16:11	1

Client Sample ID: MW-2022-DUP-1
Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/05/22 16:11	1
Trichloroethene	ND		1.0	0.46	ug/L			07/05/22 16:11	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/05/22 16:11	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/05/22 16:11	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/05/22 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*07/05/22 16:11*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*07/05/22 16:11*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*07/05/22 16:11*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/05/22 16:11*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,4-Dioxane	ND		10	1.1	ug/L		07/05/22 08:35	07/07/22 00:19	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/05/22 08:35	07/07/22 00:19	1
1-Naphthylamine	ND		10	1.3	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,4-Dinitrotoluene	ND	*+	5.0	0.45	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/05/22 08:35	07/07/22 00:19	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Naphthylamine	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Nitroaniline	ND		10	0.42	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Picoline	ND		80	1.4	ug/L		07/05/22 08:35	07/07/22 00:19	1
2-Toluidine	ND		10	1.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/05/22 08:35	07/07/22 00:19	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
3-Methylphenol	ND		10	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
3-Nitroaniline	ND		10	0.48	ug/L		07/05/22 08:35	07/07/22 00:19	1

Client Sample ID: MW-2022-DUP-1
Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Methylphenol	ND		10	0.36	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Nitroaniline	ND	*+	10	0.25	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Nitrophenol	ND		10	1.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/05/22 08:35	07/07/22 00:19	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		07/05/22 08:35	07/07/22 00:19	1
Acenaphthene	ND		5.0	0.41	ug/L		07/05/22 08:35	07/07/22 00:19	1
Acenaphthylene	ND		5.0	0.38	ug/L		07/05/22 08:35	07/07/22 00:19	1
Acetophenone	ND		5.0	0.54	ug/L		07/05/22 08:35	07/07/22 00:19	1
Aniline	ND		10	0.61	ug/L		07/05/22 08:35	07/07/22 00:19	1
Anthracene	ND		5.0	0.28	ug/L		07/05/22 08:35	07/07/22 00:19	1
Aramite, Total	ND		20	1.6	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzidine	ND		80	2.2	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzo[g,h,i]perylene	**0.37**	**J**	5.0	0.35	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/05/22 08:35	07/07/22 00:19	1
Benzyl alcohol	ND		20	2.0	ug/L		07/05/22 08:35	07/07/22 00:19	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/05/22 08:35	07/07/22 00:19	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/05/22 08:35	07/07/22 00:19	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/05/22 08:35	07/07/22 00:19	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/05/22 08:35	07/07/22 00:19	1
Chrysene	ND		5.0	0.33	ug/L		07/05/22 08:35	07/07/22 00:19	1
Diallate	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/05/22 08:35	07/07/22 00:19	1
Dibenzofuran	ND		10	0.51	ug/L		07/05/22 08:35	07/07/22 00:19	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/05/22 08:35	07/07/22 00:19	1
Dimethoate	ND		10	0.54	ug/L		07/05/22 08:35	07/07/22 00:19	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/05/22 08:35	07/07/22 00:19	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/05/22 08:35	07/07/22 00:19	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/05/22 08:35	07/07/22 00:19	1
Dinoseb	ND	*+	10	2.9	ug/L		07/05/22 08:35	07/07/22 00:19	1
Diphenylamine	ND		10	0.82	ug/L		07/05/22 08:35	07/07/22 00:19	1
Disulfoton	ND		10	0.42	ug/L		07/05/22 08:35	07/07/22 00:19	1
Chlorobenzilate	ND		20	0.67	ug/L		07/05/22 08:35	07/07/22 00:19	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/05/22 08:35	07/07/22 00:19	1
Famphur	ND	*	40	1.9	ug/L		07/05/22 08:35	07/07/22 00:19	1
Fluoranthene	ND		5.0	0.40	ug/L		07/05/22 08:35	07/07/22 00:19	1
Fluorene	ND		5.0	0.36	ug/L		07/05/22 08:35	07/07/22 00:19	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/05/22 08:35	07/07/22 00:19	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/05/22 08:35	07/07/22 00:19	1

Client Sample ID: MW-2022-DUP-1
Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/05/22 08:35	07/07/22 00:19	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/05/22 08:35	07/07/22 00:19	1
Hexachloropropene	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/05/22 08:35	07/07/22 00:19	1
Isodrin	ND		10	0.18	ug/L		07/05/22 08:35	07/07/22 00:19	1
Isophorone	ND		5.0	0.43	ug/L		07/05/22 08:35	07/07/22 00:19	1
Isosafrole	ND		10	0.58	ug/L		07/05/22 08:35	07/07/22 00:19	1
Kepone	ND		50	1.8	ug/L		07/05/22 08:35	07/07/22 00:19	1
Methapyrilene	ND		50	1.8	ug/L		07/05/22 08:35	07/07/22 00:19	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
Naphthalene	ND		5.0	0.76	ug/L		07/05/22 08:35	07/07/22 00:19	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/05/22 08:35	07/07/22 00:19	1
Ethyl Parathion	ND		10	0.64	ug/L		07/05/22 08:35	07/07/22 00:19	1
Methyl parathion	ND		10	0.37	ug/L		07/05/22 08:35	07/07/22 00:19	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/05/22 08:35	07/07/22 00:19	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/05/22 08:35	07/07/22 00:19	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
Pentachlorophenol	ND		10	2.2	ug/L		07/05/22 08:35	07/07/22 00:19	1
Phenacetin	ND		10	0.61	ug/L		07/05/22 08:35	07/07/22 00:19	1
Phenanthrene	ND		5.0	0.44	ug/L		07/05/22 08:35	07/07/22 00:19	1
Phenol	ND		5.0	0.39	ug/L		07/05/22 08:35	07/07/22 00:19	1
Phorate	ND		10	0.50	ug/L		07/05/22 08:35	07/07/22 00:19	1
p-Phenylene diamine	R ND	*-	800	200	ug/L		07/05/22 08:35	07/07/22 00:19	1
Pronamide	ND		10	2.5	ug/L		07/05/22 08:35	07/07/22 00:19	1
Pyrene	ND		5.0	0.34	ug/L		07/05/22 08:35	07/07/22 00:19	1
Pyridine	ND		25	0.41	ug/L		07/05/22 08:35	07/07/22 00:19	1
Safrole	ND		10	0.46	ug/L		07/05/22 08:35	07/07/22 00:19	1
Sulfotepp	ND		10	0.64	ug/L		07/05/22 08:35	07/07/22 00:19	1
Thionazin	ND		10	0.38	ug/L		07/05/22 08:35	07/07/22 00:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*113*		*41 - 120*	*07/05/22 08:35*	*07/07/22 00:19*	*1*
2-Fluorobiphenyl (Surr)	*75*		*48 - 120*	*07/05/22 08:35*	*07/07/22 00:19*	*1*
2-Fluorophenol (Surr)	*45*		*35 - 120*	*07/05/22 08:35*	*07/07/22 00:19*	*1*
Nitrobenzene-d5 (Surr)	*63*		*46 - 120*	*07/05/22 08:35*	*07/07/22 00:19*	*1*
Phenol-d5 (Surr)	*33*		*22 - 120*	*07/05/22 08:35*	*07/07/22 00:19*	*1*
p-Terphenyl-d14 (Surr)	*92*		*60 - 148*	*07/05/22 08:35*	*07/07/22 00:19*	*1*

Client Sample ID: MW-2022-DUP-1

Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/06/22 08:21	07/06/22 17:02	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 17:02	1
4,4'-DDT	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 17:02	1
Aldrin	ND		0.050	0.0081	ug/L		07/06/22 08:21	07/06/22 17:02	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/06/22 08:21	07/06/22 17:02	1
beta-BHC	ND		0.050	0.025	ug/L		07/06/22 08:21	07/06/22 17:02	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/06/22 08:21	07/06/22 17:02	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/06/22 08:21	07/06/22 17:02	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/06/22 08:21	07/06/22 17:02	1
delta-BHC	ND		0.050	0.010	ug/L		07/06/22 08:21	07/06/22 17:02	1
Dieldrin	ND		0.050	0.0098	ug/L		07/06/22 08:21	07/06/22 17:02	1
Endosulfan I	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 17:02	1
Endosulfan II	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 17:02	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/06/22 08:21	07/06/22 17:02	1
Endrin	ND		0.050	0.014	ug/L		07/06/22 08:21	07/06/22 17:02	1
Endrin aldehyde	0.050 U	~~0.018 J B~~	0.050	0.016	ug/L		07/06/22 08:21	07/06/22 17:02	1
Endrin ketone	ND		0.050	0.012	ug/L		07/06/22 08:21	07/06/22 17:02	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/06/22 08:21	07/06/22 17:02	1
Heptachlor	ND		0.050	0.0085	ug/L		07/06/22 08:21	07/06/22 17:02	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/06/22 08:21	07/06/22 17:02	1
Methoxychlor	ND	~~J~~	0.050	0.014	ug/L		07/06/22 08:21	07/06/22 17:02	1
Toxaphene	ND		0.50	0.12	ug/L		07/06/22 08:21	07/06/22 17:02	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/06/22 08:21	07/06/22 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*20 - 120*	*07/06/22 08:21*	*07/06/22 17:02*	*1*
DCB Decachlorobiphenyl	*117*		*20 - 120*	*07/06/22 08:21*	*07/06/22 17:02*	*1*
Tetrachloro-m-xylene	*82*		*44 - 120*	*07/06/22 08:21*	*07/06/22 17:02*	*1*
Tetrachloro-m-xylene	*86*		*44 - 120*	*07/06/22 08:21*	*07/06/22 17:02*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:33	1
PCB-1221	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:33	1
PCB-1232	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:33	1
PCB-1242	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:33	1
PCB-1248	ND		0.50	0.18	ug/L		07/05/22 15:05	07/06/22 22:33	1
PCB-1254	ND		0.50	0.25	ug/L		07/05/22 15:05	07/06/22 22:33	1
PCB-1260	ND		0.50	0.25	ug/L		07/05/22 15:05	07/06/22 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*101*		*39 - 121*	*07/05/22 15:05*	*07/06/22 22:33*	*1*
Tetrachloro-m-xylene	*105*		*39 - 121*	*07/05/22 15:05*	*07/06/22 22:33*	*1*
DCB Decachlorobiphenyl	*114*		*19 - 120*	*07/05/22 15:05*	*07/06/22 22:33*	*1*
DCB Decachlorobiphenyl	*121*	*S1+*	*19 - 120*	*07/05/22 15:05*	*07/06/22 22:33*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/06/22 07:18	07/07/22 13:33	1
2,4-D	ND		0.48	0.16	ug/L		07/06/22 07:18	07/07/22 13:33	1

Client Sample ID: MW-2022-DUP-1

Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3

Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/06/22 07:18	07/07/22 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*98*		*48 - 132*	*07/06/22 07:18*	*07/07/22 13:33*	*1*
2,4-Dichlorophenylacetic acid	*89*		*48 - 132*	*07/06/22 07:18*	*07/07/22 13:33*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	0.94	0.25	ug/L		07/08/22 05:00	07/12/22 12:05	1
Disulfoton	ND	H	0.94	0.38	ug/L		07/08/22 05:00	07/12/22 12:05	1
Famphur	ND	H	0.94	0.30	ug/L		07/08/22 05:00	07/12/22 12:05	1
Methyl parathion	ND	H	0.94	0.32	ug/L		07/08/22 05:00	07/12/22 12:05	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		07/08/22 05:00	07/12/22 12:05	1
Phorate	ND	H	0.94	0.36	ug/L		07/08/22 05:00	07/12/22 12:05	1
Sulfotepp	ND	H	0.94	0.38	ug/L		07/08/22 05:00	07/12/22 12:05	1

UJ

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*89*		*25 - 127*	*07/08/22 05:00*	*07/12/22 12:05*	*1*
Tributyl phosphate	*85*		*25 - 127*	*07/08/22 05:00*	*07/12/22 12:05*	*1*
Triphenylphosphate	*92*		*70 - 155*	*07/08/22 05:00*	*07/12/22 12:05*	*1*
Triphenylphosphate	*93*		*70 - 155*	*07/08/22 05:00*	*07/12/22 12:05*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.61	ng/L		07/13/22 08:30	07/13/22 15:40	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.0	ng/L		07/13/22 08:30	07/13/22 15:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		07/13/22 08:30	07/13/22 15:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.49	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorobutanoic acid (PFBA)	ND		4.0	0.96	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.39	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.43	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorohexanesulfonic acid (PFHxS)	**0.47**	**J**	1.6	0.44	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.52	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.73	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**J**	1.6	0.68	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.61	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.54	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.51	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.38	ng/L		07/13/22 08:30	07/13/22 15:40	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.44	ng/L		07/13/22 08:30	07/13/22 15:40	1

Client Sample ID: MW-2022-DUP-1

Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3

Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	94		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C2 PFDoA	85		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C2 PFHxA	102		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C2 PFTeDA	82		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C2 PFUnA	89		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C3 PFBS	88		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C4 PFBA	95		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C4 PFHpA	102		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C4 PFOA	103		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C4 PFOS	72		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C5 PFNA	94		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C5 PFPeA	108		50 - 150	07/13/22 08:30	07/13/22 15:40	1
13C8 FOSA	75		50 - 150	07/13/22 08:30	07/13/22 15:40	1
18O2 PFHxS	83		50 - 150	07/13/22 08:30	07/13/22 15:40	1
d3-NMeFOSAA	93		50 - 150	07/13/22 08:30	07/13/22 15:40	1
d5-NEtFOSAA	96		50 - 150	07/13/22 08:30	07/13/22 15:40	1
M2-6:2 FTS	82		50 - 150	07/13/22 08:30	07/13/22 15:40	1
M2-8:2 FTS	84		50 - 150	07/13/22 08:30	07/13/22 15:40	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.1~~	~~J B~~ 24 U	24	0.11	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,4,6,7,8-HpCDF	~~0.35~~	~~J I B~~ 24 U	24	0.017	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,4,7,8,9-HpCDF	ND		24	0.022	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,4,7,8-HxCDD	~~0.39~~	~~J I B~~ 24 U	24	0.024	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,4,7,8-HxCDF	~~0.34~~	~~J B~~ 24 U	24	0.024	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,6,7,8-HxCDD	ND		24	0.024	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,6,7,8-HxCDF	~~0.47~~	~~J I B~~ 24 U	24	0.025	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,7,8,9-HxCDD	~~0.43~~	~~J B~~ 24 U	24	0.023	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,7,8,9-HxCDF	~~0.39~~	~~J I B~~ 24 U	24	0.026	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,7,8-PeCDD	~~0.33~~	~~J I B~~ 24 U	24	0.070	pg/L		07/11/22 05:40	07/12/22 04:13	1
1,2,3,7,8-PeCDF	~~0.53~~	~~J I B~~ 24 U	24	0.051	pg/L		07/11/22 05:40	07/12/22 04:13	1
2,3,4,6,7,8-HxCDF	ND		24	0.024	pg/L		07/11/22 05:40	07/12/22 04:13	1
2,3,4,7,8-PeCDF	0.24	J	24	0.042	pg/L		07/11/22 05:40	07/12/22 04:13	1
2,3,7,8-TCDD	ND		4.8	0.038	pg/L		07/11/22 05:40	07/12/22 04:13	1
2,3,7,8-TCDF	ND		4.8	0.032	pg/L		07/11/22 05:40	07/12/22 04:13	1
OCDD	~~1.7~~	~~J B~~ 24 U	100	0.14	pg/L		07/11/22 05:40	07/12/22 04:13	1
OCDF	~~0.77~~	~~J I B~~ 24 U	48	0.076	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total HpCDD	~~1.1~~	~~J I B~~ 24 U	24	0.11	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total HpCDF	~~0.35~~	~~J I B~~ 24 U	24	0.019	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total HxCDD	~~0.82~~	~~J I B~~ 24 U	24	0.024	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total HxCDF	~~1.2~~	~~J I B~~ 24 U	24	0.025	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total PeCDD	~~0.33~~	~~J I B~~ 24 U	24	0.070	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total PeCDF	~~0.77~~	~~J I B~~ 24 U	24	0.046	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total TCDD	ND		4.8	0.038	pg/L		07/11/22 05:40	07/12/22 04:13	1
Total TCDF	ND		4.8	0.032	pg/L		07/11/22 05:40	07/12/22 04:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	94		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,4,6,7,8-HpCDF	99		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,4,7,8,9-HpCDF	95		40 - 135	07/11/22 05:40	07/12/22 04:13	1

Client Sample ID: MW-2022-DUP-1

Date Collected: 06/30/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-3

Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	96		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,4,7,8-HxCDF	103		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,6,7,8-HxCDD	92		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,6,7,8-HxCDF	93		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,7,8,9-HxCDD	92		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,7,8,9-HxCDF	98		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,7,8-PeCDD	103		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-1,2,3,7,8-PeCDF	104		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-2,3,4,6,7,8-HxCDF	100		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-2,3,4,7,8-PeCDF	103		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-2,3,7,8-TCDD	101		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-2,3,7,8-TCDF	101		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-OCDD	83		40 - 135	07/11/22 05:40	07/12/22 04:13	1
13C-OCDF	82		40 - 135	07/11/22 05:40	07/12/22 04:13	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/06/22 09:24	07/06/22 19:30	1
Arsenic	ND		0.015	0.0056	mg/L		07/06/22 09:24	07/06/22 19:30	1
Barium	**0.0072**		0.0020	0.00070	mg/L		07/06/22 09:24	07/06/22 19:30	1
Beryllium	ND		0.0020	0.00030	mg/L		07/06/22 09:24	07/06/22 19:30	1
Cadmium	ND		0.0020	0.00050	mg/L		07/06/22 09:24	07/06/22 19:30	1
Chromium	ND		0.0040	0.0010	mg/L		07/06/22 09:24	07/06/22 19:30	1
Cobalt	ND		0.0040	0.00063	mg/L		07/06/22 09:24	07/06/22 19:30	1
Copper	ND		0.010	0.0016	mg/L		07/06/22 09:24	07/06/22 19:30	1
Lead	ND		0.010	0.0030	mg/L		07/06/22 09:24	07/06/22 19:30	1
Nickel	ND		0.010	0.0013	mg/L		07/06/22 09:24	07/06/22 19:30	1
Selenium	ND		0.025	0.0087	mg/L		07/06/22 09:24	07/06/22 19:30	1
Silver	ND		0.0060	0.0017	mg/L		07/06/22 09:24	07/06/22 19:30	1
Thallium	ND		0.020	0.010	mg/L		07/06/22 09:24	07/06/22 19:30	1
Tin	ND		0.010	0.0051	mg/L		07/06/22 09:24	07/06/22 19:30	1
Vanadium	ND		0.0050	0.0015	mg/L		07/06/22 09:24	07/06/22 19:30	1
Zinc	ND		0.010	0.0015	mg/L		07/06/22 09:24	07/06/22 19:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/05/22 10:10	07/05/22 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010 U ~~0.0060 J B~~		0.010	0.0050	mg/L		07/06/22 11:03	07/06/22 15:10	1
Sulfide	ND		1.0	0.67	mg/L			07/05/22 10:26	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: TripBlank 062922
Date Collected: 06/29/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/05/22 16:34	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/05/22 16:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/05/22 16:34	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/05/22 16:34	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/05/22 16:34	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/05/22 16:34	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/05/22 16:34	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/05/22 16:34	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/05/22 16:34	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/05/22 16:34	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/05/22 16:34	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/05/22 16:34	1
2-Chloroethyl vinyl ether	ND	R	5.0	0.96	ug/L			07/05/22 16:34	1
2-Hexanone	ND		5.0	1.2	ug/L			07/05/22 16:34	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/05/22 16:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/05/22 16:34	1
Acetone	ND		10	3.0	ug/L			07/05/22 16:34	1
Acetonitrile	ND		15	4.9	ug/L			07/05/22 16:34	1
Acrolein	ND		20	0.91	ug/L			07/05/22 16:34	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/05/22 16:34	1
Benzene	ND		1.0	0.41	ug/L			07/05/22 16:34	1
Bromoform	ND		1.0	0.26	ug/L			07/05/22 16:34	1
Bromomethane	ND		1.0	0.69	ug/L			07/05/22 16:34	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/05/22 16:34	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/05/22 16:34	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/05/22 16:34	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/05/22 16:34	1
Chloroethane	ND		1.0	0.32	ug/L			07/05/22 16:34	1
Chloroform	ND		1.0	0.34	ug/L			07/05/22 16:34	1
Chloromethane	ND		1.0	0.35	ug/L			07/05/22 16:34	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/05/22 16:34	1
Dibromomethane	ND		1.0	0.41	ug/L			07/05/22 16:34	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/05/22 16:34	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/05/22 16:34	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/05/22 16:34	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/05/22 16:34	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/05/22 16:34	1
Iodomethane	ND		1.0	0.30	ug/L			07/05/22 16:34	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/05/22 16:34	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/05/22 16:34	1
Methylene Chloride	**0.44**	**J**	1.0	0.44	ug/L			07/05/22 16:34	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/05/22 16:34	1
o-Xylene	ND		1.0	0.76	ug/L			07/05/22 16:34	1
Propionitrile	ND		10	5.8	ug/L			07/05/22 16:34	1
Styrene	ND		1.0	0.73	ug/L			07/05/22 16:34	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/05/22 16:34	1
Toluene	ND		1.0	0.51	ug/L			07/05/22 16:34	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/05/22 16:34	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/05/22 16:34	1

Client: ARCADIS U.S. Inc
Project/Site: GE Woods Pond Parcel

Job ID: 480-199492-1

Client Sample ID: TripBlank 062922
Date Collected: 06/29/22 00:00
Date Received: 07/02/22 08:00

Lab Sample ID: 480-199492-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/05/22 16:34	1
Trichloroethene	ND		1.0	0.46	ug/L			07/05/22 16:34	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/05/22 16:34	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/05/22 16:34	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/05/22 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*07/05/22 16:34*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*07/05/22 16:34*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*07/05/22 16:34*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/05/22 16:34*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDFs), Perfluoroalkyl Substances (PFAs), Metals, and Miscellaneous Analyses

SDGs # 480-199543-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47720R
Review Level: Tier I
Project: 30131071.0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis 10
3.3 System Performance and Overall Assessment 11
3.4 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 12
5.1 Holding Times 12
5.2 Blank Contamination 13
5.3 System Performance and Overall Assessment 14
5.4 Data Validation Checklist 14
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 15
6.2 Blank Contamination 15
6.3 Compound Identification 16
6.4 System Performance and Overall Assessment 17
6.5 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 17
7.1 Holding Times 17
7.2 System Performance and Overall Assessment 18
7.3 Data Validation Checklist 18
8 Metals Analyses 18

8.1 Holding Times 18
8.2 System Performance and Overall Assessment 19
8.3 Data Validation Checklist 19
9 General Chemistry Analyses 19
9.1 Holding Times 19
9.2 System Performance and Overall Assessment 20
9.3 Data Validation Checklist for General Chemistry 20
10 Overall Data Usability 20

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Data Validation Checklist for Volatile Organic Compounds 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 8. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 9. Data Validation Checklist for SemiVolatile Organic Compounds 11
Table 10. Holding Time for Method SW-846 8082A 12
Table 11. Data Validation Checklist for Polychlorinated Biphenyls 12
Table 12. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 13. Summary of Blank Contamination Qualification 14
Table 14. Data Validation Checklist for Herbicides / Pesticides 14
Table 15. Holding Time for Method SW-846 8290A 15
Table 16. Summary of Blank Contamination Qualifications 15
Table 17. Data Validation Checklist for Dioxines and Furans 17
Table 18. Holding Time for Method 537 18
Table 19. Data Validation Checklist for Perfluoroalkyl Substances 18
Table 20. Holding Time for Method SW-846 6010C/7470A 19
Table 21. Data Validation Checklist for Metals 19
Table 22. Specified Holding Times 20
Table 23. Data Validation Checklist for Cyanide and Sulfide 20

Table 24. Overall Summary of Data Usability 21

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199543-1 performed on behalf of the General Electric Company (GE) for groundwater sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-6	480-199543-1	Water	7/1/2022		X	X	X	X	X	X	X
MW-2022-9	480-199543-2	Water	7/1/2022		X	X	X	X	X	X	X
TRIP BLANK 070122	480-199543-3	Water	7/1/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
PFAS = Per and polyfluoroalkyl substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, USEPA Modified method 537, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).
- USEPA Method 537 Modified, Eurofins Laboratories SOP BR-LC-009, Rev. 8.0 Per- and Poly-fluorinated Substances (PFAS) in Water, Soils, Sediments and Tissue (April 2022)

- Department of Defense (DoD) Quality Systems Manual (QSM) 5.3, USEPA Data Review and Validation Guideline for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, (November 2018)
- DoD Final Data Validation Guidelines Module 3: PFAS, (May 2020)

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	2	0	1	0	0	0	3
SVOCs	2	0	0	0	0	0	2
PCBs	2	0	0	0	0	0	2
PEST	2	0	0	0	0	0	2
HERB	2	0	0	0	0	0	2
PCDD/PCDF	2	0	0	0	0	0	2
PFAS	2	0	0	0	0	0	2
Metals	2	0	0	0	0	0	2
MISC	2	0	0	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

Table 5. Data Validation Checklist for Volatile Organic Compounds

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Locations	Compounds	LCS Recovery	LCSD Recovery
MW-2022-6 MW-2022-9	Famphur	<10%	< LL but > 10%
	a,a-Dimethylphenethylamine	AC	<10%
	p-Phenylene diamine	<10%	<10%

Notes:

AC Acceptable

LL Lower control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

Table 9. Data Validation Checklist for SemiVolatile Organic Compounds

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate (LCSD)		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

Table 11. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding times are presented in the following table.

Sample Locations	Holding Time	Criteria
MW-2022-6 MW-2022-9	Samples were extracted 11th day from collection	7 days from collection to extraction

Sample results associated with samples analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were

greater than the BAL resulted in the removal of the laboratory qualifier (B) of data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualification

Sample Location	Compound	Sample Result	Qualification
MW-2022-6	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL

Note:

RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

Table 14. Data Validation Checklist for Herbicides / Pesticides

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 16. Summary of Blank Contamination Qualifications

Sample Locations	Compounds	Sample Result	Qualification
MW-2022-6	1,2,3,4,6,7,8-HpCDF 1,2,3,6,7,8-HxCDF	Detected sample results <RL and <BAL	““U” at the RL

Sample Locations	Compounds	Sample Result	Qualification
	2,3,4,6,7,8-HxCDF OCDD OCDF Total HpCDF Total HxCDD Total HxCDF		
MW-2022-9	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF 2,3,7,8-TCDD OCDD OCDF Total HpCDD Total HpCDF Total HxCDD Total HxCDF Total PeCDF Total TCDD	Detected sample results <RL and <BAL	““U” at the RL

RL = reporting limit
MB = method blank

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the

compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

Table 17. Data Validation Checklist for Dioxines and Furans

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 18. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C

The holding time has been changed from the original holding time documented in EPA 537 of 14 days for extraction to 28 days. This was documented in EPA Technical Brief EPA/600/F-17/022h Updated January 2020. Utilizing the new guidance of 28 days all samples were analyzed within the specified holding time criteria.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

Table 19. Data Validation Checklist for Perfluoroalkyl Substances

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

Table 21. Data Validation Checklist for Metals

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9

All samples were analyzed within the specified holding times.

9.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.3 Data Validation Checklist for General Chemistry

Table 23. Data Validation Checklist for Cyanide and Sulfide

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

10 Overall Data Usability

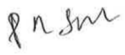
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 24. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	3
SVOCs	97.6%	6
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 26, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 27, 2022

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:

Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:
City: Syracuse	TAT Requested (days): Standard
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No
Phone: 315-671-9374(Tel)	PO #: 30132437.001
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-
Project Name: GE Woods Pond Parcel	Project #: 48024970
Site: Upland Disposal Facility	SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N			
MW-2022-6	7/1/22	10:40	G	Water			X	X	X	X	X	X	X	X	X	X	X			20
MW-2022-9	7/1/22	17:35	G	Water			X	X	X	X	X	X	X	X	X	X	X			20
TripBlank 070122	7/1/22	---	G	Water									X							2

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)
Other:

Special Instructions/Note:

480-199543 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7/5/22 0900	Arcadis		7-5-22 0900	EETN
2	Tim Knollmeyer	7-5-2022 1500	EETN	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7/6/22 1000	Company TAL

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.5 #1

Ver: 01/16/2019

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-6
Lab Sample ID: 480-199543-1

Date Collected: 07/01/22 10:40
Matrix: Water

Date Received: 07/06/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/07/22 15:54	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/07/22 15:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/07/22 15:54	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/07/22 15:54	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/07/22 15:54	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/07/22 15:54	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/07/22 15:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/07/22 15:54	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/07/22 15:54	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/07/22 15:54	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/07/22 15:54	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/07/22 15:54	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/07/22 15:54	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/07/22 15:54	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/07/22 15:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/07/22 15:54	1
Acetone	ND		10	3.0	ug/L			07/07/22 15:54	1
Acetonitrile	ND		15	4.9	ug/L			07/07/22 15:54	1
Acrolein	ND		20	0.91	ug/L			07/07/22 15:54	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/07/22 15:54	1
Benzene	ND		1.0	0.41	ug/L			07/07/22 15:54	1
Bromoform	ND		1.0	0.26	ug/L			07/07/22 15:54	1
Bromomethane	ND		1.0	0.69	ug/L			07/07/22 15:54	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/07/22 15:54	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/07/22 15:54	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/07/22 15:54	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/07/22 15:54	1
Chloroethane	ND		1.0	0.32	ug/L			07/07/22 15:54	1
Chloroform	ND		1.0	0.34	ug/L			07/07/22 15:54	1
Chloromethane	ND		1.0	0.35	ug/L			07/07/22 15:54	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/07/22 15:54	1
Dibromomethane	ND		1.0	0.41	ug/L			07/07/22 15:54	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/07/22 15:54	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/07/22 15:54	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/07/22 15:54	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/07/22 15:54	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/07/22 15:54	1
Iodomethane	ND		1.0	0.30	ug/L			07/07/22 15:54	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/07/22 15:54	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/07/22 15:54	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/07/22 15:54	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/07/22 15:54	1
o-Xylene	ND		1.0	0.76	ug/L			07/07/22 15:54	1
Propionitrile	ND		10	5.8	ug/L			07/07/22 15:54	1
Styrene	ND		1.0	0.73	ug/L			07/07/22 15:54	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/07/22 15:54	1
Toluene	ND		1.0	0.51	ug/L			07/07/22 15:54	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/07/22 15:54	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/07/22 15:54	1

Client Sample ID: MW-2022-6
Date Collected: 07/01/22 10:40
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/07/22 15:54	1
Trichloroethene	ND		1.0	0.46	ug/L			07/07/22 15:54	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/07/22 15:54	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/07/22 15:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/07/22 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*07/07/22 15:54*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*07/07/22 15:54*	*1*
Dibromofluoromethane (Surr)	*112*		*75 - 123*		*07/07/22 15:54*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*07/07/22 15:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,4-Dioxane	ND		10	1.1	ug/L		07/07/22 11:20	07/08/22 22:04	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/07/22 11:20	07/08/22 22:04	1
1-Naphthylamine	ND		10	1.3	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/07/22 11:20	07/08/22 22:04	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Naphthylamine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Nitroaniline	ND		10	0.42	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Picoline	ND		80	1.4	ug/L		07/07/22 11:20	07/08/22 22:04	1
2-Toluidine	ND		10	1.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/07/22 11:20	07/08/22 22:04	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
3,3'-Dimethylbenzidine	ND	~~*-*1~~	40	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
3-Methylphenol	ND		10	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
3-Nitroaniline	ND		10	0.48	ug/L		07/07/22 11:20	07/08/22 22:04	1

Client Sample ID: MW-2022-6
Lab Sample ID: 480-199543-1

Date Collected: 07/01/22 10:40
Matrix: Water

Date Received: 07/06/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Methylphenol	ND		10	0.36	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Nitroaniline	ND	*+	10	0.25	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Nitrophenol	ND		10	1.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/07/22 11:20	07/08/22 22:04	1
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		07/07/22 11:20	07/08/22 22:04	R 1
Acenaphthene	ND		5.0	0.41	ug/L		07/07/22 11:20	07/08/22 22:04	1
Acenaphthylene	ND		5.0	0.38	ug/L		07/07/22 11:20	07/08/22 22:04	1
Acetophenone	ND		5.0	0.54	ug/L		07/07/22 11:20	07/08/22 22:04	1
Aniline	ND		10	0.61	ug/L		07/07/22 11:20	07/08/22 22:04	1
Anthracene	ND		5.0	0.28	ug/L		07/07/22 11:20	07/08/22 22:04	1
Aramite, Total	ND		20	1.6	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzidine	ND	*1	80	2.2	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/07/22 11:20	07/08/22 22:04	1
Benzyl alcohol	ND		20	2.0	ug/L		07/07/22 11:20	07/08/22 22:04	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/07/22 11:20	07/08/22 22:04	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/07/22 11:20	07/08/22 22:04	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/07/22 11:20	07/08/22 22:04	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/07/22 11:20	07/08/22 22:04	1
Chrysene	ND		5.0	0.33	ug/L		07/07/22 11:20	07/08/22 22:04	1
Diallate	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/07/22 11:20	07/08/22 22:04	1
Dibenzofuran	ND		10	0.51	ug/L		07/07/22 11:20	07/08/22 22:04	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/07/22 11:20	07/08/22 22:04	1
Dimethoate	ND		10	0.54	ug/L		07/07/22 11:20	07/08/22 22:04	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/07/22 11:20	07/08/22 22:04	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/07/22 11:20	07/08/22 22:04	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/07/22 11:20	07/08/22 22:04	1
Dinoseb	ND		10	2.9	ug/L		07/07/22 11:20	07/08/22 22:04	1
Diphenylamine	ND		10	0.82	ug/L		07/07/22 11:20	07/08/22 22:04	1
Disulfoton	ND		10	0.42	ug/L		07/07/22 11:20	07/08/22 22:04	1
Chlorobenzilate	ND		20	0.67	ug/L		07/07/22 11:20	07/08/22 22:04	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/07/22 11:20	07/08/22 22:04	1
Famphur	ND	*- *1	40	1.9	ug/L		07/07/22 11:20	07/08/22 22:04	R 1
Fluoranthene	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:04	1
Fluorene	ND		5.0	0.36	ug/L		07/07/22 11:20	07/08/22 22:04	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/07/22 11:20	07/08/22 22:04	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/07/22 11:20	07/08/22 22:04	1

Client Sample ID: MW-2022-6
Date Collected: 07/01/22 10:40
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/07/22 11:20	07/08/22 22:04	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/07/22 11:20	07/08/22 22:04	1
Hexachloropropene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/07/22 11:20	07/08/22 22:04	1
Isodrin	ND		10	0.18	ug/L		07/07/22 11:20	07/08/22 22:04	1
Isophorone	ND		5.0	0.43	ug/L		07/07/22 11:20	07/08/22 22:04	1
Isosafrole	ND		10	0.58	ug/L		07/07/22 11:20	07/08/22 22:04	1
Kepone	ND		50	1.8	ug/L		07/07/22 11:20	07/08/22 22:04	1
Methapyrilene	ND	*1	50	1.8	ug/L		07/07/22 11:20	07/08/22 22:04	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
Naphthalene	ND		5.0	0.76	ug/L		07/07/22 11:20	07/08/22 22:04	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/07/22 11:20	07/08/22 22:04	1
Ethyl Parathion	ND		10	0.64	ug/L		07/07/22 11:20	07/08/22 22:04	1
Methyl parathion	ND		10	0.37	ug/L		07/07/22 11:20	07/08/22 22:04	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/07/22 11:20	07/08/22 22:04	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/07/22 11:20	07/08/22 22:04	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
Pentachlorophenol	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:04	1
Phenacetin	ND		10	0.61	ug/L		07/07/22 11:20	07/08/22 22:04	1
Phenanthrene	ND		5.0	0.44	ug/L		07/07/22 11:20	07/08/22 22:04	1
Phenol	ND		5.0	0.39	ug/L		07/07/22 11:20	07/08/22 22:04	1
Phorate	ND		10	0.50	ug/L		07/07/22 11:20	07/08/22 22:04	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/07/22 11:20	07/08/22 22:04	R 1
Pronamide	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:04	1
Pyrene	ND		5.0	0.34	ug/L		07/07/22 11:20	07/08/22 22:04	1
Pyridine	ND		25	0.41	ug/L		07/07/22 11:20	07/08/22 22:04	1
Safrole	ND		10	0.46	ug/L		07/07/22 11:20	07/08/22 22:04	1
Sulfotepp	ND		10	0.64	ug/L		07/07/22 11:20	07/08/22 22:04	1
Thionazin	ND		10	0.38	ug/L		07/07/22 11:20	07/08/22 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*117*		*41 - 120*	*07/07/22 11:20*	*07/08/22 22:04*	*1*
2-Fluorobiphenyl (Surr)	*89*		*48 - 120*	*07/07/22 11:20*	*07/08/22 22:04*	*1*
2-Fluorophenol (Surr)	*53*		*35 - 120*	*07/07/22 11:20*	*07/08/22 22:04*	*1*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*	*07/07/22 11:20*	*07/08/22 22:04*	*1*
Phenol-d5 (Surr)	*38*		*22 - 120*	*07/07/22 11:20*	*07/08/22 22:04*	*1*
p-Terphenyl-d14 (Surr)	*81*		*60 - 148*	*07/07/22 11:20*	*07/08/22 22:04*	*1*

Client Sample ID: MW-2022-6
Date Collected: 07/01/22 10:40
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-1
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/08/22 08:32	07/09/22 12:19	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:19	1
4,4'-DDT	~~0.012~~ ~~J B~~		0.050	U 0.011	ug/L		07/08/22 08:32	07/09/22 12:19	1
Aldrin	ND		0.050	0.0081	ug/L		07/08/22 08:32	07/09/22 12:19	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/08/22 08:32	07/09/22 12:19	1
beta-BHC	ND		0.050	0.025	ug/L		07/08/22 08:32	07/09/22 12:19	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/08/22 08:32	07/09/22 12:19	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/08/22 08:32	07/09/22 12:19	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/08/22 08:32	07/09/22 12:19	1
delta-BHC	ND		0.050	0.010	ug/L		07/08/22 08:32	07/09/22 12:19	1
Dieldrin	ND		0.050	0.0098	ug/L		07/08/22 08:32	07/09/22 12:19	1
Endosulfan I	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:19	1
Endosulfan II	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:19	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:19	1
Endrin	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:19	1
Endrin aldehyde	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:19	1
Endrin ketone	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:19	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/08/22 08:32	07/09/22 12:19	1
Heptachlor	ND		0.050	0.0085	ug/L		07/08/22 08:32	07/09/22 12:19	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/08/22 08:32	07/09/22 12:19	1
Methoxychlor	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:19	1
Toxaphene	ND		0.50	0.12	ug/L		07/08/22 08:32	07/09/22 12:19	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*62*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:19*	*1*
DCB Decachlorobiphenyl	*103*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:19*	*1*
Tetrachloro-m-xylene	*71*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:19*	*1*
Tetrachloro-m-xylene	*79*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:19*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:33	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:33	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:33	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:33	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:33	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 21:33	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*39 - 121*	*07/11/22 09:40*	*07/11/22 21:33*	*1*
Tetrachloro-m-xylene	*79*		*39 - 121*	*07/11/22 09:40*	*07/11/22 21:33*	*1*
DCB Decachlorobiphenyl	*57*		*19 - 120*	*07/11/22 09:40*	*07/11/22 21:33*	*1*
DCB Decachlorobiphenyl	*64*		*19 - 120*	*07/11/22 09:40*	*07/11/22 21:33*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/08/22 07:34	07/10/22 11:00	1
2,4-D	ND		0.48	0.16	ug/L		07/08/22 07:34	07/10/22 11:00	1

Client Sample ID: MW-2022-6
Date Collected: 07/01/22 10:40
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-1
Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/08/22 07:34	07/10/22 11:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*48 - 132*	*07/08/22 07:34*	*07/10/22 11:00*	*1*
2,4-Dichlorophenylacetic acid	*82*		*48 - 132*	*07/08/22 07:34*	*07/10/22 11:00*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	0.94	0.25	ug/L		07/12/22 06:00	07/14/22 14:15	1
Disulfoton	ND	H	0.94	0.38	ug/L		07/12/22 06:00	07/14/22 14:15	1
Famphur	ND	H	0.94	0.30	ug/L		07/12/22 06:00	07/14/22 14:15	1
Methyl parathion	ND	H UJ	0.94	0.32	ug/L		07/12/22 06:00	07/14/22 14:15	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		07/12/22 06:00	07/14/22 14:15	1
Phorate	ND	H	0.94	0.36	ug/L		07/12/22 06:00	07/14/22 14:15	1
Sulfotepp	ND	H	0.94	0.38	ug/L		07/12/22 06:00	07/14/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*92*		*25 - 127*	*07/12/22 06:00*	*07/14/22 14:15*	*1*
Tributyl phosphate	*85*		*25 - 127*	*07/12/22 06:00*	*07/14/22 14:15*	*1*
Triphenylphosphate	*96*		*70 - 155*	*07/12/22 06:00*	*07/14/22 14:15*	*1*
Triphenylphosphate	*95*		*70 - 155*	*07/12/22 06:00*	*07/14/22 14:15*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.64	ng/L		07/11/22 10:35	07/12/22 00:21	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		07/11/22 10:35	07/12/22 00:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.3	ng/L		07/11/22 10:35	07/12/22 00:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.52	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorobutanoic acid (PFBA)	**2.0**	**J**	4.2	1.0	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.33	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.38	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.34	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluoroheptanoic acid (PFHpA)	**0.60**	**J**	1.7	0.45	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.46	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorohexanoic acid (PFHxA)	**1.9**		1.7	0.54	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.41	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.77	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.71	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.63	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluoropentanoic acid (PFPeA)	**1.5**	**J**	1.7	0.57	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.40	ng/L		07/11/22 10:35	07/12/22 00:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		07/11/22 10:35	07/12/22 00:21	1

Client Sample ID: MW-2022-6
Date Collected: 07/01/22 10:40
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	107		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C2 PFDoA	102		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C2 PFHxA	105		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C2 PFTeDA	103		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C2 PFUnA	108		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C3 PFBS	89		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C4 PFBA	95		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C4 PFHpA	105		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C4 PFOA	106		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C4 PFOS	81		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C5 PFNA	101		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C5 PFPeA	109		50 - 150	07/11/22 10:35	07/12/22 00:21	1
13C8 FOSA	80		50 - 150	07/11/22 10:35	07/12/22 00:21	1
18O2 PFHxS	83		50 - 150	07/11/22 10:35	07/12/22 00:21	1
d3-NMeFOSAA	105		50 - 150	07/11/22 10:35	07/12/22 00:21	1
d5-NEtFOSAA	112		50 - 150	07/11/22 10:35	07/12/22 00:21	1
M2-6:2 FTS	92		50 - 150	07/11/22 10:35	07/12/22 00:21	1
M2-8:2 FTS	94		50 - 150	07/11/22 10:35	07/12/22 00:21	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24		0.094	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,4,6,7,8-HpCDF	~~0.36~~ ~~J I B~~		24	U	0.025	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,4,7,8,9-HpCDF	ND		24		0.036	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,4,7,8-HxCDD	ND		24		0.051	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,4,7,8-HxCDF	ND		24		0.025	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,6,7,8-HxCDD	ND		24		0.052	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,6,7,8-HxCDF	~~0.13~~ ~~J B~~		24	U	0.025	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,7,8,9-HxCDD	0.16 ~~J I~~	JNX	24		0.061	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,7,8,9-HxCDF	ND		24		0.033	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,7,8-PeCDD	0.27 ~~J I~~	JNX	24		0.073	pg/L		07/25/22 15:53	07/26/22 10:09	1
1,2,3,7,8-PeCDF	ND		24		0.029	pg/L		07/25/22 15:53	07/26/22 10:09	1
2,3,4,6,7,8-HxCDF	~~0.16~~ ~~J B~~		24	U	0.022	pg/L		07/25/22 15:53	07/26/22 10:09	1
2,3,4,7,8-PeCDF	ND		24		0.018	pg/L		07/25/22 15:53	07/26/22 10:09	1
2,3,7,8-TCDD	ND		4.8		0.031	pg/L		07/25/22 15:53	07/26/22 10:09	1
2,3,7,8-TCDF	0.11 ~~J I~~	JNX	4.8		0.025	pg/L		07/25/22 15:53	07/26/22 10:09	1
OCDD	~~4.3~~ ~~J B~~		100	U	0.078	pg/L		07/25/22 15:53	07/26/22 10:09	1
OCDF	~~0.55~~ ~~J I B~~		48	U	0.024	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total HpCDD	ND		24		0.094	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total HpCDF	~~0.36~~ ~~J I B~~		24	U	0.030	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total HxCDD	~~0.16~~ ~~J I B~~		24	U	0.055	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total HxCDF	~~0.29~~ ~~J I B~~		24	U	0.026	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total PeCDD	0.27 ~~J I~~	JNX	24		0.073	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total PeCDF	ND		24		0.029	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total TCDD	ND		4.8		0.031	pg/L		07/25/22 15:53	07/26/22 10:09	1
Total TCDF	0.11 ~~J I~~	JNX	4.8		0.025	pg/L		07/25/22 15:53	07/26/22 10:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	78		40 - 135	07/25/22 15:53	07/26/22 10:09	1
13C-1,2,3,4,6,7,8-HpCDF	77		40 - 135	07/25/22 15:53	07/26/22 10:09	1
13C-1,2,3,4,7,8,9-HpCDF	74		40 - 135	07/25/22 15:53	07/26/22 10:09	1

Client Sample ID: MW-2022-6
Lab Sample ID: 480-199543-1
Date Collected: 07/01/22 10:40
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*74*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,6,7,8-HxCDF	*84*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,7,8,9-HxCDD	*85*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-2,3,4,7,8-PeCDF	*85*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-2,3,7,8-TCDD	*85*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-2,3,7,8-TCDF	*71*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-OCDD	*73*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*
13C-OCDF	*71*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:09*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/08/22 09:11	07/08/22 16:26	1
Arsenic	ND		0.015	0.0056	mg/L		07/08/22 09:11	07/08/22 16:26	1
Barium	**0.018**		0.0020	0.00070	mg/L		07/08/22 09:11	07/08/22 16:26	1
Beryllium	ND		0.0020	0.00030	mg/L		07/08/22 09:11	07/08/22 16:26	1
Cadmium	ND		0.0020	0.00050	mg/L		07/08/22 09:11	07/08/22 16:26	1
Chromium	ND		0.0040	0.0010	mg/L		07/08/22 09:11	07/08/22 16:26	1
Cobalt	ND		0.0040	0.00063	mg/L		07/08/22 09:11	07/08/22 16:26	1
Copper	**0.0029**	**J**	0.010	0.0016	mg/L		07/08/22 09:11	07/08/22 16:26	1
Lead	ND		0.010	0.0030	mg/L		07/08/22 09:11	07/08/22 16:26	1
Nickel	ND		0.010	0.0013	mg/L		07/08/22 09:11	07/08/22 16:26	1
Selenium	ND		0.025	0.0087	mg/L		07/08/22 09:11	07/08/22 16:26	1
Silver	ND		0.0060	0.0017	mg/L		07/08/22 09:11	07/08/22 16:26	1
Thallium	ND		0.020	0.010	mg/L		07/08/22 09:11	07/08/22 16:26	1
Tin	ND		0.010	0.0051	mg/L		07/08/22 09:11	07/08/22 16:26	1
Vanadium	ND		0.0050	0.0015	mg/L		07/08/22 09:11	07/08/22 16:26	1
Zinc	ND		0.010	0.0015	mg/L		07/08/22 09:11	07/08/22 16:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/07/22 10:45	07/07/22 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	~~F1~~	0.010	0.0050	mg/L		07/07/22 09:34	07/07/22 10:47	1
Sulfide	ND		1.0	0.67	mg/L			07/08/22 16:56	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-199543-2
Date Collected: 07/01/22 17:35
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/07/22 16:17	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/07/22 16:17	1

Client Sample ID: MW-2022-9
Date Collected: 07/01/22 17:35
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/07/22 16:17	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/07/22 16:17	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/07/22 16:17	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/07/22 16:17	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/07/22 16:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/07/22 16:17	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/07/22 16:17	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/07/22 16:17	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/07/22 16:17	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/07/22 16:17	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/07/22 16:17	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/07/22 16:17	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/07/22 16:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/07/22 16:17	1
Acetone	ND		10	3.0	ug/L			07/07/22 16:17	1
Acetonitrile	ND		15	4.9	ug/L			07/07/22 16:17	1
Acrolein	ND		20	0.91	ug/L			07/07/22 16:17	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/07/22 16:17	1
Benzene	ND		1.0	0.41	ug/L			07/07/22 16:17	1
Bromoform	ND		1.0	0.26	ug/L			07/07/22 16:17	1
Bromomethane	ND		1.0	0.69	ug/L			07/07/22 16:17	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/07/22 16:17	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/07/22 16:17	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/07/22 16:17	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/07/22 16:17	1
Chloroethane	ND		1.0	0.32	ug/L			07/07/22 16:17	1
Chloroform	ND		1.0	0.34	ug/L			07/07/22 16:17	1
Chloromethane	ND		1.0	0.35	ug/L			07/07/22 16:17	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/07/22 16:17	1
Dibromomethane	ND		1.0	0.41	ug/L			07/07/22 16:17	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/07/22 16:17	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/07/22 16:17	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/07/22 16:17	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/07/22 16:17	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/07/22 16:17	1
Iodomethane	ND		1.0	0.30	ug/L			07/07/22 16:17	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/07/22 16:17	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/07/22 16:17	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/07/22 16:17	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/07/22 16:17	1
o-Xylene	ND		1.0	0.76	ug/L			07/07/22 16:17	1
Propionitrile	ND		10	5.8	ug/L			07/07/22 16:17	1
Styrene	ND		1.0	0.73	ug/L			07/07/22 16:17	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/07/22 16:17	1
Toluene	ND		1.0	0.51	ug/L			07/07/22 16:17	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/07/22 16:17	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/07/22 16:17	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/07/22 16:17	1
Trichloroethene	ND		1.0	0.46	ug/L			07/07/22 16:17	1

Client Sample ID: MW-2022-9
Date Collected: 07/01/22 17:35
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/07/22 16:17	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/07/22 16:17	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/07/22 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*07/07/22 16:17*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*07/07/22 16:17*	*1*
Dibromofluoromethane (Surr)	*112*		*75 - 123*		*07/07/22 16:17*	*1*
Toluene-d8 (Surr)	*109*		*80 - 120*		*07/07/22 16:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,4-Dioxane	ND		10	1.1	ug/L		07/07/22 11:20	07/08/22 22:32	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/07/22 11:20	07/08/22 22:32	1
1-Naphthylamine	ND		10	1.3	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/07/22 11:20	07/08/22 22:32	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Naphthylamine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Nitroaniline	ND		10	0.42	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Nitrophenol	ND		5.0	0.48	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Picoline	ND		80	1.4	ug/L		07/07/22 11:20	07/08/22 22:32	1
2-Toluidine	ND		10	1.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/07/22 11:20	07/08/22 22:32	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
3,3'-Dimethylbenzidine	ND	*-*1	40	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
3-Methylphenol	ND		10	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
3-Nitroaniline	ND		10	0.48	ug/L		07/07/22 11:20	07/08/22 22:32	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/07/22 11:20	07/08/22 22:32	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-199543-2

Date Collected: 07/01/22 17:35
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Methylphenol	ND		10	0.36	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Nitroaniline	ND	*+	10	0.25	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Nitrophenol	ND		10	1.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/07/22 11:20	07/08/22 22:32	1
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		07/07/22 11:20	07/08/22 22:32	R 1
Acenaphthene	ND		5.0	0.41	ug/L		07/07/22 11:20	07/08/22 22:32	1
Acenaphthylene	ND		5.0	0.38	ug/L		07/07/22 11:20	07/08/22 22:32	1
Acetophenone	ND		5.0	0.54	ug/L		07/07/22 11:20	07/08/22 22:32	1
Aniline	ND		10	0.61	ug/L		07/07/22 11:20	07/08/22 22:32	1
Anthracene	ND		5.0	0.28	ug/L		07/07/22 11:20	07/08/22 22:32	1
Aramite, Total	ND		20	1.6	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzidine	ND	*1	80	2.2	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/07/22 11:20	07/08/22 22:32	1
Benzyl alcohol	ND		20	2.0	ug/L		07/07/22 11:20	07/08/22 22:32	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		07/07/22 11:20	07/08/22 22:32	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		07/07/22 11:20	07/08/22 22:32	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/07/22 11:20	07/08/22 22:32	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/07/22 11:20	07/08/22 22:32	1
Chrysene	ND		5.0	0.33	ug/L		07/07/22 11:20	07/08/22 22:32	1
Diallate	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/07/22 11:20	07/08/22 22:32	1
Dibenzofuran	ND		10	0.51	ug/L		07/07/22 11:20	07/08/22 22:32	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/07/22 11:20	07/08/22 22:32	1
Dimethoate	ND		10	0.54	ug/L		07/07/22 11:20	07/08/22 22:32	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/07/22 11:20	07/08/22 22:32	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/07/22 11:20	07/08/22 22:32	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/07/22 11:20	07/08/22 22:32	1
Dinoseb	ND		10	2.9	ug/L		07/07/22 11:20	07/08/22 22:32	1
Diphenylamine	ND		10	0.82	ug/L		07/07/22 11:20	07/08/22 22:32	1
Disulfoton	ND		10	0.42	ug/L		07/07/22 11:20	07/08/22 22:32	1
Chlorobenzilate	ND		20	0.67	ug/L		07/07/22 11:20	07/08/22 22:32	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/07/22 11:20	07/08/22 22:32	1
Famphur	ND	*- *1	40	1.9	ug/L		07/07/22 11:20	07/08/22 22:32	R 1
Fluoranthene	ND		5.0	0.40	ug/L		07/07/22 11:20	07/08/22 22:32	1
Fluorene	ND		5.0	0.36	ug/L		07/07/22 11:20	07/08/22 22:32	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/07/22 11:20	07/08/22 22:32	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		07/07/22 11:20	07/08/22 22:32	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/07/22 11:20	07/08/22 22:32	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/07/22 11:20	07/08/22 22:32	1

Client Sample ID: MW-2022-9
Date Collected: 07/01/22 17:35
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/07/22 11:20	07/08/22 22:32	1
Isodrin	ND		10	0.18	ug/L		07/07/22 11:20	07/08/22 22:32	1
Isophorone	ND		5.0	0.43	ug/L		07/07/22 11:20	07/08/22 22:32	1
Isosafrole	ND		10	0.58	ug/L		07/07/22 11:20	07/08/22 22:32	1
Kepone	ND		50	1.8	ug/L		07/07/22 11:20	07/08/22 22:32	1
Methapyrilene	ND	*1	50	1.8	ug/L		07/07/22 11:20	07/08/22 22:32	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
Naphthalene	ND		5.0	0.76	ug/L		07/07/22 11:20	07/08/22 22:32	1
Nitrobenzene	ND		5.0	0.29	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/07/22 11:20	07/08/22 22:32	1
Ethyl Parathion	ND		10	0.64	ug/L		07/07/22 11:20	07/08/22 22:32	1
Methyl parathion	ND		10	0.37	ug/L		07/07/22 11:20	07/08/22 22:32	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/07/22 11:20	07/08/22 22:32	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/07/22 11:20	07/08/22 22:32	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
Pentachlorophenol	ND		10	2.2	ug/L		07/07/22 11:20	07/08/22 22:32	1
Phenacetin	ND		10	0.61	ug/L		07/07/22 11:20	07/08/22 22:32	1
Phenanthrene	ND		5.0	0.44	ug/L		07/07/22 11:20	07/08/22 22:32	1
Phenol	ND		5.0	0.39	ug/L		07/07/22 11:20	07/08/22 22:32	1
Phorate	ND		10	0.50	ug/L		07/07/22 11:20	07/08/22 22:32	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/07/22 11:20	07/08/22 22:32	R 1
Pronamide	ND		10	2.5	ug/L		07/07/22 11:20	07/08/22 22:32	1
Pyrene	ND		5.0	0.34	ug/L		07/07/22 11:20	07/08/22 22:32	1
Pyridine	ND		25	0.41	ug/L		07/07/22 11:20	07/08/22 22:32	1
Safrole	ND		10	0.46	ug/L		07/07/22 11:20	07/08/22 22:32	1
Sulfotepp	ND		10	0.64	ug/L		07/07/22 11:20	07/08/22 22:32	1
Thionazin	ND		10	0.38	ug/L		07/07/22 11:20	07/08/22 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*113*		*41 - 120*	*07/07/22 11:20*	*07/08/22 22:32*	*1*
2-Fluorobiphenyl (Surr)	*92*		*48 - 120*	*07/07/22 11:20*	*07/08/22 22:32*	*1*
2-Fluorophenol (Surr)	*56*		*35 - 120*	*07/07/22 11:20*	*07/08/22 22:32*	*1*
Nitrobenzene-d5 (Surr)	*84*		*46 - 120*	*07/07/22 11:20*	*07/08/22 22:32*	*1*
Phenol-d5 (Surr)	*39*		*22 - 120*	*07/07/22 11:20*	*07/08/22 22:32*	*1*
p-Terphenyl-d14 (Surr)	*94*		*60 - 148*	*07/07/22 11:20*	*07/08/22 22:32*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		07/08/22 08:32	07/09/22 12:39	1

Client Sample ID: MW-2022-9
Date Collected: 07/01/22 17:35
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-2
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:39	1
4,4'-DDT	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:39	1
Aldrin	ND		0.050	0.0081	ug/L		07/08/22 08:32	07/09/22 12:39	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/08/22 08:32	07/09/22 12:39	1
beta-BHC	ND		0.050	0.025	ug/L		07/08/22 08:32	07/09/22 12:39	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/08/22 08:32	07/09/22 12:39	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/08/22 08:32	07/09/22 12:39	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/08/22 08:32	07/09/22 12:39	1
delta-BHC	ND		0.050	0.010	ug/L		07/08/22 08:32	07/09/22 12:39	1
Dieldrin	ND		0.050	0.0098	ug/L		07/08/22 08:32	07/09/22 12:39	1
Endosulfan I	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:39	1
Endosulfan II	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:39	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:39	1
Endrin	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:39	1
Endrin aldehyde	**0.016**	**J**	0.050	0.016	ug/L		07/08/22 08:32	07/09/22 12:39	1
Endrin ketone	ND		0.050	0.012	ug/L		07/08/22 08:32	07/09/22 12:39	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/08/22 08:32	07/09/22 12:39	1
Heptachlor	ND		0.050	0.0085	ug/L		07/08/22 08:32	07/09/22 12:39	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/08/22 08:32	07/09/22 12:39	1
Methoxychlor	ND		0.050	0.014	ug/L		07/08/22 08:32	07/09/22 12:39	1
Toxaphene	ND		0.50	0.12	ug/L		07/08/22 08:32	07/09/22 12:39	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/08/22 08:32	07/09/22 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*57*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:39*	*1*
DCB Decachlorobiphenyl	*89*		*20 - 120*	*07/08/22 08:32*	*07/09/22 12:39*	*1*
Tetrachloro-m-xylene	*69*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:39*	*1*
Tetrachloro-m-xylene	*78*		*44 - 120*	*07/08/22 08:32*	*07/09/22 12:39*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:46	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:46	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:46	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:46	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 21:46	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 21:46	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*39 - 121*	*07/11/22 09:40*	*07/11/22 21:46*	*1*
Tetrachloro-m-xylene	*63*		*39 - 121*	*07/11/22 09:40*	*07/11/22 21:46*	*1*
DCB Decachlorobiphenyl	*67*		*19 - 120*	*07/11/22 09:40*	*07/11/22 21:46*	*1*
DCB Decachlorobiphenyl	*72*		*19 - 120*	*07/11/22 09:40*	*07/11/22 21:46*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/08/22 07:34	07/10/22 11:19	1
2,4-D	ND		0.48	0.16	ug/L		07/08/22 07:34	07/10/22 11:19	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/08/22 07:34	07/10/22 11:19	1

Client Sample ID: MW-2022-9
Date Collected: 07/01/22 17:35
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		48 - 132	07/08/22 07:34	07/10/22 11:19	1
2,4-Dichlorophenylacetic acid	82		48 - 132	07/08/22 07:34	07/10/22 11:19	1

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	0.94	0.25	ug/L		07/12/22 06:00	07/14/22 14:46	1
Disulfoton	ND	H	0.94	0.38	ug/L		07/12/22 06:00	07/14/22 14:46	1
Famphur	ND	H	0.94	0.30	ug/L		07/12/22 06:00	07/14/22 14:46	1
Methyl parathion	ND	H UJ	0.94	0.32	ug/L		07/12/22 06:00	07/14/22 14:46	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		07/12/22 06:00	07/14/22 14:46	1
Phorate	ND	H	0.94	0.36	ug/L		07/12/22 06:00	07/14/22 14:46	1
Sulfotepp	ND	H	0.94	0.38	ug/L		07/12/22 06:00	07/14/22 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	91		25 - 127	07/12/22 06:00	07/14/22 14:46	1
Tributyl phosphate	86		25 - 127	07/12/22 06:00	07/14/22 14:46	1
Triphenylphosphate	97		70 - 155	07/12/22 06:00	07/14/22 14:46	1
Triphenylphosphate	98		70 - 155	07/12/22 06:00	07/14/22 14:46	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.62	ng/L		07/11/22 10:35	07/12/22 00:29	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.0	ng/L		07/11/22 10:35	07/12/22 00:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		07/11/22 10:35	07/12/22 00:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.6	0.50	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorobutanoic acid (PFBA)	**13**		4.0	0.97	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluoroheptanoic acid (PFHpA)	**80**		1.6	0.44	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorohexanesulfonic acid (PFHxS)	**0.49**	**J**	1.6	0.44	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorohexanoic acid (PFHxA)	**30**		1.6	0.52	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorononanoic acid (PFNA)	**0.64**	**J**	1.6	0.40	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.74	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorooctanesulfonic acid (PFOS)	**0.99**	**J**	1.6	0.69	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorooctanoic acid (PFOA)	**14**		1.6	0.61	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluoropentanoic acid (PFPeA)	**20**		1.6	0.55	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		07/11/22 10:35	07/12/22 00:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.44	ng/L		07/11/22 10:35	07/12/22 00:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	109		50 - 150	07/11/22 10:35	07/12/22 00:29	1

Client Sample ID: MW-2022-9
Date Collected: 07/01/22 17:35
Date Received: 07/06/22 10:00

Lab Sample ID: 480-199543-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	98		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C2 PFHxA	107		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C2 PFTeDA	101		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C2 PFUnA	105		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C3 PFBS	89		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C4 PFBA	96		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C4 PFHpA	105		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C4 PFOA	106		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C4 PFOS	81		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C5 PFNA	104		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C5 PFPeA	105		50 - 150	07/11/22 10:35	07/12/22 00:29	1
13C8 FOSA	83		50 - 150	07/11/22 10:35	07/12/22 00:29	1
18O2 PFHxS	82		50 - 150	07/11/22 10:35	07/12/22 00:29	1
d3-NMeFOSAA	111		50 - 150	07/11/22 10:35	07/12/22 00:29	1
d5-NEtFOSAA	107		50 - 150	07/11/22 10:35	07/12/22 00:29	1
M2-6:2 FTS	94		50 - 150	07/11/22 10:35	07/12/22 00:29	1
M2-8:2 FTS	95		50 - 150	07/11/22 10:35	07/12/22 00:29	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~1.3~~	~~J I B~~	24	U	0.21	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,4,6,7,8-HpCDF	~~0.86~~	~~J B~~	24	U	0.020	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,4,7,8,9-HpCDF	ND		24		0.030	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,4,7,8-HxCDD	0.20	J B	24	U	0.037	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,4,7,8-HxCDF	0.32	J I B	24	U	0.042	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,6,7,8-HxCDD	0.096	J B	24	U	0.036	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,6,7,8-HxCDF	ND		24		0.043	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,7,8,9-HxCDD	ND		24		0.042	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,7,8,9-HxCDF	0.12	~~J I~~ JNX	24		0.054	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,7,8-PeCDD	ND		24		0.087	pg/L		07/25/22 15:53	07/26/22 10:58	1
1,2,3,7,8-PeCDF	~~0.25~~	~~J I B~~	24	U	0.050	pg/L		07/25/22 15:53	07/26/22 10:58	1
2,3,4,6,7,8-HxCDF	~~0.16~~	~~J I B~~	24	U	0.037	pg/L		07/25/22 15:53	07/26/22 10:58	1
2,3,4,7,8-PeCDF	0.32	~~J I~~ JNX	24		0.029	pg/L		07/25/22 15:53	07/26/22 10:58	1
2,3,7,8-TCDD	~~0.062~~	~~J I B~~	4.8	U	0.051	pg/L		07/25/22 15:53	07/26/22 10:58	1
2,3,7,8-TCDF	ND		4.8		0.044	pg/L		07/25/22 15:53	07/26/22 10:58	1
OCDD	7.9	J I B	110		0.17	pg/L		07/25/22 15:53	07/26/22 10:58	1
OCDF	0.89	J I B	48		0.091	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total HpCDD	1.3	J I B	24	U	0.21	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total HpCDF	0.86	J B	24		0.025	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total HxCDD	0.30	J I B	24		0.038	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total HxCDF	0.60	J I B	24		0.044	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total PeCDD	ND		24		0.087	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total PeCDF	~~0.57~~	~~J I B~~	24	U	0.039	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total TCDD	~~0.062~~	~~J I B~~	4.8	U	0.051	pg/L		07/25/22 15:53	07/26/22 10:58	1
Total TCDF	ND		4.8		0.044	pg/L		07/25/22 15:53	07/26/22 10:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	45		40 - 135	07/25/22 15:53	07/26/22 10:58	1
13C-1,2,3,4,6,7,8-HpCDF	43		40 - 135	07/25/22 15:53	07/26/22 10:58	1
13C-1,2,3,4,7,8,9-HpCDF	44		40 - 135	07/25/22 15:53	07/26/22 10:58	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-199543-2
Date Collected: 07/01/22 17:35
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*43*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*42*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*51*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*49*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,7,8,9-HxCDD	*48*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*48*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,7,8-PeCDD	*49*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-1,2,3,7,8-PeCDF	*42*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*46*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-2,3,4,7,8-PeCDF	*46*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-2,3,7,8-TCDD	*47*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-2,3,7,8-TCDF	*40*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-OCDD	*41*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*
13C-OCDF	*40*		*40 - 135*	*07/25/22 15:53*	*07/26/22 10:58*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/08/22 09:11	07/08/22 16:30	1
Arsenic	ND		0.015	0.0056	mg/L		07/08/22 09:11	07/08/22 16:30	1
Barium	**0.014**		0.0020	0.00070	mg/L		07/08/22 09:11	07/08/22 16:30	1
Beryllium	ND		0.0020	0.00030	mg/L		07/08/22 09:11	07/08/22 16:30	1
Cadmium	ND		0.0020	0.00050	mg/L		07/08/22 09:11	07/08/22 16:30	1
Chromium	ND		0.0040	0.0010	mg/L		07/08/22 09:11	07/08/22 16:30	1
Cobalt	ND		0.0040	0.00063	mg/L		07/08/22 09:11	07/08/22 16:30	1
Copper	ND		0.010	0.0016	mg/L		07/08/22 09:11	07/08/22 16:30	1
Lead	ND		0.010	0.0030	mg/L		07/08/22 09:11	07/08/22 16:30	1
Nickel	**0.0013**	**J**	0.010	0.0013	mg/L		07/08/22 09:11	07/08/22 16:30	1
Selenium	ND		0.025	0.0087	mg/L		07/08/22 09:11	07/08/22 16:30	1
Silver	ND		0.0060	0.0017	mg/L		07/08/22 09:11	07/08/22 16:30	1
Thallium	ND		0.020	0.010	mg/L		07/08/22 09:11	07/08/22 16:30	1
Tin	ND		0.010	0.0051	mg/L		07/08/22 09:11	07/08/22 16:30	1
Vanadium	ND		0.0050	0.0015	mg/L		07/08/22 09:11	07/08/22 16:30	1
Zinc	**0.0035**	**J**	0.010	0.0015	mg/L		07/08/22 09:11	07/08/22 16:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/07/22 10:45	07/07/22 14:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.0057**	**J**	0.010	0.0050	mg/L		07/07/22 09:34	07/07/22 10:46	1
Sulfide	ND		1.0	0.67	mg/L			07/08/22 16:56	1

Client Sample ID: TRIP BLANK 070122
Lab Sample ID: 480-199543-3
Date Collected: 07/01/22 00:00
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/07/22 16:40	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/07/22 16:40	1

Client Sample ID: TRIP BLANK 070122
Lab Sample ID: 480-199543-3

Date Collected: 07/01/22 00:00
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/07/22 16:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/07/22 16:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/07/22 16:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/07/22 16:40	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/07/22 16:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/07/22 16:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/07/22 16:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/07/22 16:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/07/22 16:40	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/07/22 16:40	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/07/22 16:40	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/07/22 16:40	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/07/22 16:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/07/22 16:40	1
Acetone	ND		10	3.0	ug/L			07/07/22 16:40	1
Acetonitrile	ND		15	4.9	ug/L			07/07/22 16:40	1
Acrolein	ND		20	0.91	ug/L			07/07/22 16:40	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/07/22 16:40	1
Benzene	ND		1.0	0.41	ug/L			07/07/22 16:40	1
Bromoform	ND		1.0	0.26	ug/L			07/07/22 16:40	1
Bromomethane	ND		1.0	0.69	ug/L			07/07/22 16:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/07/22 16:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/07/22 16:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/07/22 16:40	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/07/22 16:40	1
Chloroethane	ND		1.0	0.32	ug/L			07/07/22 16:40	1
Chloroform	ND		1.0	0.34	ug/L			07/07/22 16:40	1
Chloromethane	ND		1.0	0.35	ug/L			07/07/22 16:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/07/22 16:40	1
Dibromomethane	ND		1.0	0.41	ug/L			07/07/22 16:40	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/07/22 16:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/07/22 16:40	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/07/22 16:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/07/22 16:40	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/07/22 16:40	1
Iodomethane	ND		1.0	0.30	ug/L			07/07/22 16:40	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/07/22 16:40	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/07/22 16:40	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/07/22 16:40	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/07/22 16:40	1
o-Xylene	ND		1.0	0.76	ug/L			07/07/22 16:40	1
Propionitrile	ND		10	5.8	ug/L			07/07/22 16:40	1
Styrene	ND		1.0	0.73	ug/L			07/07/22 16:40	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/07/22 16:40	1
Toluene	ND		1.0	0.51	ug/L			07/07/22 16:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/07/22 16:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/07/22 16:40	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/07/22 16:40	1
Trichloroethene	ND		1.0	0.46	ug/L			07/07/22 16:40	1

Client: ARCADIS U.S. Inc
Job ID: 480-199543-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK 070122
Lab Sample ID: 480-199543-3
Date Collected: 07/01/22 00:00
Matrix: Water
Date Received: 07/06/22 10:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/07/22 16:40	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/07/22 16:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/07/22 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*07/07/22 16:40*	*1*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*		*07/07/22 16:40*	*1*
Dibromofluoromethane (Surr)	*113*		*75 - 123*		*07/07/22 16:40*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*07/07/22 16:40*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds, Semivolatile Organic Compounds, Polychlorinated Biphenyls, Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDFs), Perfluoroalkyl Substances (PFAs), Metals, and Miscellaneous Analyses

SDGs # 480-199645-1

Analyses Performed By:
Eurofins
Amherst, New York, USA

Report #47721R
Review Level: Tier I
Project: 30131071.0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 9
2.1 Holding Times 9
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semivolatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis 10
3.3 System Performance and Overall Assessment 11
3.4 Data Validation Checklist 11
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 12
5 Pesticide/Herbicide Analyses 12
5.1 Holding Times 12
5.2 System Performance and Overall Assessment 13
5.3 Data Validation Checklist 13
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 13
6.1 Holding Times 13
6.2 Blank Contamination 14
6.3 Compound Identification 15
6.4 System Performance and Overall Assessment 15
6.5 Data Validation Checklist 15
7 Perfluoroalkyl Substances Analyses 16
7.1 Holding Times 16
7.2 Blank Contamination 16
7.3 System Performance and Overall Assessment 17
7.4 Data Validation Checklist 17
8 Metals Analyses 17

8.1 Holding Times 17
8.2 System Performance and Overall Assessment 18
8.3 Data Validation Checklist 18
9 General Chemistry Analyses 18
9.1 Holding Times 18
9.2 System Performance and Overall Assessment 19
9.3 Data Validation Checklist for General Chemistry 19
10 Overall Data Usability 19

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 9
Table 5. Data Validation Checklist for Volatile Organic Compounds 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 10
Table 8. Laboratory Control Sample Recovery Criteria and Qualifications 10
Table 8. Data Validation Checklist for SemiVolatile Organic Compounds 11
Table 9. Holding Time for Method SW-846 8082A 12
Table 10. Data Validation Checklist for Polychlorinated Biphenyls 12
Table 11. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 12. Data Validation Checklist for Herbicides / Pesticides 13
Table 13. Holding Time for Method SW-846 8290A 14
Table 14. Summary of Blank Contamination Qualifications 14
Table 15. Data Validation Checklist for Dioxines and Furans 15
Table 16. Holding Time for Method 537 16
Table 17. Data Validation Checklist for Perfluoroalkyl Substances 17
Table 18. Holding Time for Method SW-846 6010C/7470A 18
Table 19. Data Validation Checklist for Metals 18
Table 20. Specified Holding Times 19
Table 21. Data Validation Checklist for Cyanide and Sulfide 19
Table 22. Overall Summary of Data Usability 20

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-199645-1 performed on behalf of the General Electric Company (GE) for groundwater sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/ PCBs/ HERB	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-2	480-199645-1	Water	7/7/2022		X	X	X	X	X	X	X
TRIP BLANK 070722	480-199645-2	Water	7/7/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
PCDD / PCDFs = Polychlorinated Dibenzodioxins / Polychlorinated Dibenzofurans
PFAS = Per and polyfluoroalkyl substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Notes:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, USEPA Modified method 537, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020 and approved by EPA on July 23, 2020).
- USEPA Method 537 Modified, Eurofins Laboratories SOP BR-LC-009, Rev. 8.0 Per- and Poly-fluorinated Substances (PFAS) in Water, Soils, Sediments and Tissue (April 2022)

- Department of Defense (DoD) Quality Systems Manual (QSM) 5.3, USEPA Data Review and Validation Guideline for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, (November 2018)
- DoD Final Data Validation Guidelines Module 3: PFAS, (May 2020)

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	1	0	0	0	2
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
PFAS	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. = standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

Table 5. Data Validation Checklist for Volatile Organic Compounds

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

3 Semivolatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note:
s.u. = standard units

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample Location	Compound	LCS Recovery	LCSD Recovery
MW-2022-2	p-Phenylene diamine	<10%	<10%

Notes:

AC Acceptable

LL Lower control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action

Control Limit	Sample Result	Qualification
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.4 Data Validation Checklist

Table 8. Data Validation Checklist for SemiVolatile Organic Compounds

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate (LCSD)		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 9. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

All samples were analyzed within the specified holding time criteria.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

Table 10. Data Validation Checklist for Polychlorinated Biphenyls

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
SW-846 8141B	Water/Soil	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed withing the holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

Table 12. Data Validation Checklist for Herbicides / Pesticides

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 13. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water/Soil	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

Note:
s.u. = standard units

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 14. Summary of Blank Contamination Qualifications

Sample Location	Compounds	Sample Result	Qualification
MW-2022-2	1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF OCDD OCDF Total HpCDD Total HxCDF	Detected sample results <RL and <BAL	““U” at the RL

Notes:
RL = reporting limit
MB = method blank

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

Table 15. Data Validation Checklist for Dioxines and Furans

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times/Preservation		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

PCDD/PCDF: SW-846 8290	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 16. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C

The holding time has been changed from the original holding time documented in EPA 537 of 14 days for extraction to 28 days. This was documented in EPA Technical Brief EPA/600/F-17/022h Updated January 2020. Utilizing the new guidance of 28 days all samples were analyzed within the specified holding time criteria.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds 1H,1H,2H,2H-perfluorodecanesulfonicacid (8:2) and 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) were detected in method blank batch 181706. However, the associated sample results were non-detect. Hence, qualification was not required.

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

Table 17. Data Validation Checklist for Perfluoroalkyl Substances

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment / Field blanks	X				X
System performance and Overall Assessment		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

Table 19. Data Validation Checklist for Metals

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9

All samples were analyzed within the specified holding times.

9.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.3 Data Validation Checklist for General Chemistry

Table 21. Data Validation Checklist for Cyanide and Sulfide

General Chemistry: SW9012/SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
System performance and Overall Assessment		X		X	

10 Overall Data Usability

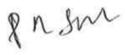
This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 22. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	2
SVOCs	99.2%	1
PCBs	100%	0
PEST	100%	0
HERB	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Suresh PR

SIGNATURE: 

DATE: November 26, 2022

PEER REVIEW: Andrew Korycinski

DATE: November 27, 2022

Appendix A

Chain of Custody

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Gregg Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:

Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:
City: Syracuse	TAT Requested (days): Standard
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No
Phone: 315-671-9374(Tel)	PO #: 30132437.001
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-
Project Name: GE Woods Pond Parcel	Project #: 48024970
Site: Upland Disposal Facility	SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N			
MW-2022-2	7/7/22	11:50	G	Water			X	X	X	X	X	X	X							
TripBlank 070722	7/7/22	---	G	Water									X							

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Special Instructions/Note:

480-199645 Chain of Custody

7-8-2022

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/8/22 0900	Company: Arcadis	Received by:	Date/Time: 7-8-2022 0900	Company: EETN
Relinquished by: Tina Knollmeyer	Date/Time: 7-8-2022 1700	Company: EETN	Received by:	Date/Time: 7/9/22 1130	Company:
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 1130	Company: TAS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: F 2 18

Ver: 01/16/2019

07/26/2022

Appendix B

Annotated Sample Analysis Data Sheets

Client Sample ID: MW-2022-2
Lab Sample ID: 480-199645-1

Date Collected: 07/07/22 11:50
Matrix: Water

Date Received: 07/09/22 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/11/22 20:27	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/11/22 20:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/11/22 20:27	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/11/22 20:27	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/11/22 20:27	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/11/22 20:27	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/11/22 20:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/11/22 20:27	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/11/22 20:27	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/11/22 20:27	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/11/22 20:27	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/11/22 20:27	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/11/22 20:27	R 1
2-Hexanone	ND		5.0	1.2	ug/L			07/11/22 20:27	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/11/22 20:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/11/22 20:27	1
Acetone	ND		10	3.0	ug/L			07/11/22 20:27	1
Acetonitrile	ND		15	4.9	ug/L			07/11/22 20:27	1
Acrolein	ND		20	0.91	ug/L			07/11/22 20:27	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/11/22 20:27	1
Benzene	ND		1.0	0.41	ug/L			07/11/22 20:27	1
Bromoform	ND		1.0	0.26	ug/L			07/11/22 20:27	1
Bromomethane	ND		1.0	0.69	ug/L			07/11/22 20:27	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/11/22 20:27	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/11/22 20:27	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/11/22 20:27	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/11/22 20:27	1
Chloroethane	ND		1.0	0.32	ug/L			07/11/22 20:27	1
Chloroform	ND		1.0	0.34	ug/L			07/11/22 20:27	1
Chloromethane	ND		1.0	0.35	ug/L			07/11/22 20:27	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/11/22 20:27	1
Dibromomethane	ND		1.0	0.41	ug/L			07/11/22 20:27	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/11/22 20:27	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/11/22 20:27	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/11/22 20:27	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/11/22 20:27	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/11/22 20:27	1
Iodomethane	ND		1.0	0.30	ug/L			07/11/22 20:27	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/11/22 20:27	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/11/22 20:27	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/11/22 20:27	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/11/22 20:27	1
o-Xylene	ND		1.0	0.76	ug/L			07/11/22 20:27	1
Propionitrile	ND		10	5.8	ug/L			07/11/22 20:27	1
Styrene	ND		1.0	0.73	ug/L			07/11/22 20:27	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/11/22 20:27	1
Toluene	ND		1.0	0.51	ug/L			07/11/22 20:27	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/11/22 20:27	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/11/22 20:27	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-199645-1

Date Collected: 07/07/22 11:50
Matrix: Water
Date Received: 07/09/22 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/11/22 20:27	1
Trichloroethene	ND		1.0	0.46	ug/L			07/11/22 20:27	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/11/22 20:27	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/11/22 20:27	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/11/22 20:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*77 - 120*		*07/11/22 20:27*	*1*
4-Bromofluorobenzene (Surr)	*125*	*S1+*	*73 - 120*		*07/11/22 20:27*	*1*
Dibromofluoromethane (Surr)	*119*		*75 - 123*		*07/11/22 20:27*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/11/22 20:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	*1	5.0	0.58	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,2,4-Trichlorobenzene	ND	*1	10	0.44	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,2-Dichlorobenzene	ND	*1	10	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,4-Dioxane	ND		10	1.1	ug/L		07/11/22 09:50	07/12/22 20:41	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		07/11/22 09:50	07/12/22 20:41	1
1-Naphthylamine	ND		10	1.3	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 20:41	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Chloronaphthalene	ND	*1	5.0	0.46	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Chlorophenol	ND		5.0	0.53	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Methylnaphthalene	ND	*1	5.0	0.60	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Methylphenol	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Naphthylamine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Nitroaniline	ND		10	0.42	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Nitrophenol	ND	*1	5.0	0.48	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Picoline	ND		80	1.4	ug/L		07/11/22 09:50	07/12/22 20:41	1
2-Toluidine	ND		10	1.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 20:41	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
3-Methylcholanthrene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
3-Methylphenol	ND		10	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
3-Nitroaniline	ND		10	0.48	ug/L		07/11/22 09:50	07/12/22 20:41	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-199645-1

Date Collected: 07/07/22 11:50
Matrix: Water

Date Received: 07/09/22 11:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Aminobiphenyl	ND		10	0.81	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Chloroaniline	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Chlorophenyl phenyl ether	ND	*1	5.0	0.35	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Methylphenol	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Nitroaniline	ND		10	0.25	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Nitrophenol	ND		10	1.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		07/11/22 09:50	07/12/22 20:41	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		07/11/22 09:50	07/12/22 20:41	1
Acenaphthene	ND		5.0	0.41	ug/L		07/11/22 09:50	07/12/22 20:41	1
Acenaphthylene	ND	*1	5.0	0.38	ug/L		07/11/22 09:50	07/12/22 20:41	1
Acetophenone	ND		5.0	0.54	ug/L		07/11/22 09:50	07/12/22 20:41	1
Aniline	ND		10	0.61	ug/L		07/11/22 09:50	07/12/22 20:41	1
Anthracene	ND		5.0	0.28	ug/L		07/11/22 09:50	07/12/22 20:41	1
Aramite, Total	ND		20	1.6	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzidine	ND		80	2.2	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		07/11/22 09:50	07/12/22 20:41	1
Benzyl alcohol	ND		20	2.0	ug/L		07/11/22 09:50	07/12/22 20:41	1
bis (2-chloroisopropyl) ether	ND	*1	5.0	0.52	ug/L		07/11/22 09:50	07/12/22 20:41	1
Bis(2-chloroethoxy)methane	ND	*1	5.0	0.35	ug/L		07/11/22 09:50	07/12/22 20:41	1
Bis(2-chloroethyl)ether	ND	*1	5.0	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		07/11/22 09:50	07/12/22 20:41	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		07/11/22 09:50	07/12/22 20:41	1
Chrysene	ND		5.0	0.33	ug/L		07/11/22 09:50	07/12/22 20:41	1
Diallate	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		07/11/22 09:50	07/12/22 20:41	1
Dibenzofuran	ND	*1	10	0.51	ug/L		07/11/22 09:50	07/12/22 20:41	1
Diethyl phthalate	ND		5.0	0.22	ug/L		07/11/22 09:50	07/12/22 20:41	1
Dimethoate	ND		10	0.54	ug/L		07/11/22 09:50	07/12/22 20:41	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 20:41	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		07/11/22 09:50	07/12/22 20:41	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 20:41	1
Dinoseb	ND		10	2.9	ug/L		07/11/22 09:50	07/12/22 20:41	1
Diphenylamine	ND		10	0.82	ug/L		07/11/22 09:50	07/12/22 20:41	1
Disulfoton	ND		10	0.42	ug/L		07/11/22 09:50	07/12/22 20:41	1
Chlorobenzilate	ND		20	0.67	ug/L		07/11/22 09:50	07/12/22 20:41	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		07/11/22 09:50	07/12/22 20:41	1
Famphur	ND	*1	40	1.9	ug/L		07/11/22 09:50	07/12/22 20:41	1
Fluoranthene	ND		5.0	0.40	ug/L		07/11/22 09:50	07/12/22 20:41	1
Fluorene	ND		5.0	0.36	ug/L		07/11/22 09:50	07/12/22 20:41	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 20:41	1
Hexachlorobutadiene	ND	*1	5.0	0.68	ug/L		07/11/22 09:50	07/12/22 20:41	1

Client Sample ID: MW-2022-2
Date Collected: 07/07/22 11:50
Date Received: 07/09/22 11:30

Lab Sample ID: 480-199645-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 20:41	1
Hexachloroethane	ND		5.0	0.59	ug/L		07/11/22 09:50	07/12/22 20:41	1
Hexachloropropene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		07/11/22 09:50	07/12/22 20:41	1
Isodrin	ND		10	0.18	ug/L		07/11/22 09:50	07/12/22 20:41	1
Isophorone	ND	*1	5.0	0.43	ug/L		07/11/22 09:50	07/12/22 20:41	1
Isosafrole	ND		10	0.58	ug/L		07/11/22 09:50	07/12/22 20:41	1
Kepone	ND		50	1.8	ug/L		07/11/22 09:50	07/12/22 20:41	1
Methapyrilene	ND		50	1.8	ug/L		07/11/22 09:50	07/12/22 20:41	1
Methyl methanesulfonate	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
Naphthalene	ND	*1	5.0	0.76	ug/L		07/11/22 09:50	07/12/22 20:41	1
Nitrobenzene	ND	*1	5.0	0.29	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		07/11/22 09:50	07/12/22 20:41	1
Ethyl Parathion	ND		10	0.64	ug/L		07/11/22 09:50	07/12/22 20:41	1
Methyl parathion	ND		10	0.37	ug/L		07/11/22 09:50	07/12/22 20:41	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		07/11/22 09:50	07/12/22 20:41	1
Pentachlorobenzene	ND		10	0.53	ug/L		07/11/22 09:50	07/12/22 20:41	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
Pentachlorophenol	ND		10	2.2	ug/L		07/11/22 09:50	07/12/22 20:41	1
Phenacetin	ND		10	0.61	ug/L		07/11/22 09:50	07/12/22 20:41	1
Phenanthrene	ND		5.0	0.44	ug/L		07/11/22 09:50	07/12/22 20:41	1
Phenol	ND		5.0	0.39	ug/L		07/11/22 09:50	07/12/22 20:41	1
Phorate	ND		10	0.50	ug/L		07/11/22 09:50	07/12/22 20:41	1
p-Phenylene diamine	ND	*-	800	200	ug/L		07/11/22 09:50	07/12/22 20:41	R 1
Pronamide	ND		10	2.5	ug/L		07/11/22 09:50	07/12/22 20:41	1
Pyrene	ND		5.0	0.34	ug/L		07/11/22 09:50	07/12/22 20:41	1
Pyridine	ND		25	0.41	ug/L		07/11/22 09:50	07/12/22 20:41	1
Safrole	ND		10	0.46	ug/L		07/11/22 09:50	07/12/22 20:41	1
Sulfotepp	ND		10	0.64	ug/L		07/11/22 09:50	07/12/22 20:41	1
Thionazin	ND		10	0.38	ug/L		07/11/22 09:50	07/12/22 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*41 - 120*	*07/11/22 09:50*	*07/12/22 20:41*	*1*
2-Fluorobiphenyl (Surr)	*88*		*48 - 120*	*07/11/22 09:50*	*07/12/22 20:41*	*1*
2-Fluorophenol (Surr)	*66*		*35 - 120*	*07/11/22 09:50*	*07/12/22 20:41*	*1*
Nitrobenzene-d5 (Surr)	*80*		*46 - 120*	*07/11/22 09:50*	*07/12/22 20:41*	*1*
Phenol-d5 (Surr)	*45*		*22 - 120*	*07/11/22 09:50*	*07/12/22 20:41*	*1*
p-Terphenyl-d14 (Surr)	*96*		*60 - 148*	*07/11/22 09:50*	*07/12/22 20:41*	*1*

Client Sample ID: MW-2022-2
Date Collected: 07/07/22 11:50
Date Received: 07/09/22 11:30

Lab Sample ID: 480-199645-1
Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	*	0.050	0.0092	ug/L		07/12/22 08:11	07/12/22 14:29	1
4,4'-DDE	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 14:29	1
4,4'-DDT	ND	*	0.050	0.011	ug/L		07/12/22 08:11	07/12/22 14:29	1
Aldrin	ND		0.050	0.0081	ug/L		07/12/22 08:11	07/12/22 14:29	1
alpha-BHC	ND		0.050	0.0077	ug/L		07/12/22 08:11	07/12/22 14:29	1
beta-BHC	ND		0.050	0.025	ug/L		07/12/22 08:11	07/12/22 14:29	1
Chlordane (technical)	ND		0.50	0.29	ug/L		07/12/22 08:11	07/12/22 14:29	1
Chlorobenzilate	ND		5.0	0.090	ug/L		07/12/22 08:11	07/12/22 14:29	1
cis-Chlordane	ND		0.050	0.015	ug/L		07/12/22 08:11	07/12/22 14:29	1
delta-BHC	ND		0.050	0.010	ug/L		07/12/22 08:11	07/12/22 14:29	1
Dieldrin	ND		0.050	0.0098	ug/L		07/12/22 08:11	07/12/22 14:29	1
Endosulfan I	ND		0.050	0.011	ug/L		07/12/22 08:11	07/12/22 14:29	1
Endosulfan II	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 14:29	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		07/12/22 08:11	07/12/22 14:29	1
Endrin	ND		0.050	0.014	ug/L		07/12/22 08:11	07/12/22 14:29	1
Endrin aldehyde	ND		0.050	0.016	ug/L		07/12/22 08:11	07/12/22 14:29	1
Endrin ketone	ND		0.050	0.012	ug/L		07/12/22 08:11	07/12/22 14:29	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		07/12/22 08:11	07/12/22 14:29	1
Heptachlor	ND		0.050	0.0085	ug/L		07/12/22 08:11	07/12/22 14:29	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		07/12/22 08:11	07/12/22 14:29	1
Methoxychlor	ND		0.050	0.014	ug/L		07/12/22 08:11	07/12/22 14:29	1
Toxaphene	ND		0.50	0.12	ug/L		07/12/22 08:11	07/12/22 14:29	1
trans-Chlordane	ND		0.050	0.011	ug/L		07/12/22 08:11	07/12/22 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*42*		*20 - 120*	*07/12/22 08:11*	*07/12/22 14:29*	*1*
DCB Decachlorobiphenyl	*88*		*20 - 120*	*07/12/22 08:11*	*07/12/22 14:29*	*1*
Tetrachloro-m-xylene	*71*		*44 - 120*	*07/12/22 08:11*	*07/12/22 14:29*	*1*
Tetrachloro-m-xylene	*75*		*44 - 120*	*07/12/22 08:11*	*07/12/22 14:29*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:20	1
PCB-1221	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:20	1
PCB-1232	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:20	1
PCB-1242	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:20	1
PCB-1248	ND		0.50	0.18	ug/L		07/11/22 09:40	07/11/22 23:20	1
PCB-1254	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 23:20	1
PCB-1260	ND		0.50	0.25	ug/L		07/11/22 09:40	07/11/22 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*39 - 121*	*07/11/22 09:40*	*07/11/22 23:20*	*1*
Tetrachloro-m-xylene	*67*		*39 - 121*	*07/11/22 09:40*	*07/11/22 23:20*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*07/11/22 09:40*	*07/11/22 23:20*	*1*
DCB Decachlorobiphenyl	*52*		*19 - 120*	*07/11/22 09:40*	*07/11/22 23:20*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		07/12/22 08:51	07/13/22 14:48	1
2,4-D	ND		0.48	0.16	ug/L		07/12/22 08:51	07/13/22 14:48	1

Client Sample ID: MW-2022-2
Date Collected: 07/07/22 11:50
Date Received: 07/09/22 11:30

Lab Sample ID: 480-199645-1
Matrix: Water

Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		07/12/22 08:51	07/13/22 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*97*		*48 - 132*	*07/12/22 08:51*	*07/13/22 14:48*	*1*
2,4-Dichlorophenylacetic acid	*98*		*48 - 132*	*07/12/22 08:51*	*07/13/22 14:48*	*1*

Method: EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		07/14/22 02:55	07/15/22 08:04	1
Disulfoton	ND		0.94	0.38	ug/L		07/14/22 02:55	07/15/22 08:04	1
Famphur	ND		0.94	0.30	ug/L		07/14/22 02:55	07/15/22 08:04	1
Methyl parathion	ND		0.94	0.32	ug/L		07/14/22 02:55	07/15/22 08:04	1
Ethyl Parathion	ND		0.94	0.34	ug/L		07/14/22 02:55	07/15/22 08:04	1
Phorate	ND		0.94	0.36	ug/L		07/14/22 02:55	07/15/22 08:04	1
Sulfotepp	ND		0.94	0.38	ug/L		07/14/22 02:55	07/15/22 08:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*25 - 127*	*07/14/22 02:55*	*07/15/22 08:04*	*1*
Tributyl phosphate	*87*		*25 - 127*	*07/14/22 02:55*	*07/15/22 08:04*	*1*
Triphenylphosphate	*101*		*70 - 155*	*07/14/22 02:55*	*07/15/22 08:04*	*1*
Triphenylphosphate	*103*		*70 - 155*	*07/14/22 02:55*	*07/15/22 08:04*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.62	ng/L		07/15/22 11:03	07/18/22 15:29	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		07/15/22 11:03	07/18/22 15:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		07/15/22 11:03	07/18/22 15:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.5	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.50	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorobutanoic acid (PFBA)	ND		4.1	0.97	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.62	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.55	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		07/15/22 11:03	07/18/22 15:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		07/15/22 11:03	07/18/22 15:29	1

Client Sample ID: MW-2022-2
Date Collected: 07/07/22 11:50
Date Received: 07/09/22 11:30

Lab Sample ID: 480-199645-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	97		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C2 PFDoA	71		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C2 PFHxA	105		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C2 PFTeDA	72		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C2 PFUnA	83		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C3 PFBS	90		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C4 PFBA	100		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C4 PFHpA	95		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C4 PFOA	101		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C4 PFOS	80		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C5 PFNA	98		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C5 PFPeA	103		50 - 150	07/15/22 11:03	07/18/22 15:29	1
13C8 FOSA	78		50 - 150	07/15/22 11:03	07/18/22 15:29	1
18O2 PFHxS	86		50 - 150	07/15/22 11:03	07/18/22 15:29	1
d3-NMeFOSAA	92		50 - 150	07/15/22 11:03	07/18/22 15:29	1
d5-NEtFOSAA	92		50 - 150	07/15/22 11:03	07/18/22 15:29	1
M2-6:2 FTS	89		50 - 150	07/15/22 11:03	07/18/22 15:29	1
M2-8:2 FTS	91		50 - 150	07/15/22 11:03	07/18/22 15:29	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL		EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~2.9~~	~~J I B~~	24	U	0.18	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,4,6,7,8-HpCDF	ND		24		0.074	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,4,7,8,9-HpCDF	ND		24		0.12	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,4,7,8-HxCDD	ND		24		0.11	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,4,7,8-HxCDF	~~0.37~~	~~J I B~~	24	U	0.070	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,6,7,8-HxCDD	ND		24		0.11	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,6,7,8-HxCDF	ND		24		0.075	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,7,8,9-HxCDD	ND		24		0.12	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,7,8,9-HxCDF	ND		24		0.11	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,7,8-PeCDD	ND		24		0.29	pg/L		07/22/22 09:07	07/24/22 21:34	1
1,2,3,7,8-PeCDF	ND		24		0.19	pg/L		07/22/22 09:07	07/24/22 21:34	1
2,3,4,6,7,8-HxCDF	ND		24		0.072	pg/L		07/22/22 09:07	07/24/22 21:34	1
2,3,4,7,8-PeCDF	ND		24		0.12	pg/L		07/22/22 09:07	07/24/22 21:34	1
2,3,7,8-TCDD	ND		4.8		0.17	pg/L		07/22/22 09:07	07/24/22 21:34	1
2,3,7,8-TCDF	ND		4.8		0.13	pg/L		07/22/22 09:07	07/24/22 21:34	1
OCDD	~~9.6~~	J I B	110	U	0.34	pg/L		07/22/22 09:07	07/24/22 21:34	1
OCDF	1.1	J I B	48	U	0.16	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total HpCDD	2.9	J I B	24	U	0.18	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total HpCDF	ND		24		0.12	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total HxCDD	ND		24		0.12	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total HxCDF	~~0.37~~	~~J I B~~	24	U	0.080	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total PeCDD	ND		24		0.29	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total PeCDF	ND		24		0.19	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total TCDD	ND		4.8		0.17	pg/L		07/22/22 09:07	07/24/22 21:34	1
Total TCDF	ND		4.8		0.13	pg/L		07/22/22 09:07	07/24/22 21:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	52		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,4,6,7,8-HpCDF	61		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,4,7,8,9-HpCDF	60		40 - 135	07/22/22 09:07	07/24/22 21:34	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-199645-1

Date Collected: 07/07/22 11:50
Matrix: Water
Date Received: 07/09/22 11:30

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	54		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,4,7,8-HxCDF	57		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,6,7,8-HxCDD	67		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,6,7,8-HxCDF	76		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,7,8,9-HxCDD	62		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,7,8,9-HxCDF	62		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,7,8-PeCDD	43		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-1,2,3,7,8-PeCDF	43		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-2,3,4,6,7,8-HxCDF	51		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-2,3,4,7,8-PeCDF	46		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-2,3,7,8-TCDD	52		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-2,3,7,8-TCDF	48		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-OCDD	48		40 - 135	07/22/22 09:07	07/24/22 21:34	1
13C-OCDF	50		40 - 135	07/22/22 09:07	07/24/22 21:34	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		07/12/22 09:08	07/12/22 17:34	1
Arsenic	ND		0.015	0.0056	mg/L		07/12/22 09:08	07/12/22 17:34	1
Barium	**0.0082**		0.0020	0.00070	mg/L		07/12/22 09:08	07/12/22 17:34	1
Beryllium	ND		0.0020	0.00030	mg/L		07/12/22 09:08	07/12/22 17:34	1
Cadmium	ND		0.0020	0.00050	mg/L		07/12/22 09:08	07/12/22 17:34	1
Chromium	ND		0.0040	0.0010	mg/L		07/12/22 09:08	07/12/22 17:34	1
Cobalt	ND		0.0040	0.00063	mg/L		07/12/22 09:08	07/12/22 17:34	1
Copper	ND		0.010	0.0016	mg/L		07/12/22 09:08	07/12/22 17:34	1
Lead	ND		0.010	0.0030	mg/L		07/12/22 09:08	07/12/22 17:34	1
Nickel	ND		0.010	0.0013	mg/L		07/12/22 09:08	07/12/22 17:34	1
Selenium	ND		0.025	0.0087	mg/L		07/12/22 09:08	07/12/22 17:34	1
Silver	ND		0.0060	0.0017	mg/L		07/12/22 09:08	07/12/22 17:34	1
Thallium	ND		0.020	0.010	mg/L		07/12/22 09:08	07/12/22 17:34	1
Tin	ND		0.010	0.0051	mg/L		07/12/22 09:08	07/12/22 17:34	1
Vanadium	ND		0.0050	0.0015	mg/L		07/12/22 09:08	07/12/22 17:34	1
Zinc	ND		0.010	0.0015	mg/L		07/12/22 09:08	07/12/22 17:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		07/11/22 10:23	07/11/22 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		07/11/22 12:29	07/11/22 13:54	1
Sulfide	ND		1.0	0.67	mg/L			07/12/22 10:14	1

Client Sample ID: TRIP BLANK 070722
Lab Sample ID: 480-199645-2

Date Collected: 07/07/22 00:00
Matrix: Water
Date Received: 07/09/22 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			07/11/22 20:50	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			07/11/22 20:50	1

Client Sample ID: TRIP BLANK 070722
Lab Sample ID: 480-199645-2

Date Collected: 07/07/22 00:00
Matrix: Water
Date Received: 07/09/22 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			07/11/22 20:50	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			07/11/22 20:50	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			07/11/22 20:50	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			07/11/22 20:50	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			07/11/22 20:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			07/11/22 20:50	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			07/11/22 20:50	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			07/11/22 20:50	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/11/22 20:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			07/11/22 20:50	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			07/11/22 20:50	1
2-Hexanone	ND		5.0	1.2	ug/L			07/11/22 20:50	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			07/11/22 20:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			07/11/22 20:50	1
Acetone	ND		10	3.0	ug/L			07/11/22 20:50	1
Acetonitrile	ND		15	4.9	ug/L			07/11/22 20:50	1
Acrolein	ND		20	0.91	ug/L			07/11/22 20:50	1
Acrylonitrile	ND		5.0	0.83	ug/L			07/11/22 20:50	1
Benzene	ND		1.0	0.41	ug/L			07/11/22 20:50	1
Bromoform	ND		1.0	0.26	ug/L			07/11/22 20:50	1
Bromomethane	ND		1.0	0.69	ug/L			07/11/22 20:50	1
Carbon disulfide	ND		1.0	0.19	ug/L			07/11/22 20:50	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			07/11/22 20:50	1
Chlorobenzene	ND		1.0	0.75	ug/L			07/11/22 20:50	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			07/11/22 20:50	1
Chloroethane	ND		1.0	0.32	ug/L			07/11/22 20:50	1
Chloroform	ND		1.0	0.34	ug/L			07/11/22 20:50	1
Chloromethane	ND		1.0	0.35	ug/L			07/11/22 20:50	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			07/11/22 20:50	1
Dibromomethane	ND		1.0	0.41	ug/L			07/11/22 20:50	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			07/11/22 20:50	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			07/11/22 20:50	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			07/11/22 20:50	1
Ethylbenzene	ND		1.0	0.74	ug/L			07/11/22 20:50	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			07/11/22 20:50	1
Iodomethane	ND		1.0	0.30	ug/L			07/11/22 20:50	1
Methacrylonitrile	ND		5.0	0.69	ug/L			07/11/22 20:50	1
Methyl methacrylate	ND		1.0	0.61	ug/L			07/11/22 20:50	1
Methylene Chloride	ND		1.0	0.44	ug/L			07/11/22 20:50	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			07/11/22 20:50	1
o-Xylene	ND		1.0	0.76	ug/L			07/11/22 20:50	1
Propionitrile	ND		10	5.8	ug/L			07/11/22 20:50	1
Styrene	ND		1.0	0.73	ug/L			07/11/22 20:50	1
Tetrachloroethene	ND		1.0	0.36	ug/L			07/11/22 20:50	1
Toluene	ND		1.0	0.51	ug/L			07/11/22 20:50	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			07/11/22 20:50	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			07/11/22 20:50	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			07/11/22 20:50	1
Trichloroethene	ND		1.0	0.46	ug/L			07/11/22 20:50	1

Client Sample ID: TRIP BLANK 070722
Lab Sample ID: 480-199645-2

Date Collected: 07/07/22 00:00
Matrix: Water

Date Received: 07/09/22 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			07/11/22 20:50	1
Vinyl acetate	ND		5.0	0.85	ug/L			07/11/22 20:50	1
Vinyl chloride	ND		1.0	0.90	ug/L			07/11/22 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*77 - 120*		*07/11/22 20:50*	*1*
4-Bromofluorobenzene (Surr)	*126*	*S1+*	*73 - 120*		*07/11/22 20:50*	*1*
Dibromofluoromethane (Surr)	*120*		*75 - 123*		*07/11/22 20:50*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/11/22 20:50*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Event 2 Fall 2022

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-203803-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50541R
Review Level: Tier I/II
Project: 30181915 Task 0003

Contents

1 Summary 8
1.1 Analytical Data Package Documentation 8
1.2 Data Validation Procedures 9
2 Volatile Organic Compound Analyses 11
2.1 Holding Times 11
2.2 Blank Contamination 12
2.3 Mass Spectrometer Tuning 12
2.4 Calibration 12
2.4.1 Initial Calibration 12
2.4.2 Continuing Calibration 12
2.5 Surrogates/System Monitoring Compounds 13
2.6 Internal Standard Performance 14
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 14
2.8 Laboratory Control Sample Analysis 14
2.9 Field Duplicate Analysis 14
2.10 Compound Identification 15
2.11 System Performance and Overall Assessment 15
2.12 Data Validation Checklist 15
3 Semi-volatile Organic Compound Analyses 17
3.1 Holding Times 17
3.2 Blank Contamination 17
3.3 Mass Spectrometer Tuning 17
3.4 Calibration 17
3.4.1 Initial Calibration 17
3.4.2 Continuing Calibration 18
3.5 Surrogates/System Monitoring Compounds 19
3.6 Internal Standard Performance 19
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 19
3.8 Laboratory Control Sample Analysis 19
3.9 Field Duplicate Analysis 20
3.10 Compound Identification 21
3.11 System Performance and Overall Assessment 21

3.12 Data Validation Checklist 21
4 Polychlorinated Biphenyl Analyses 23
4.1 Holding Times 23
4.2 Blank Contamination 23
4.3 System Performance 23
4.4 Calibration 23
4.4.1 Initial Calibration 24
4.4.2 Continuing Calibration 24
4.5 Surrogates/System Monitoring Compounds 24
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 24
4.7 Laboratory Control Sample Analysis 24
4.8 Field Duplicate Analysis 24
4.9 Compound Identification 25
4.10 System Performance and Overall Assessment 25
4.11 Data Validation Checklist 25
5 Pesticide/Herbicide Analyses 26
5.1 Holding Times 26
5.2 Blank Contamination 27
5.3 System Performance 28
5.4 Calibration 28
5.4.1 Initial Calibration 28
5.4.2 Continuing Calibration 28
5.5 Surrogates/System Monitoring Compounds 29
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 29
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 29
5.8 Field Duplicate Analysis 29
5.9 Compound Identification 30
5.10 System Performance and Overall Assessment 30
5.11 Data Validation Checklist 30
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 32
6.1 Holding Times 32
6.2 Blank Contamination 32
6.3 Mass Spectrometer Tuning 34

6.4 Calibration 34
6.4.1 Initial Calibration 34
6.4.2 Continuing Calibration 34
6.5 Labeled Standard Performance 34
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 35
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 35
6.8 Field Duplicate Analysis 35
6.9 Compound Identification 36
6.10 System Performance and Overall Assessment 36
6.11 Data Validation Checklist 36
7 Perfluoroalkyl Substances Analyses 38
7.1 Holding Times 38
7.2 Blank Contamination 38
7.3 Mass Calibration 38
7.4 Calibration 38
7.4.1 Initial Calibration 38
7.4.2 Continuing Calibration 39
7.5 Isotopically Labelled Standards 39
7.5.1 Extracted Internal Standard 39
7.5.2 Injection Internal Standards 39
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 40
7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 40
7.8 Field Duplicate Analysis 41
7.9 Compound Identification 41
7.10 System Performance and Overall Assessment 41
7.11 Data Validation Checklist 42
8 Metals Analyses 43
8.1 Holding Times 43
8.2 Blank Contamination 44
8.3 Calibration 44
8.3.1 Initial Calibration and Continuing Calibration 44
8.3.2 Lower Limit of Quantitation Check Standard 44
8.3.3 ICP Interference Control Sample 44

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 45
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 45
8.4.2 Laboratory Duplicate Analysis 45
8.5 Field Duplicate Analysis 45
8.6 Laboratory Control Sample Analysis 46
8.7 Serial Dilution 46
8.8 System Performance and Overall Assessment 46
8.9 Data Validation Checklist 47
9 General Chemistry Analyses 48
9.1 Holding Times 48
9.2 Blank Contamination 48
9.3 Calibration 48
9.3.1 Initial Calibration and Continuing Calibration 48
9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 49
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 49
9.4.2 Laboratory Duplicate Analysis 50
9.5 Field Duplicate Analysis 50
9.6 Laboratory Control Sample (LCS) Analysis 50
9.7 System Performance and Overall Assessment 50
9.8 Data Validation Checklist for General Chemistry 51
10 Overall Data Usability 51

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 8
Table 2. Evaluation of Data Package Completeness 9
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 11
Table 4. Holding Time for Method SW-846 8260C 11
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 13
Table 6. Continuing Calibration Evaluation Criteria and Qualifications 13
Table 7. Field Duplicate Sample Results 14
Table 8. Holding Time for Method SW-846 8270D 17
Table 9. Summary of Compounds Outside Specified Calibration Control Limits 18
Table 10. Continuing Calibration Evaluation Criteria and Qualifications 18

Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits 20
Table 12. Laboratory Control Sample Recovery Criteria and Qualifications 20
Table 13. Field Duplicate Sample Results 21
Table 14. Holding Time for Method SW-846 8082A 23
Table 15. Field Duplicate Sample Results 25
Table 16. Holding Time for Method SW-846 8081B/8141B/8151A 27
Table 17. Summary of Holding Time Exceedances 27
Table 18. Summary of Holding Time Qualifications 27
Table 19. Summary of Blank Contamination Qualifications 28
Table 20. Summary of Compounds Outside Specified Calibration Control Limits 28
Table 21. Continuing Calibration Evaluation Criteria and Qualifications 29
Table 22. Field Duplicate Sample Results 30
Table 23. Holding Time for Method SW-846 8290A 32
Table 24. Summary of Blank Contamination Qualifications 32
Table 25. Field Duplicate Sample Results 35
Table 26. Holding Time for Method 537 38
Table 27. Summary of Compounds Outside Specified Calibration Control Limits 39
Table 28. Continuing Calibration Evaluation Criteria and Qualifications 39
Table 29. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 40
Table 30. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 40
Table 31. Field Duplicate Sample Result 41
Table 32. Holding Time for Method SW-846 6010C/7470A 43
Table 33. Field Duplicate Sample Results 45
Table 34. Samples with Laboratory Control Sample Recoveries Outside Control Limits 46
Table 35. Laboratory Control Sample Recovery Criteria and Qualifications 46
Table 36. Specified Holding Times 48
Table 37. Samples with Matrix Spike Recoveries Outside Control Limits 49
Table 38. Matrix Spike Recovery Evaluation Criteria and Qualifications 49
Table 39. Field Duplicate Sample Results 50
Table 40. Overall Summary of Data Usability 52

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-203803-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2002-4S	480-203803-1	Water	11/09/2022		X	X	X	X	X	X	X
DUP-1	480-203803-2	Water	11/09/2022	MW-2002-4S	X	X	X	X	X	X	X
TripBlank-110922	480-203803-3	Water	11/09/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

The case narrative page documented that the sample DUP-1 (480-203803-2) the collection time did not listed on the chain-of-custody (COC). The laboratory logged the collection time as per container label.

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in

the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations

and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	1	1	1	3
SVOCs	0	0	0	1	1	0	2
PCBs	0	0	0	1	1	0	2
PEST	0	0	0	1	1	0	2
HERB	0	0	0	1	1	0	2
OPC	0	0	0	1	1	0	2
PCDD/PCDF	0	0	0	1	1	0	2
PFAS	0	0	0	1	1	0	2
Metals	0	0	0	1	1	0	2
MISC	0	0	0	1	1	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2002-4S DUP-1 TripBlank-110922	CCV %D	Acrolein	-29.0%
		Acetone	+53.2%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 7. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 8. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 9. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2002-4S DUP-1	CCV %D	Pyridine	-37.9%
		Bis(2-chloroethyl)ether	-25.9%
		bis (2-chloroisopropyl) ether	-48.4%
		Hexachlorobutadiene	+26.0%
		4-Nitroquinoline-1-oxide	-42.0%
	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0058

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 10. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J

Continuing Calibration	Criteria	Sample Result	Qualification
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

3.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2002-4S DUP-1	Prep Batch: 649783	3,3'-Dimethylbenzidine	<LL but >10%
		a,a-Dimethylphenethylamine	<10%
		Kepone	<LL but >10%
		Methapyrilene	<LL but >10%
		p-Phenylene diamine	<10%

Note:
LL Lower control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 13. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X	X		
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The continuing calibration %D were within the specified control limits.

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less

than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. Results for duplicate samples are summarized in the following table.

Table 15. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding are presented in the following table.

Table 17. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2002-4S DUP-1	The sample extracted on 9th day from collection	7 days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 18. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 19. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2002-4S DUP-1	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 20. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2002-4S DUP-1	CCV %D	Dimethoate	-22.8%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 5. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	%RSD > 20% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration Verification (CCV)	%D >15% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent

sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 22. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	Aldrin	0.050 U	0.0090 J	AC
	gamma-BHC (Lindane)	0.050 U	0.0090 J	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks	X				X

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
RPD Relative percent difference
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 23. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 24. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2002-4S	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB)		
DUP-1	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

The continuing calibration %D were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 25. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	2,3,7,8-TCDD	0.44 J	0.15 J	AC
	2,3,7,8-TCDF	1.4 J	0.13 J	AC
	Total TCDD	0.44 J	0.15 J	AC
	Total TCDF	1.4 J	0.13 J	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio $\geq$ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix $\leq$ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 26. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of ten times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 27. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2002-4S DUP-1	CCV %D	8:2 FTS	+35.4%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 28. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration Verification (CCV)	%D >30% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. Extracted Internal Standard (EIS) recoveries must be within the limits of 50% to150% (25% to 150% for poor responding analytes FBA, PFPeA, fluorotelomer sulfonates).

All EIS recoveries were within the specified control limits.

7.5.2 Injection Internal Standards

Injection internal standards are added to the aliquot of sample dilutions, QC samples, and standards just prior to analysis. Peak areas must be within 50-150% of the area measured in the ICAL midpoint standard. On days when ICAL is not performed, the peak areas must be within 50-150% of the peak area measured in daily initial CCV.

Samples associated with internal standards exhibited responses within the control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Sample locations associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 29. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Compound	LCS Recovery	LCSD Recovery
MW-2002-4S DUP-1	8:2 FTS	AC	>UL

Note:
UL Upper control limit

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 30. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 31. Field Duplicate Sample Result

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	Perfluorobutanesulfonic acid (PFBS)	0.69 J	0.68 J	AC
	Perfluorobutanoic acid (PFBA)	5.4	5.6	AC
	Perfluoroheptanoic acid (PFHpA)	0.84 J	0.77 J	AC
	Perfluorohexanoic acid (PFHxA)	1.0 J	0.99 J	AC
	Perfluorooctanoic acid (PFOA)	1.8	1.9	AC
	Perfluoropentanoic acid (PFPeA)	1.2 J	1.2 J	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Field blanks	X				X
C. Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)		X		X	
Extracted Internal Standards (EIS) %R		X		X	
Injection Internal Standard %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier III Validation					
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X	X		
Instrument sensitivity check		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT windows		X		X	
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 32. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analyte zinc was detected in the associated method blank batch- 649922; however, the associated sample results were non-detect. No qualification of the sample results was required.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on sample associated with this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 33. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	Barium	0.013	0.012	8.0%

The calculated RPD between the parent sample and field duplicate were acceptable.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits, with the exception of the analytes associated with samples, as presented in the following table.

Table 34. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Analyte	LCS Recovery
MW-2002-4S DUP-1	Prep Batch: 622883	Antimony	123%

The criteria used to evaluate LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified.

Table 35. Laboratory Control Sample Recovery Criteria and Qualifications

Control limit	Sample Result	Qualification
LCS (water) percent recovery 50% to 79%	Non-detect	UJ
	Detect	J
LCS (water) percent recovery <50%	Non-detect	R
	Detect	J
LCS (water) percent recovery >120%	Non-detect	No Action
	Detect	J

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample.

The serial dilution was not performed on sample associated with this SDG.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
ICP Serial Dilution %D	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery

RPD Relative percent difference
%D Percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 36. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 650143 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample for the analyte cyanide associated with this SDG.

The MS analysis performed on sample MW-2002-4S for the analyte sulfide exhibiting recoveries outside of the control limits are presented in the following table.

Table 37. Samples with Matrix Spike Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery
MW-2002-4S	Sulfide	128%

The criteria used to evaluate MS recoveries are presented in the following table. In the case of an MS deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte sulfide associated with this SDG.

Table 38. Matrix Spike Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS percent recovery <30%	Non-detect	R
	Detect	J
MS percent recovery >125%	Non-detect	No Action
	Detect	J

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 39. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD
MW-2002-4S / DUP-1	Cyanide	U	U	AC
	Sulfide	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip

blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 40. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.1%	3
SVOCs	97.6%	6
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 26, 2023

PEER REVIEW: Andrew Korycinski

DATE: July 26, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N			
MW-2022-4S	11/9/22	14:40	G	Water			X	X	X	X	X	X	X	X	X	X	X			20
DUP-1	11/9/22	---	G	Water			X	X	X	X	X	X	X	X	X	X	X			20
TripBlank 110922	11/9/22	---	G	Water									X							2

11-10-22

480-203803 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Y - Trizma
	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Penelope T Rabasco	11/10/22 9:00			11-10-22 1100	EETN
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/11/22 900	Company TA
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.3 2.1 #1 ICE

Ver: 01/16/2019

12/7/2022 10:28 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

8141 16 EE

Chain of Custody Record

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-76896.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts		Job #: 480-203803-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 11/28/2022			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Sp... te:
			Preservation Code:						
MW-2002-4S (480-203803-1)	11/9/22	14:40 Eastern		Water			X	2	

480-203803 Chain of Custody

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 11-15-22 1800	Company: THB	Received by: [signature]	Date/Time: 11/16/22 900	Company: [signature]
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

12/7/2022
10:28 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

8141 16 EE

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-76897.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts		Job #: 480-203803-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 11/28/2022			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
DUP-1 (480-203803-2)	11/9/22	Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	11-15-22 1800	TAB		11/16/22 900	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

12/7/2022
10:28 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-203803 Chain of Custody

ofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		854.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Massachusetts		Job #: 480-203803-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 11/28/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2002-4S (480-203803-1)	11/9/22	14.40 Eastern		Water			X	2	
DUP-1 (480-203803-2)	11/9/22	Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
[signature]	11-15-22 1800	TAB	Carole Cerrit	11/16/22 1040	ETA-Burl

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

12/7/2022
10:28 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-76886.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-203803-1
Address: 2425 New Holland Pike,	Due Date Requested: 11/28/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2002-4S (480-203803-1)	11/9/22	14:40 Eastern		Water			X	2	
DUP-1 (480-203803-2)	11/9/22	Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11-15-22 1800	TAB			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	11/16/22 10:28	ETET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.2-1.3

12/7/2022
10:28 AM

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2002-4S
Lab Sample ID: 480-203803-1

Date Collected: 11/09/22 14:40
Matrix: Water

Date Received: 11/11/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/14/22 17:23	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/22 17:23	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/22 17:23	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/22 17:23	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/22 17:23	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/22 17:23	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/14/22 17:23	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/22 17:23	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/22 17:23	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/22 17:23	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/22 17:23	1	
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/14/22 17:23	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/14/22 17:23	1	R
2-Hexanone	ND		5.0	1.2	ug/L			11/14/22 17:23	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/14/22 17:23	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/22 17:23	1	
Acetone	ND	UJ	10	3.0	ug/L			11/14/22 17:23	1	
Acetonitrile	ND	UJ	15	4.9	ug/L			11/14/22 17:23	1	
Acrolein	ND	UJ	20	0.91	ug/L			11/14/22 17:23	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/14/22 17:23	1	
Benzene	ND		1.0	0.41	ug/L			11/14/22 17:23	1	
Bromoform	ND		1.0	0.26	ug/L			11/14/22 17:23	1	
Bromomethane	ND		1.0	0.69	ug/L			11/14/22 17:23	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/22 17:23	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/22 17:23	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/22 17:23	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/14/22 17:23	1	
Chloroethane	ND		1.0	0.32	ug/L			11/14/22 17:23	1	
Chloroform	ND		1.0	0.34	ug/L			11/14/22 17:23	1	
Chloromethane	ND		1.0	0.35	ug/L			11/14/22 17:23	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/22 17:23	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/14/22 17:23	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/14/22 17:23	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/22 17:23	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/14/22 17:23	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/22 17:23	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/14/22 17:23	1	
Iodomethane	ND		1.0	0.30	ug/L			11/14/22 17:23	1	
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/14/22 17:23	1	
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/14/22 17:23	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/22 17:23	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/14/22 17:23	1	
o-Xylene	ND		1.0	0.76	ug/L			11/14/22 17:23	1	
Propionitrile	ND	UJ	10	5.8	ug/L			11/14/22 17:23	1	
Styrene	ND		1.0	0.73	ug/L			11/14/22 17:23	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/22 17:23	1	
Toluene	ND		1.0	0.51	ug/L			11/14/22 17:23	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/22 17:23	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/22 17:23	1	

Client Sample ID: MW-2002-4S
Lab Sample ID: 480-203803-1

Date Collected: 11/09/22 14:40
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/14/22 17:23	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/22 17:23	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/22 17:23	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/14/22 17:23	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/22 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*11/14/22 17:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*11/14/22 17:23*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*11/14/22 17:23*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/14/22 17:23*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,4-Dioxane	ND		10	1.1	ug/L		11/14/22 08:20	11/16/22 00:13	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/14/22 08:20	11/16/22 00:13	1
1-Naphthylamine	ND		10	1.3	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/14/22 08:20	11/16/22 00:13	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Naphthylamine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Nitroaniline	ND		10	0.42	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Picoline	ND		80	1.4	ug/L		11/14/22 08:20	11/16/22 00:13	1
2-Toluidine	ND		10	1.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/14/22 08:20	11/16/22 00:13	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1
3,3'-Dimethylbenzidine	ND	~~J~~ UJ	40	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
3-Methylcholanthrene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
3-Methylphenol	ND		10	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1
3-Nitroaniline	ND		10	0.48	ug/L		11/14/22 08:20	11/16/22 00:13	1

Client Sample ID: MW-2002-4S
Lab Sample ID: 480-203803-1

Date Collected: 11/09/22 14:40
Matrix: Water

Date Received: 11/11/22 09:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Methylphenol	ND		10	0.36	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/14/22 08:20	11/16/22 00:13	1	
4-Nitrophenol	ND		10	1.5	ug/L		11/14/22 08:20	11/16/22 00:13	1	
~~4-Nitroquinoline-1-oxide~~	~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~11/14/22 08:20~~	~~11/16/22 00:13~~	~~1~~	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/14/22 08:20	11/16/22 00:13	1	
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~11/14/22 08:20~~	~~11/16/22 00:13~~	~~1~~	R
Acenaphthene	ND		5.0	0.41	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Acetophenone	ND		5.0	0.54	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Aniline	ND		10	0.61	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Anthracene	ND		5.0	0.28	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Aramite, Total	ND		20	1.6	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzidine	ND		80	2.2	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/14/22 08:20	11/16/22 00:13	1	
bis (2-chloroisopropyl) ether	ND	UJ	5.0	0.52	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Bis(2-chloroethyl)ether	ND	UJ	5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Chrysene	ND		5.0	0.33	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Diallate	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Dibenzofuran	ND		10	0.51	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Dimethoate	ND		10	0.54	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Dinoseb	ND		10	2.9	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Diphenylamine	ND		10	0.82	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Disulfoton	ND		10	0.42	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Chlorobenzilate	ND		20	0.67	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Famphur	ND		40	1.9	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Fluoranthene	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Fluorene	ND		5.0	0.36	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/14/22 08:20	11/16/22 00:13	1	
Hexachlorobutadiene	ND	UJ	5.0	0.68	ug/L		11/14/22 08:20	11/16/22 00:13	1	

Client Sample ID: MW-2002-4S
Lab Sample ID: 480-203803-1

Date Collected: 11/09/22 14:40
Matrix: Water

Date Received: 11/11/22 09:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/14/22 08:20	11/16/22 00:13	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/14/22 08:20	11/16/22 00:13	1
Hexachloropropene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/14/22 08:20	11/16/22 00:13	1
Isodrin	ND		10	0.18	ug/L		11/14/22 08:20	11/16/22 00:13	1
Isophorone	ND		5.0	0.43	ug/L		11/14/22 08:20	11/16/22 00:13	1
Isosafrole	ND		10	0.58	ug/L		11/14/22 08:20	11/16/22 00:13	1
Kepone	ND	* UJ	50	1.8	ug/L		11/14/22 08:20	11/16/22 00:13	1
Methapyrilene	ND	* UJ	50	1.8	ug/L		11/14/22 08:20	11/16/22 00:13	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
Naphthalene	ND		5.0	0.76	ug/L		11/14/22 08:20	11/16/22 00:13	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/14/22 08:20	11/16/22 00:13	1
Ethyl Parathion	ND		10	0.64	ug/L		11/14/22 08:20	11/16/22 00:13	1
Methyl parathion	ND		10	0.37	ug/L		11/14/22 08:20	11/16/22 00:13	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/14/22 08:20	11/16/22 00:13	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/14/22 08:20	11/16/22 00:13	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
Pentachlorophenol	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:13	1
Phenacetin	ND		10	0.61	ug/L		11/14/22 08:20	11/16/22 00:13	1
Phenanthrene	ND		5.0	0.44	ug/L		11/14/22 08:20	11/16/22 00:13	1
Phenol	ND		5.0	0.39	ug/L		11/14/22 08:20	11/16/22 00:13	1
Phorate	ND		10	0.50	ug/L		11/14/22 08:20	11/16/22 00:13	1
~~p-Phenylene diamine~~	~~ND~~	~~*~~	~~800~~	~~200~~	~~ug/L~~		~~11/14/22 08:20~~	~~11/16/22 00:13~~	~~1~~ R
Pronamide	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:13	1
Pyrene	ND		5.0	0.34	ug/L		11/14/22 08:20	11/16/22 00:13	1
Pyridine	ND	UJ	25	0.41	ug/L		11/14/22 08:20	11/16/22 00:13	1
Safrole	ND		10	0.46	ug/L		11/14/22 08:20	11/16/22 00:13	1
Sulfotepp	ND		10	0.64	ug/L		11/14/22 08:20	11/16/22 00:13	1
Thionazin	ND		10	0.38	ug/L		11/14/22 08:20	11/16/22 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*104*		*41 - 120*	*11/14/22 08:20*	*11/16/22 00:13*	*1*
2-Fluorobiphenyl (Surr)	*89*		*48 - 120*	*11/14/22 08:20*	*11/16/22 00:13*	*1*
2-Fluorophenol (Surr)	*49*		*35 - 120*	*11/14/22 08:20*	*11/16/22 00:13*	*1*
Nitrobenzene-d5 (Surr)	*75*		*46 - 120*	*11/14/22 08:20*	*11/16/22 00:13*	*1*
Phenol-d5 (Surr)	*37*		*22 - 120*	*11/14/22 08:20*	*11/16/22 00:13*	*1*
p-Terphenyl-d14 (Surr)	*91*		*60 - 148*	*11/14/22 08:20*	*11/16/22 00:13*	*1*

Client Sample ID: MW-2002-4S
Date Collected: 11/09/22 14:40
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		11/16/22 08:42	11/17/22 14:38	1
4,4'-DDE	ND		0.050	0.012	ug/L		11/16/22 08:42	11/17/22 14:38	1
4,4'-DDT	~~0.024~~ ~~J B~~ 0.050 U		0.050	0.011	ug/L		11/16/22 08:42	11/17/22 14:38	1
Aldrin	ND		0.050	0.0081	ug/L		11/16/22 08:42	11/17/22 14:38	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/16/22 08:42	11/17/22 14:38	1
beta-BHC	ND		0.050	0.025	ug/L		11/16/22 08:42	11/17/22 14:38	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/16/22 08:42	11/17/22 14:38	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/16/22 08:42	11/17/22 14:38	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/16/22 08:42	11/17/22 14:38	1
delta-BHC	**0.015** **J B**		0.050	0.010	ug/L		11/16/22 08:42	11/17/22 14:38	1
Dieldrin	ND		0.050	0.0098	ug/L		11/16/22 08:42	11/17/22 14:38	1
Endosulfan I	ND		0.050	0.011	ug/L		11/16/22 08:42	11/17/22 14:38	1
Endosulfan II	ND		0.050	0.012	ug/L		11/16/22 08:42	11/17/22 14:38	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/16/22 08:42	11/17/22 14:38	1
Endrin	ND		0.050	0.014	ug/L		11/16/22 08:42	11/17/22 14:38	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/16/22 08:42	11/17/22 14:38	1
Endrin ketone	ND		0.050	0.012	ug/L		11/16/22 08:42	11/17/22 14:38	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/16/22 08:42	11/17/22 14:38	1
Heptachlor	ND		0.050	0.0085	ug/L		11/16/22 08:42	11/17/22 14:38	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		11/16/22 08:42	11/17/22 14:38	1
Methoxychlor	ND		0.050	0.014	ug/L		11/16/22 08:42	11/17/22 14:38	1
Toxaphene	ND		0.50	0.12	ug/L		11/16/22 08:42	11/17/22 14:38	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/16/22 08:42	11/17/22 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*54*		*20 - 120*	*11/16/22 08:42*	*11/17/22 14:38*	*1*
DCB Decachlorobiphenyl	*58*		*20 - 120*	*11/16/22 08:42*	*11/17/22 14:38*	*1*
Tetrachloro-m-xylene	*89*		*44 - 120*	*11/16/22 08:42*	*11/17/22 14:38*	*1*
Tetrachloro-m-xylene	*86*		*44 - 120*	*11/16/22 08:42*	*11/17/22 14:38*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:54	1
PCB-1221	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:54	1
PCB-1232	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:54	1
PCB-1242	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:54	1
PCB-1248	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:54	1
PCB-1254	ND		0.50	0.25	ug/L		11/16/22 06:52	11/16/22 23:54	1
PCB-1260	ND		0.50	0.25	ug/L		11/16/22 06:52	11/16/22 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*39 - 121*	*11/16/22 06:52*	*11/16/22 23:54*	*1*
Tetrachloro-m-xylene	*85*		*39 - 121*	*11/16/22 06:52*	*11/16/22 23:54*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*11/16/22 06:52*	*11/16/22 23:54*	*1*
DCB Decachlorobiphenyl	*41*		*19 - 120*	*11/16/22 06:52*	*11/16/22 23:54*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		11/15/22 09:12	11/16/22 14:21	1
2,4-D	ND		0.48	0.16	ug/L		11/15/22 09:12	11/16/22 14:21	1

Client Sample ID: MW-2002-4S
Date Collected: 11/09/22 14:40
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		11/15/22 09:12	11/16/22 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*100*		*48 - 132*	*11/15/22 09:12*	*11/16/22 14:21*	*1*
2,4-Dichlorophenylacetic acid	*88*		*48 - 132*	*11/15/22 09:12*	*11/16/22 14:21*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	0.94	0.25	ug/L		11/18/22 04:25	11/21/22 09:17	1
Disulfoton	ND	H	0.94	0.38	ug/L		11/18/22 04:25	11/21/22 09:17	1
Famphur	ND	H	0.94	0.30	ug/L		11/18/22 04:25	11/21/22 09:17	1
Methyl parathion	ND	H	0.94	0.32	ug/L		11/18/22 04:25	11/21/22 09:17	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		11/18/22 04:25	11/21/22 09:17	1
Phorate	ND	H	0.94	0.36	ug/L		11/18/22 04:25	11/21/22 09:17	1
Sulfotepp	ND	H	0.94	0.38	ug/L		11/18/22 04:25	11/21/22 09:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*85*		*25 - 127*	*11/18/22 04:25*	*11/21/22 09:17*	*1*
Tributyl phosphate	*80*		*25 - 127*	*11/18/22 04:25*	*11/21/22 09:17*	*1*
Triphenylphosphate	*97*		*70 - 155*	*11/18/22 04:25*	*11/21/22 09:17*	*1*
Triphenylphosphate	*98*		*70 - 155*	*11/18/22 04:25*	*11/21/22 09:17*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND	UJ	1.6	0.63	ng/L		11/16/22 18:04	11/17/22 16:35	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		11/16/22 18:04	11/17/22 16:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		11/16/22 18:04	11/17/22 16:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.6	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorobutanesulfonic acid (PFBS)	**0.69**	**J**	1.6	0.51	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorobutanoic acid (PFBA)	**5.4**		4.1	0.98	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.38	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluoroheptanoic acid (PFHpA)	**0.84**	**J**	1.6	0.44	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorohexanoic acid (PFHxA)	**1.0**	**J**	1.6	0.53	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorooctanoic acid (PFOA)	**1.8**		1.6	0.62	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluoropentanoic acid (PFPeA)	**1.2**	**J**	1.6	0.56	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		11/16/22 18:04	11/17/22 16:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		11/16/22 18:04	11/17/22 16:35	1

Client Sample ID: MW-2002-4S
Date Collected: 11/09/22 14:40
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	98		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C2 PFDoA	89		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C2 PFHxA	88		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C2 PFTeDA	96		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C2 PFUnA	95		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C3 PFBS	85		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C4 PFBA	88		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C4 PFHpA	92		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C4 PFOA	100		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C4 PFOS	90		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C5 PFNA	97		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C5 PFPeA	84		50 - 150	11/16/22 18:04	11/17/22 16:35	1
13C8 FOSA	88		50 - 150	11/16/22 18:04	11/17/22 16:35	1
18O2 PFHxS	87		50 - 150	11/16/22 18:04	11/17/22 16:35	1
d3-NMeFOSAA	119		50 - 150	11/16/22 18:04	11/17/22 16:35	1
d5-NEtFOSAA	116		50 - 150	11/16/22 18:04	11/17/22 16:35	1
M2-6:2 FTS	94		50 - 150	11/16/22 18:04	11/17/22 16:35	1
M2-8:2 FTS	85		50 - 150	11/16/22 18:04	11/17/22 16:35	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	2.5	J I B 24 U	24	0.19	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,4,6,7,8-HpCDF	0.80	J B	24	0.018	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,4,7,8,9-HpCDF	2.0	J I B	24	0.025	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,4,7,8-HxCDD	1.5	J B	24	0.063	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,4,7,8-HxCDF	1.0	J I B	24	0.082	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,6,7,8-HxCDD	2.0	J B	24	0.065	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,6,7,8-HxCDF	1.5	J I B	24	0.080	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,7,8,9-HxCDD	2.1	J I B	24	0.063	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,7,8,9-HxCDF	2.6	J B	24	0.085	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,7,8-PeCDD	1.0	J B	24	0.12	pg/L		11/30/22 09:55	12/02/22 14:16	1
1,2,3,7,8-PeCDF	1.6	J B	24	0.13	pg/L		11/30/22 09:55	12/02/22 14:16	1
2,3,4,6,7,8-HxCDF	1.8	J B	24	0.085	pg/L		11/30/22 09:55	12/02/22 14:16	1
2,3,4,7,8-PeCDF	1.5	J I B	24	0.11	pg/L		11/30/22 09:55	12/02/22 14:16	1
2,3,7,8-TCDD	0.44	J I JNX	4.9	0.049	pg/L		11/30/22 09:55	12/02/22 14:16	1
2,3,7,8-TCDF	1.4	J I JNX	4.9	0.036	pg/L		11/30/22 09:55	12/02/22 14:16	1
OCDD	4.8	J I B 110 U	110	0.46	pg/L		11/30/22 09:55	12/02/22 14:16	1
OCDF	2.4	J I B 49 U	49	0.27	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total HpCDD	2.5	J I B 24 U	24	0.19	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total HpCDF	2.8	J I B	24	0.021	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total HxCDD	5.6	J I B	24	0.064	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total HxCDF	6.9	J I B	24	0.083	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total PeCDD	1.0	J I B	24	0.12	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total PeCDF	3.1	J I B	24	0.12	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total TCDD	0.44	J I JNX	4.9	0.049	pg/L		11/30/22 09:55	12/02/22 14:16	1
Total TCDF	1.4	J I JNX	4.9	0.036	pg/L		11/30/22 09:55	12/02/22 14:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	50		40 - 135	11/30/22 09:55	12/02/22 14:16	1
13C-1,2,3,4,6,7,8-HpCDF	52		40 - 135	11/30/22 09:55	12/02/22 14:16	1
13C-1,2,3,4,7,8,9-HpCDF	51		40 - 135	11/30/22 09:55	12/02/22 14:16	1

Client Sample ID: MW-2002-4S
Lab Sample ID: 480-203803-1

Date Collected: 11/09/22 14:40
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*46*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*48*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*46*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,6,7,8-HxCDF	*49*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,7,8,9-HxCDD	*45*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,7,8,9-HxCDF	*49*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,7,8-PeCDD	*43*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-1,2,3,7,8-PeCDF	*43*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-2,3,4,6,7,8-HxCDF	*46*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-2,3,4,7,8-PeCDF	*44*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-2,3,7,8-TCDD	*41*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-2,3,7,8-TCDF	*41*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-OCDD	*48*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*
13C-OCDF	*49*		*40 - 135*	*11/30/22 09:55*	*12/02/22 14:16*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/15/22 09:45	11/29/22 21:13	1
Arsenic	ND		0.015	0.0056	mg/L		11/15/22 09:45	11/29/22 21:13	1
Barium	**0.013**		0.0020	0.00070	mg/L		11/15/22 09:45	11/29/22 21:13	1
Beryllium	ND		0.0020	0.00030	mg/L		11/15/22 09:45	11/29/22 21:13	1
Cadmium	ND		0.0020	0.00050	mg/L		11/15/22 09:45	11/29/22 21:13	1
Chromium	ND		0.0040	0.0010	mg/L		11/15/22 09:45	11/29/22 21:13	1
Cobalt	ND		0.0040	0.00063	mg/L		11/15/22 09:45	11/29/22 21:13	1
Copper	ND		0.010	0.0016	mg/L		11/15/22 09:45	11/29/22 21:13	1
Lead	ND		0.010	0.0030	mg/L		11/15/22 09:45	11/29/22 21:13	1
Nickel	ND		0.010	0.0013	mg/L		11/15/22 09:45	11/29/22 21:13	1
Selenium	ND		0.025	0.0087	mg/L		11/15/22 09:45	11/29/22 21:13	1
Silver	ND		0.0060	0.0017	mg/L		11/15/22 09:45	11/29/22 21:13	1
Thallium	ND		0.020	0.010	mg/L		11/15/22 09:45	11/29/22 21:13	1
Tin	ND		0.010	0.0051	mg/L		11/15/22 09:45	11/29/22 21:13	1
Vanadium	ND		0.0050	0.0015	mg/L		11/15/22 09:45	11/29/22 21:13	1
Zinc	ND		0.010	0.0015	mg/L		11/15/22 09:45	11/29/22 21:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		11/15/22 11:30	11/15/22 15:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			11/15/22 21:42	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			11/16/22 16:00	1

Client Sample ID: DUP-1
Lab Sample ID: 480-203803-2

Date Collected: 11/09/22 00:00
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/14/22 17:47	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/22 17:47	1

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/22 17:47	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/22 17:47	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/22 17:47	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/22 17:47	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/14/22 17:47	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/22 17:47	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/22 17:47	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/22 17:47	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/22 17:47	1	
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/14/22 17:47	1	
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~11/14/22 17:47~~	~~1~~	R
2-Hexanone	ND		5.0	1.2	ug/L			11/14/22 17:47	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/14/22 17:47	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/22 17:47	1	
Acetone	ND	UJ	10	3.0	ug/L			11/14/22 17:47	1	
Acetonitrile	ND	UJ	15	4.9	ug/L			11/14/22 17:47	1	
Acrolein	ND	UJ	20	0.91	ug/L			11/14/22 17:47	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/14/22 17:47	1	
Benzene	ND		1.0	0.41	ug/L			11/14/22 17:47	1	
Bromoform	ND		1.0	0.26	ug/L			11/14/22 17:47	1	
Bromomethane	ND		1.0	0.69	ug/L			11/14/22 17:47	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/22 17:47	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/22 17:47	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/22 17:47	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/14/22 17:47	1	
Chloroethane	ND		1.0	0.32	ug/L			11/14/22 17:47	1	
Chloroform	ND		1.0	0.34	ug/L			11/14/22 17:47	1	
Chloromethane	ND		1.0	0.35	ug/L			11/14/22 17:47	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/22 17:47	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/14/22 17:47	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/14/22 17:47	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/22 17:47	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/14/22 17:47	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/22 17:47	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/14/22 17:47	1	
Iodomethane	ND		1.0	0.30	ug/L			11/14/22 17:47	1	
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/14/22 17:47	1	
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/14/22 17:47	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/22 17:47	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/14/22 17:47	1	
o-Xylene	ND		1.0	0.76	ug/L			11/14/22 17:47	1	
Propionitrile	ND	UJ	10	5.8	ug/L			11/14/22 17:47	1	
Styrene	ND		1.0	0.73	ug/L			11/14/22 17:47	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/22 17:47	1	
Toluene	ND		1.0	0.51	ug/L			11/14/22 17:47	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/22 17:47	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/22 17:47	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/14/22 17:47	1	
Trichloroethene	ND		1.0	0.46	ug/L			11/14/22 17:47	1	

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/22 17:47	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/14/22 17:47	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/22 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*77 - 120*		*11/14/22 17:47*	*1*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*11/14/22 17:47*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*11/14/22 17:47*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/14/22 17:47*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,4-Dioxane	ND		10	1.1	ug/L		11/14/22 08:20	11/16/22 00:41	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/14/22 08:20	11/16/22 00:41	1
1-Naphthylamine	ND		10	1.3	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/14/22 08:20	11/16/22 00:41	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Naphthylamine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Nitroaniline	ND		10	0.42	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Picoline	ND		80	1.4	ug/L		11/14/22 08:20	11/16/22 00:41	1
2-Toluidine	ND		10	1.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/14/22 08:20	11/16/22 00:41	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1
3,3'-Dimethylbenzidine	ND	* UJ	40	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
3-Methylcholanthrene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
3-Methylphenol	ND		10	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1
3-Nitroaniline	ND		10	0.48	ug/L		11/14/22 08:20	11/16/22 00:41	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:41	1
4-Aminobiphenyl	ND		10	0.81	ug/L		11/14/22 08:20	11/16/22 00:41	1

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/14/22 08:20	11/16/22 00:41	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/14/22 08:20	11/16/22 00:41	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/14/22 08:20	11/16/22 00:41	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/14/22 08:20	11/16/22 00:41	1	
4-Methylphenol	ND		10	0.36	ug/L		11/14/22 08:20	11/16/22 00:41	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/14/22 08:20	11/16/22 00:41	1	
4-Nitrophenol	ND		10	1.5	ug/L		11/14/22 08:20	11/16/22 00:41	1	
~~4-Nitroquinoline-1-oxide~~	~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~11/14/22 08:20~~	~~11/16/22 00:41~~	~~1~~	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/14/22 08:20	11/16/22 00:41	1	
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~11/14/22 08:20~~	~~11/16/22 00:41~~	~~1~~	R
Acenaphthene	ND		5.0	0.41	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Acetophenone	ND		5.0	0.54	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Aniline	ND		10	0.61	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Anthracene	ND		5.0	0.28	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Aramite, Total	ND		20	1.6	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzidine	ND		80	2.2	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/14/22 08:20	11/16/22 00:41	1	
bis (2-chloroisopropyl) ether	ND	UJ	5.0	0.52	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Bis(2-chloroethyl)ether	ND	UJ	5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Chrysene	ND		5.0	0.33	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Diallate	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Dibenzofuran	ND		10	0.51	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Dimethoate	ND		10	0.54	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Dinoseb	ND		10	2.9	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Diphenylamine	ND		10	0.82	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Disulfoton	ND		10	0.42	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Chlorobenzilate	ND		20	0.67	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Famphur	ND		40	1.9	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Fluoranthene	ND		5.0	0.40	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Fluorene	ND		5.0	0.36	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Hexachlorobutadiene	ND	UJ	5.0	0.68	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/14/22 08:20	11/16/22 00:41	1	
Hexachloroethane	ND		5.0	0.59	ug/L		11/14/22 08:20	11/16/22 00:41	1	

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/14/22 08:20	11/16/22 00:41	1
Isodrin	ND		10	0.18	ug/L		11/14/22 08:20	11/16/22 00:41	1
Isophorone	ND		5.0	0.43	ug/L		11/14/22 08:20	11/16/22 00:41	1
Isosafrole	ND		10	0.58	ug/L		11/14/22 08:20	11/16/22 00:41	1
Kepone	ND	*- UJ	50	1.8	ug/L		11/14/22 08:20	11/16/22 00:41	1
Methapyrilene	ND	*- UJ	50	1.8	ug/L		11/14/22 08:20	11/16/22 00:41	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
Naphthalene	ND		5.0	0.76	ug/L		11/14/22 08:20	11/16/22 00:41	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/14/22 08:20	11/16/22 00:41	1
Ethyl Parathion	ND		10	0.64	ug/L		11/14/22 08:20	11/16/22 00:41	1
Methyl parathion	ND		10	0.37	ug/L		11/14/22 08:20	11/16/22 00:41	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/14/22 08:20	11/16/22 00:41	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/14/22 08:20	11/16/22 00:41	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
Pentachlorophenol	ND		10	2.2	ug/L		11/14/22 08:20	11/16/22 00:41	1
Phenacetin	ND		10	0.61	ug/L		11/14/22 08:20	11/16/22 00:41	1
Phenanthrene	ND		5.0	0.44	ug/L		11/14/22 08:20	11/16/22 00:41	1
Phenol	ND		5.0	0.39	ug/L		11/14/22 08:20	11/16/22 00:41	1
Phorate	ND		10	0.50	ug/L		11/14/22 08:20	11/16/22 00:41	1
~~p-Phenylene diamine~~	~~ND~~	~~*~~	~~800~~	~~200~~	~~ug/L~~		~~11/14/22 08:20~~	~~11/16/22 00:41~~	~~1~~ R
Pronamide	ND		10	2.5	ug/L		11/14/22 08:20	11/16/22 00:41	1
Pyrene	ND		5.0	0.34	ug/L		11/14/22 08:20	11/16/22 00:41	1
Pyridine	ND		25	0.41	ug/L		11/14/22 08:20	11/16/22 00:41	1
Safrole	ND		10	0.46	ug/L		11/14/22 08:20	11/16/22 00:41	1
Sulfotepp	ND		10	0.64	ug/L		11/14/22 08:20	11/16/22 00:41	1
Thionazin	ND		10	0.38	ug/L		11/14/22 08:20	11/16/22 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*41 - 120*	*11/14/22 08:20*	*11/16/22 00:41*	*1*
2-Fluorobiphenyl (Surr)	*86*		*48 - 120*	*11/14/22 08:20*	*11/16/22 00:41*	*1*
2-Fluorophenol (Surr)	*43*		*35 - 120*	*11/14/22 08:20*	*11/16/22 00:41*	*1*
Nitrobenzene-d5 (Surr)	*69*		*46 - 120*	*11/14/22 08:20*	*11/16/22 00:41*	*1*
Phenol-d5 (Surr)	*32*		*22 - 120*	*11/14/22 08:20*	*11/16/22 00:41*	*1*
p-Terphenyl-d14 (Surr)	*103*		*60 - 148*	*11/14/22 08:20*	*11/16/22 00:41*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		11/16/22 08:42	11/17/22 14:58	1

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.050	0.012	ug/L		11/16/22 08:42	11/17/22 14:58	1
4,4'-DDT	~~0.029~~ ~~J B~~ 0.050 U		0.050	0.011	ug/L		11/16/22 08:42	11/17/22 14:58	1
Aldrin	**0.0090**	**J**	0.050	0.0081	ug/L		11/16/22 08:42	11/17/22 14:58	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/16/22 08:42	11/17/22 14:58	1
beta-BHC	ND		0.050	0.025	ug/L		11/16/22 08:42	11/17/22 14:58	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/16/22 08:42	11/17/22 14:58	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/16/22 08:42	11/17/22 14:58	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/16/22 08:42	11/17/22 14:58	1
delta-BHC	ND		0.050	0.010	ug/L		11/16/22 08:42	11/17/22 14:58	1
Dieldrin	ND		0.050	0.0098	ug/L		11/16/22 08:42	11/17/22 14:58	1
Endosulfan I	ND		0.050	0.011	ug/L		11/16/22 08:42	11/17/22 14:58	1
Endosulfan II	ND		0.050	0.012	ug/L		11/16/22 08:42	11/17/22 14:58	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/16/22 08:42	11/17/22 14:58	1
Endrin	ND		0.050	0.014	ug/L		11/16/22 08:42	11/17/22 14:58	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/16/22 08:42	11/17/22 14:58	1
Endrin ketone	ND		0.050	0.012	ug/L		11/16/22 08:42	11/17/22 14:58	1
gamma-BHC (Lindane)	**0.0090**	**J**	0.050	0.0080	ug/L		11/16/22 08:42	11/17/22 14:58	1
Heptachlor	ND		0.050	0.0085	ug/L		11/16/22 08:42	11/17/22 14:58	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		11/16/22 08:42	11/17/22 14:58	1
Methoxychlor	ND		0.050	0.014	ug/L		11/16/22 08:42	11/17/22 14:58	1
Toxaphene	ND		0.50	0.12	ug/L		11/16/22 08:42	11/17/22 14:58	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/16/22 08:42	11/17/22 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*55*		*20 - 120*	*11/16/22 08:42*	*11/17/22 14:58*	*1*
DCB Decachlorobiphenyl	*64*		*20 - 120*	*11/16/22 08:42*	*11/17/22 14:58*	*1*
Tetrachloro-m-xylene	*100*		*44 - 120*	*11/16/22 08:42*	*11/17/22 14:58*	*1*
Tetrachloro-m-xylene	*88*		*44 - 120*	*11/16/22 08:42*	*11/17/22 14:58*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 00:08	1
PCB-1221	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 00:08	1
PCB-1232	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 00:08	1
PCB-1242	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 00:08	1
PCB-1248	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 00:08	1
PCB-1254	ND		0.50	0.25	ug/L		11/16/22 06:52	11/17/22 00:08	1
PCB-1260	ND		0.50	0.25	ug/L		11/16/22 06:52	11/17/22 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*107*		*39 - 121*	*11/16/22 06:52*	*11/17/22 00:08*	*1*
Tetrachloro-m-xylene	*97*		*39 - 121*	*11/16/22 06:52*	*11/17/22 00:08*	*1*
DCB Decachlorobiphenyl	*54*		*19 - 120*	*11/16/22 06:52*	*11/17/22 00:08*	*1*
DCB Decachlorobiphenyl	*45*		*19 - 120*	*11/16/22 06:52*	*11/17/22 00:08*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		11/15/22 09:12	11/16/22 14:40	1
2,4-D	ND		0.48	0.16	ug/L		11/15/22 09:12	11/16/22 14:40	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		11/15/22 09:12	11/16/22 14:40	1

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	114		48 - 132	11/15/22 09:12	11/16/22 14:40	1
2,4-Dichlorophenylacetic acid	100		48 - 132	11/15/22 09:12	11/16/22 14:40	1

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	0.94	0.25	ug/L		11/18/22 04:25	11/21/22 09:49	1
Disulfoton	ND	H	0.94	0.38	ug/L		11/18/22 04:25	11/21/22 09:49	1
Famphur	ND	H	0.94	0.30	ug/L		11/18/22 04:25	11/21/22 09:49	1
Methyl parathion	ND	H	0.94	0.32	ug/L		11/18/22 04:25	11/21/22 09:49	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		11/18/22 04:25	11/21/22 09:49	1
Phorate	ND	H	0.94	0.36	ug/L		11/18/22 04:25	11/21/22 09:49	1
Sulfotepp	ND	H	0.94	0.38	ug/L		11/18/22 04:25	11/21/22 09:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	84		25 - 127	11/18/22 04:25	11/21/22 09:49	1
Tributyl phosphate	78		25 - 127	11/18/22 04:25	11/21/22 09:49	1
Triphenylphosphate	96		70 - 155	11/18/22 04:25	11/21/22 09:49	1
Triphenylphosphate	96		70 - 155	11/18/22 04:25	11/21/22 09:49	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND	* UJ	1.6	0.63	ng/L		11/16/22 18:04	11/17/22 16:43	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		11/16/22 18:04	11/17/22 16:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		11/16/22 18:04	11/17/22 16:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.5	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorobutanesulfonic acid (PFBS)	**0.68**	**J**	1.6	0.50	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorobutanoic acid (PFBA)	**5.6**		4.1	0.97	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluoroheptanoic acid (PFHpA)	**0.77**	**J**	1.6	0.44	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorohexanoic acid (PFHxA)	**0.99**	**J**	1.6	0.53	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.6	0.62	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluoropentanoic acid (PFPeA)	**1.2**	**J**	1.6	0.55	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		11/16/22 18:04	11/17/22 16:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		11/16/22 18:04	11/17/22 16:43	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	91		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C2 PFDoA	88		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C2 PFHxA	95		50 - 150	11/16/22 18:04	11/17/22 16:43	1

Client Sample ID: DUP-1
Date Collected: 11/09/22 00:00
Date Received: 11/11/22 09:00

Lab Sample ID: 480-203803-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	95		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C2 PFUnA	89		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C3 PFBS	89		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C4 PFBA	90		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C4 PFHpA	92		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C4 PFOA	93		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C4 PFOS	85		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C5 PFNA	99		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C5 PFPeA	86		50 - 150	11/16/22 18:04	11/17/22 16:43	1
13C8 FOSA	88		50 - 150	11/16/22 18:04	11/17/22 16:43	1
18O2 PFHxS	93		50 - 150	11/16/22 18:04	11/17/22 16:43	1
d3-NMeFOSAA	115		50 - 150	11/16/22 18:04	11/17/22 16:43	1
d5-NEtFOSAA	110		50 - 150	11/16/22 18:04	11/17/22 16:43	1
M2-6:2 FTS	95		50 - 150	11/16/22 18:04	11/17/22 16:43	1
M2-8:2 FTS	80		50 - 150	11/16/22 18:04	11/17/22 16:43	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.2	J B 24 U	24	0.077	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,4,6,7,8-HpCDF	0.46	J B 24 U	24	0.017	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,4,7,8,9-HpCDF	0.57	J B 24 U	24	0.023	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,4,7,8-HxCDD	ND		24	0.035	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,4,7,8-HxCDF	0.51	J B 24 U	24	0.057	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,6,7,8-HxCDD	0.79	J I B	24	0.035	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,6,7,8-HxCDF	0.62	J I B	24	0.056	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,7,8,9-HxCDD	0.60	J I B	24	0.034	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,7,8,9-HxCDF	0.86	J B	24	0.059	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,7,8-PeCDD	0.44	J I B	24	0.096	pg/L		11/30/22 09:55	12/02/22 15:07	1
1,2,3,7,8-PeCDF	0.87	J I B	24	0.060	pg/L		11/30/22 09:55	12/02/22 15:07	1
2,3,4,6,7,8-HxCDF	0.35	J I B	24	0.052	pg/L		11/30/22 09:55	12/02/22 15:07	1
2,3,4,7,8-PeCDF	0.85	J I B	24	0.047	pg/L		11/30/22 09:55	12/02/22 15:07	1
2,3,7,8-TCDD	0.15	J I JNX	4.8	0.027	pg/L		11/30/22 09:55	12/02/22 15:07	1
2,3,7,8-TCDF	0.13	J I JNX	4.8	0.019	pg/L		11/30/22 09:55	12/02/22 15:07	1
OCDD	3.1	J B 110 U	110	0.32	pg/L		11/30/22 09:55	12/02/22 15:07	1
OCDF	1.1	J I B 48 U	48	0.13	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total HpCDD	1.2	J I B 24 U	24	0.077	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total HpCDF	1.0	J I B	24	0.020	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total HxCDD	1.4	J I B	24	0.035	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total HxCDF	2.3	J I B	24	0.056	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total PeCDD	0.44	J I B	24	0.096	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total PeCDF	1.7	J I B	24	0.053	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total TCDD	0.15	J I JNX	4.8	0.027	pg/L		11/30/22 09:55	12/02/22 15:07	1
Total TCDF	0.13	J I JNX	4.8	0.019	pg/L		11/30/22 09:55	12/02/22 15:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	82		40 - 135	11/30/22 09:55	12/02/22 15:07	1
13C-1,2,3,4,6,7,8-HpCDF	85		40 - 135	11/30/22 09:55	12/02/22 15:07	1
13C-1,2,3,4,7,8,9-HpCDF	83		40 - 135	11/30/22 09:55	12/02/22 15:07	1
13C-1,2,3,4,7,8-HxCDD	76		40 - 135	11/30/22 09:55	12/02/22 15:07	1
13C-1,2,3,4,7,8-HxCDF	80		40 - 135	11/30/22 09:55	12/02/22 15:07	1

Client Sample ID: DUP-1
Lab Sample ID: 480-203803-2
Date Collected: 11/09/22 00:00
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-1,2,3,7,8,9-HxCDD	*75*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-2,3,4,7,8-PeCDF	*74*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-2,3,7,8-TCDD	*67*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-2,3,7,8-TCDF	*69*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-OCDD	*79*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*
13C-OCDF	*79*		*40 - 135*	*11/30/22 09:55*	*12/02/22 15:07*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	**	0.020	0.0068	mg/L		11/15/22 09:45	11/29/22 21:17	1
Arsenic	ND		0.015	0.0056	mg/L		11/15/22 09:45	11/29/22 21:17	1
Barium	**0.012**		0.0020	0.00070	mg/L		11/15/22 09:45	11/29/22 21:17	1
Beryllium	ND		0.0020	0.00030	mg/L		11/15/22 09:45	11/29/22 21:17	1
Cadmium	ND		0.0020	0.00050	mg/L		11/15/22 09:45	11/29/22 21:17	1
Chromium	ND		0.0040	0.0010	mg/L		11/15/22 09:45	11/29/22 21:17	1
Cobalt	ND		0.0040	0.00063	mg/L		11/15/22 09:45	11/29/22 21:17	1
Copper	ND		0.010	0.0016	mg/L		11/15/22 09:45	11/29/22 21:17	1
Lead	ND		0.010	0.0030	mg/L		11/15/22 09:45	11/29/22 21:17	1
Nickel	ND		0.010	0.0013	mg/L		11/15/22 09:45	11/29/22 21:17	1
Selenium	ND		0.025	0.0087	mg/L		11/15/22 09:45	11/29/22 21:17	1
Silver	ND		0.0060	0.0017	mg/L		11/15/22 09:45	11/29/22 21:17	1
Thallium	ND		0.020	0.010	mg/L		11/15/22 09:45	11/29/22 21:17	1
Tin	ND		0.010	0.0051	mg/L		11/15/22 09:45	11/29/22 21:17	1
Vanadium	ND		0.0050	0.0015	mg/L		11/15/22 09:45	11/29/22 21:17	1
Zinc	ND		0.010	0.0015	mg/L		11/15/22 09:45	11/29/22 21:17	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		11/15/22 11:30	11/15/22 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			11/15/22 21:45	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			11/16/22 16:00	1

Client Sample ID: TripBlank-110922
Lab Sample ID: 480-203803-3
Date Collected: 11/09/22 00:00
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/14/22 18:10	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/22 18:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/22 18:10	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/22 18:10	1

Client Sample ID: TripBlank-110922
Lab Sample ID: 480-203803-3

Date Collected: 11/09/22 00:00
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/22 18:10	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/22 18:10	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/14/22 18:10	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/22 18:10	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/22 18:10	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/22 18:10	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/22 18:10	1	
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/14/22 18:10	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/14/22 18:10	1	R
2-Hexanone	ND		5.0	1.2	ug/L			11/14/22 18:10	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/14/22 18:10	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/22 18:10	1	
Acetone	ND	UJ	10	3.0	ug/L			11/14/22 18:10	1	
Acetonitrile	ND	UJ	15	4.9	ug/L			11/14/22 18:10	1	
Acrolein	ND	UJ	20	0.91	ug/L			11/14/22 18:10	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/14/22 18:10	1	
Benzene	ND		1.0	0.41	ug/L			11/14/22 18:10	1	
Bromoform	ND		1.0	0.26	ug/L			11/14/22 18:10	1	
Bromomethane	ND		1.0	0.69	ug/L			11/14/22 18:10	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/22 18:10	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/22 18:10	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/22 18:10	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/14/22 18:10	1	
Chloroethane	ND		1.0	0.32	ug/L			11/14/22 18:10	1	
Chloroform	ND		1.0	0.34	ug/L			11/14/22 18:10	1	
Chloromethane	ND		1.0	0.35	ug/L			11/14/22 18:10	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/22 18:10	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/14/22 18:10	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/14/22 18:10	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/22 18:10	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/14/22 18:10	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/22 18:10	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/14/22 18:10	1	
Iodomethane	ND		1.0	0.30	ug/L			11/14/22 18:10	1	
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/14/22 18:10	1	
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/14/22 18:10	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/22 18:10	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/14/22 18:10	1	
o-Xylene	ND		1.0	0.76	ug/L			11/14/22 18:10	1	
Propionitrile	ND	UJ	10	5.8	ug/L			11/14/22 18:10	1	
Styrene	ND		1.0	0.73	ug/L			11/14/22 18:10	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/22 18:10	1	
Toluene	ND		1.0	0.51	ug/L			11/14/22 18:10	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/22 18:10	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/22 18:10	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/14/22 18:10	1	
Trichloroethene	ND		1.0	0.46	ug/L			11/14/22 18:10	1	
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/22 18:10	1	
Vinyl acetate	ND		5.0	0.85	ug/L			11/14/22 18:10	1	

Client Sample ID: TripBlank-110922
Lab Sample ID: 480-203803-3

Date Collected: 11/09/22 00:00
Matrix: Water
Date Received: 11/11/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/22 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*11/14/22 18:10*	*1*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*11/14/22 18:10*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*11/14/22 18:10*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/14/22 18:10*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-203847-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50610R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Blank Contamination 10
3.3 Calibration 10
3.3.1 Continuing Calibration 10
3.4 Laboratory Control Sample Analysis 11
3.5 System Performance and Overall Assessment 12
3.6 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 14
5.2 Blank Contamination 14
5.3 System Performance and Overall Assessment 15
5.4 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 16
6.1 Holding Times 16
6.2 Blank Contamination 16
6.3 System Performance and Overall Assessment 17
6.4 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 18
7.1 Holding Times 18
7.2 System Performance and Overall Assessment 18

7.3 Data Validation Checklist 18
8 Metals Analyses 19
8.1 Holding Times 19
8.2 System Performance and Overall Assessment 19
8.3 Data Validation Checklist 19
9 General Chemistry Analyses 20
9.1 Holding Times 20
9.2 Blank Contamination 20
9.3 System Performance and Overall Assessment 20
9.4 Data Validation Checklist for General Chemistry 21
10 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Blank Contamination Qualifications 10
Table 7. Summary of Compounds Outside Specified Calibration Control Limits 11
Table 8. Continuing Calibration Evaluation Criteria and Qualifications 11
Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 10. Laboratory Control Sample Recovery Criteria and Qualifications 12
Table 11. Holding Time for Method SW-846 8082A 13
Table 12. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 13. Summary of Holding Time Exceedances 14
Table 14. Summary of Holding Time Qualifications 14
Table 15. Summary of Blank Contamination Qualifications 15
Table 16. Holding Time for Method SW-846 8290A 16
Table 17. Summary of Blank Contamination Qualifications 16
Table 18. Holding Time for Method 537 18
Table 19. Holding Time for Method SW-846 6010C/7470A 19
Table 20. Specified Holding Times 20

Table 21. Overall Summary of Data Usability 21

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-203847-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2002-5	480-203847-1	Water	11/10/2022		X	X	X	X	X	X	X
TripBlank 111022	480-203847-3	Water	11/10/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	1	0	0	0	2
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
OPC	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
PFAS	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

Note: The case narrative documented that the sample MW-2002-5 (480-203847-1) was re-prepared and/or re-analyzed beyond the holding time due to laboratory control sample (LCS) exhibited recoveries outside the control limits for some of the compounds and the compound di-n-butyl phthalate detected in the method blank associated

with the preparation batch- 649957. The initial results used for the documentation purposes and the affected results were qualified due to blank contamination and LCS recoveries exceedances. Refer to Sections 3.2 and 3.5 and for details respectively.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 6. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2002-5	Di-n-butyl phthalate (MB)	Detected sample results >RL and <BAL	"U" at detected sample concentration

Notes:
RL Reporting limit
MB Method blank

3.3 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.3.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 7. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2002-5	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0050

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 8. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.4 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 9. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2002-5	Prep Batch: 649957	a,a-Dimethylphenethylamine	<10%
		p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 10. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.6 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding are presented in the following table.

Table 13. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2002-5	The sample extracted on 8th day from collection	7 days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 14. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 15. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2002-5	SW-846 8081B	delta-BHC (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Dilution Factor		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 16. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 17. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2002-5	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	1,2,3,6,7,8-HxCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.4 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 18. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 650143 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 21. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.1%	2
SVOCs	97.6%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 28, 2023

PEER REVIEW: Andrew Korycinski

DATE: July 28, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-5	11/10/22	13:15	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 111022	11/10/22	---	G	Water									X							2	

480-203847 Chain of Custody

11-11-2022

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	11/11/22 0900		[signature]	11-11-22 0900	EETN
Relinquished by: Tim Knudsen	Date/Time: 11-11-22 1700	Company EETN	Received by: [signature]	Date/Time: 11/12/22 0900	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.8

Ver: 01/16/2019

12/7/2022 10:49 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

1141
16CF

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	Carrier Tracking No(s)	COC No: 480-76898.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts		Job #: 480-203847-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 11/28/2022			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site.	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special
			Preservation Code:						
MW-2022-5 (480-203847-1)	11/10/22	13:15 Eastern		Water			X	2	

480-203847 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
		11-15-22 1800	TAB		11/16/22 900	
	Relinquished by	Date/Time.	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time.	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

12/7/2022
10:49 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-203847 Chain of Custody

rofins Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R		o: 6858.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et eurofinsus com	State of Origin: Massachusetts	Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Massachusetts		Job #: 480-203847-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 11/28/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site.	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-5 (480-203847-1)	11/10/22	13 15 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date:	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	11-15-22 1600	TAB		11/16/22 1040	ETA-Buf
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

12/7/2022 10:49 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-76888.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-203847-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 11/28/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-5 (480-203847-1)	11/10/22	13:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11-15-22 1800	TAB			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/16/22 1028	Company ECLFT

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.2-1.3

Ver: 06/08/2021

12/7/2022
10:49 AM

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-5
Lab Sample ID: 480-203847-1

Date Collected: 11/10/22 13:15
Matrix: Water

Date Received: 11/12/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/22 17:15	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/22 17:15	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/22 17:15	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/22 17:15	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/22 17:15	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/22 17:15	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/22 17:15	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/22 17:15	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/22 17:15	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/22 17:15	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/22 17:15	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			11/15/22 17:15	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/22 17:15	1	R
2-Hexanone	ND		5.0	1.2	ug/L			11/15/22 17:15	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/15/22 17:15	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/22 17:15	1	
Acetone	ND		10	3.0	ug/L			11/15/22 17:15	1	
Acetonitrile	ND		15	4.9	ug/L			11/15/22 17:15	1	
Acrolein	ND		20	0.91	ug/L			11/15/22 17:15	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/22 17:15	1	
Benzene	ND		1.0	0.41	ug/L			11/15/22 17:15	1	
Bromoform	ND		1.0	0.26	ug/L			11/15/22 17:15	1	
Bromomethane	ND		1.0	0.69	ug/L			11/15/22 17:15	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/22 17:15	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/22 17:15	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/22 17:15	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/15/22 17:15	1	
Chloroethane	ND		1.0	0.32	ug/L			11/15/22 17:15	1	
Chloroform	ND		1.0	0.34	ug/L			11/15/22 17:15	1	
Chloromethane	ND		1.0	0.35	ug/L			11/15/22 17:15	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/22 17:15	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/15/22 17:15	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/15/22 17:15	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/22 17:15	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/15/22 17:15	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/22 17:15	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/15/22 17:15	1	
Iodomethane	ND		1.0	0.30	ug/L			11/15/22 17:15	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/22 17:15	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			11/15/22 17:15	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/22 17:15	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/22 17:15	1	
o-Xylene	ND		1.0	0.76	ug/L			11/15/22 17:15	1	
Propionitrile	ND		10	5.8	ug/L			11/15/22 17:15	1	
Styrene	ND		1.0	0.73	ug/L			11/15/22 17:15	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/22 17:15	1	
Toluene	ND		1.0	0.51	ug/L			11/15/22 17:15	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/22 17:15	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/22 17:15	1	

Client Sample ID: MW-2022-5
Lab Sample ID: 480-203847-1

Date Collected: 11/10/22 13:15
Matrix: Water
Date Received: 11/12/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/22 17:15	1
Trichloroethene	ND		1.0	0.46	ug/L			11/15/22 17:15	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/22 17:15	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/22 17:15	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/22 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*11/15/22 17:15*	*1*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*11/15/22 17:15*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*11/15/22 17:15*	*1*
Toluene-d8 (Surr)	*88*		*80 - 120*		*11/15/22 17:15*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,4-Dioxane	ND		10	1.1	ug/L		11/15/22 08:42	11/17/22 18:10	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/15/22 08:42	11/17/22 18:10	1
1-Naphthylamine	ND		10	1.3	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,3,4,6-Tetrachlorophenol	ND	*	5.0	0.32	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/15/22 08:42	11/17/22 18:10	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Naphthylamine	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Nitroaniline	ND		10	0.42	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Picoline	ND		80	1.4	ug/L		11/15/22 08:42	11/17/22 18:10	1
2-Toluidine	ND		10	1.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/15/22 08:42	11/17/22 18:10	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1
3,3'-Dimethylbenzidine	ND	*	40	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
3-Methylcholanthrene	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
3-Methylphenol	ND		10	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1
3-Nitroaniline	ND		10	0.48	ug/L		11/15/22 08:42	11/17/22 18:10	1

Client Sample ID: MW-2022-5
Lab Sample ID: 480-203847-1

Date Collected: 11/10/22 13:15
Matrix: Water

Date Received: 11/12/22 09:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Methylphenol	ND		10	0.36	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Nitrophenol	ND	*	10	1.5	ug/L		11/15/22 08:42	11/17/22 18:10	1	
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/15/22 08:42	11/17/22 18:10	1	
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		11/15/22 08:42	11/17/22 18:10	1	R
Acenaphthene	ND		5.0	0.41	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Acetophenone	ND		5.0	0.54	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Aniline	ND		10	0.61	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Anthracene	ND		5.0	0.28	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Aramite, Total	ND		20	1.6	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzidine	ND		80	2.2	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/15/22 08:42	11/17/22 18:10	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Chrysene	ND		5.0	0.33	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Diallate	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Dibenzofuran	ND		10	0.51	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Dimethoate	ND		10	0.54	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Di-n-butyl phthalate	17	B * +	5.0	0.31	ug/L		11/15/22 08:42	11/17/22 18:10	1	U
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Dinoseb	ND		10	2.9	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Diphenylamine	ND		10	0.82	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Disulfoton	ND		10	0.42	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Chlorobenzilate	ND		20	0.67	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Famphur	ND	*	40	1.9	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Fluoranthene	ND		5.0	0.40	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Fluorene	ND		5.0	0.36	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Hexachlorobenzene	ND	*	5.0	0.51	ug/L		11/15/22 08:42	11/17/22 18:10	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/15/22 08:42	11/17/22 18:10	1	

Client Sample ID: MW-2022-5
Date Collected: 11/10/22 13:15
Date Received: 11/12/22 09:00

Lab Sample ID: 480-203847-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/15/22 08:42	11/17/22 18:10	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/15/22 08:42	11/17/22 18:10	1
Hexachloropropene	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/15/22 08:42	11/17/22 18:10	1
Isodrin	ND		10	0.18	ug/L		11/15/22 08:42	11/17/22 18:10	1
Isophorone	ND		5.0	0.43	ug/L		11/15/22 08:42	11/17/22 18:10	1
Isosafrole	ND		10	0.58	ug/L		11/15/22 08:42	11/17/22 18:10	1
Kepone	ND	* -	50	1.8	ug/L		11/15/22 08:42	11/17/22 18:10	1
Methapyrilene	ND		50	1.8	ug/L		11/15/22 08:42	11/17/22 18:10	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
Naphthalene	ND		5.0	0.76	ug/L		11/15/22 08:42	11/17/22 18:10	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/15/22 08:42	11/17/22 18:10	1
Ethyl Parathion	ND		10	0.64	ug/L		11/15/22 08:42	11/17/22 18:10	1
Methyl parathion	ND		10	0.37	ug/L		11/15/22 08:42	11/17/22 18:10	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/15/22 08:42	11/17/22 18:10	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/15/22 08:42	11/17/22 18:10	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
Pentachlorophenol	ND		10	2.2	ug/L		11/15/22 08:42	11/17/22 18:10	1
Phenacetin	ND		10	0.61	ug/L		11/15/22 08:42	11/17/22 18:10	1
Phenanthrene	ND		5.0	0.44	ug/L		11/15/22 08:42	11/17/22 18:10	1
Phenol	ND		5.0	0.39	ug/L		11/15/22 08:42	11/17/22 18:10	1
Phorate	ND		10	0.50	ug/L		11/15/22 08:42	11/17/22 18:10	1
p-Phenylene diamine	ND	* -	800	200	ug/L		11/15/22 08:42	11/17/22 18:10	1 R
Pronamide	ND		10	2.5	ug/L		11/15/22 08:42	11/17/22 18:10	1
Pyrene	ND		5.0	0.34	ug/L		11/15/22 08:42	11/17/22 18:10	1
Pyridine	ND		25	0.41	ug/L		11/15/22 08:42	11/17/22 18:10	1
Safrole	ND		10	0.46	ug/L		11/15/22 08:42	11/17/22 18:10	1
Sulfotepp	ND		10	0.64	ug/L		11/15/22 08:42	11/17/22 18:10	1
Thionazin	ND		10	0.38	ug/L		11/15/22 08:42	11/17/22 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*41 - 120*	*11/15/22 08:42*	*11/17/22 18:10*	*1*
2-Fluorobiphenyl (Surr)	*96*		*48 - 120*	*11/15/22 08:42*	*11/17/22 18:10*	*1*
2-Fluorophenol (Surr)	*58*		*35 - 120*	*11/15/22 08:42*	*11/17/22 18:10*	*1*
Nitrobenzene-d5 (Surr)	*82*		*46 - 120*	*11/15/22 08:42*	*11/17/22 18:10*	*1*
Phenol-d5 (Surr)	*42*		*22 - 120*	*11/15/22 08:42*	*11/17/22 18:10*	*1*
p-Terphenyl-d14 (Surr)	*89*		*60 - 148*	*11/15/22 08:42*	*11/17/22 18:10*	*1*

Client Sample ID: MW-2022-5
Date Collected: 11/10/22 13:15
Date Received: 11/12/22 09:00

Lab Sample ID: 480-203847-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	H	5.0	0.58	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,2,4-Trichlorobenzene	ND	H	10	0.44	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,2-Dichlorobenzene	ND	H	10	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,2-Diphenylhydrazine	ND	H	10	0.35	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,3,5-Trinitrobenzene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,3-Dichlorobenzene	ND	H	10	0.48	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,3-Dinitrobenzene	ND	H	20	0.82	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,4-Dioxane	ND	H	10	1.1	ug/L		11/22/22 08:39	11/23/22 17:46	1
1,4-Naphthoquinone	ND	H	10	0.24	ug/L		11/22/22 08:39	11/23/22 17:46	1
1-Naphthylamine	ND	H	10	1.3	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,3,4,6-Tetrachlorophenol	ND	H	5.0	0.32	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,4,5-Trichlorophenol	ND	H	5.0	0.48	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,4,6-Trichlorophenol	ND	H	5.0	0.61	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,4-Dichlorophenol	ND	H	5.0	0.51	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,4-Dimethylphenol	ND	H	5.0	0.50	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,4-Dinitrophenol	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,4-Dinitrotoluene	ND	H	5.0	0.45	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,6-Dichlorophenol	ND	H	10	0.46	ug/L		11/22/22 08:39	11/23/22 17:46	1
2,6-Dinitrotoluene	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Acetylaminofluorene	ND	H	10	2.3	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Chloronaphthalene	ND	H	5.0	0.46	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Chlorophenol	ND	H	5.0	0.53	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Methylnaphthalene	ND	H	5.0	0.60	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Methylphenol	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Naphthylamine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Nitroaniline	ND	H	10	0.42	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Nitrophenol	ND	H	5.0	0.48	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Picoline	ND	H	80	1.4	ug/L		11/22/22 08:39	11/23/22 17:46	1
2-Toluidine	ND	H	10	1.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
3 & 4 Methylphenol	ND	H	10	0.36	ug/L		11/22/22 08:39	11/23/22 17:46	1
3,3'-Dichlorobenzidine	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
3,3'-Dimethylbenzidine	ND	H	40	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
3-Methylcholanthrene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
3-Methylphenol	ND	H	10	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
3-Nitroaniline	ND	H	10	0.48	ug/L		11/22/22 08:39	11/23/22 17:46	1
4,6-Dinitro-2-methylphenol	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Aminobiphenyl	ND	H	10	0.81	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Bromophenyl phenyl ether	ND	H	5.0	0.45	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Chloro-3-methylphenol	ND	H	5.0	0.45	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Chloroaniline	ND	H	5.0	0.59	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Chlorophenyl phenyl ether	ND	H	5.0	0.35	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Methylphenol	ND	H	10	0.36	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Nitroaniline	ND	H	10	0.25	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Nitrophenol	ND	H	10	1.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
4-Nitroquinoline-1-oxide	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
7,12-Dimethylbenz(a)anthracene	ND	H	10	0.62	ug/L		11/22/22 08:39	11/23/22 17:46	1
a,a-Dimethylphenethylamine	ND	H *-	100	40	ug/L		11/22/22 08:39	11/23/22 17:46	1
Acenaphthene	ND	H	5.0	0.41	ug/L		11/22/22 08:39	11/23/22 17:46	1

Client Sample ID: MW-2022-5
Date Collected: 11/10/22 13:15
Date Received: 11/12/22 09:00

Lab Sample ID: 480-203847-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	H	5.0	0.38	ug/L		11/22/22 08:39	11/23/22 17:46	1
Acetophenone	ND	H	5.0	0.54	ug/L		11/22/22 08:39	11/23/22 17:46	1
Aniline	ND	H	10	0.61	ug/L		11/22/22 08:39	11/23/22 17:46	1
Anthracene	ND	H	5.0	0.28	ug/L		11/22/22 08:39	11/23/22 17:46	1
Aramite, Total	ND	H	20	1.6	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzidine	ND	H	80	2.2	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzo[a]anthracene	ND	H	5.0	0.36	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzo[a]pyrene	ND	H	5.0	0.47	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzo[b]fluoranthene	ND	H	5.0	0.34	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzo[g,h,i]perylene	ND	H	5.0	0.35	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzo[k]fluoranthene	ND	H	5.0	0.73	ug/L		11/22/22 08:39	11/23/22 17:46	1
Benzyl alcohol	ND	H	20	2.0	ug/L		11/22/22 08:39	11/23/22 17:46	1
bis (2-chloroisopropyl) ether	ND	H	5.0	0.52	ug/L		11/22/22 08:39	11/23/22 17:46	1
Bis(2-chloroethoxy)methane	ND	H	5.0	0.35	ug/L		11/22/22 08:39	11/23/22 17:46	1
Bis(2-chloroethyl)ether	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L		11/22/22 08:39	11/23/22 17:46	1
Butyl benzyl phthalate	ND	H	5.0	1.0	ug/L		11/22/22 08:39	11/23/22 17:46	1
Chrysene	ND	H	5.0	0.33	ug/L		11/22/22 08:39	11/23/22 17:46	1
Diallate	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
Dibenz(a,h)anthracene	ND	H	5.0	0.42	ug/L		11/22/22 08:39	11/23/22 17:46	1
Dibenzofuran	ND	H	10	0.51	ug/L		11/22/22 08:39	11/23/22 17:46	1
Diethyl phthalate	ND	H	5.0	0.22	ug/L		11/22/22 08:39	11/23/22 17:46	1
Dimethoate	ND	H	10	0.54	ug/L		11/22/22 08:39	11/23/22 17:46	1
Dimethyl phthalate	ND	H	5.0	0.36	ug/L		11/22/22 08:39	11/23/22 17:46	1
Di-n-butyl phthalate	**0.46**	**J H**	5.0	0.31	ug/L		11/22/22 08:39	11/23/22 17:46	1
Di-n-octyl phthalate	ND	H	5.0	0.47	ug/L		11/22/22 08:39	11/23/22 17:46	1
Dinoseb	ND	H	10	2.9	ug/L		11/22/22 08:39	11/23/22 17:46	1
Diphenylamine	ND	H	10	0.82	ug/L		11/22/22 08:39	11/23/22 17:46	1
Disulfoton	ND	H	10	0.42	ug/L		11/22/22 08:39	11/23/22 17:46	1
Chlorobenzilate	ND	H	20	0.67	ug/L		11/22/22 08:39	11/23/22 17:46	1
Ethyl methanesulfonate	ND	H	10	0.39	ug/L		11/22/22 08:39	11/23/22 17:46	1
Famphur	ND	H *-	40	1.9	ug/L		11/22/22 08:39	11/23/22 17:46	1
Fluoranthene	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 17:46	1
Fluorene	ND	H	5.0	0.36	ug/L		11/22/22 08:39	11/23/22 17:46	1
Hexachlorobenzene	ND	H	5.0	0.51	ug/L		11/22/22 08:39	11/23/22 17:46	1
Hexachlorobutadiene	ND	H	5.0	0.68	ug/L		11/22/22 08:39	11/23/22 17:46	1
Hexachlorocyclopentadiene	ND	H	5.0	0.59	ug/L		11/22/22 08:39	11/23/22 17:46	1
Hexachloroethane	ND	H	5.0	0.59	ug/L		11/22/22 08:39	11/23/22 17:46	1
Hexachloropropene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
Indeno[1,2,3-cd]pyrene	ND	H	5.0	0.47	ug/L		11/22/22 08:39	11/23/22 17:46	1
Isodrin	ND	H	10	0.18	ug/L		11/22/22 08:39	11/23/22 17:46	1
Isophorone	ND	H	5.0	0.43	ug/L		11/22/22 08:39	11/23/22 17:46	1
Isosafrole	ND	H	10	0.58	ug/L		11/22/22 08:39	11/23/22 17:46	1
Kepone	ND	H *-	50	1.8	ug/L		11/22/22 08:39	11/23/22 17:46	1
Methapyrilene	ND	H	50	1.8	ug/L		11/22/22 08:39	11/23/22 17:46	1
Methyl methanesulfonate	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
Naphthalene	ND	H	5.0	0.76	ug/L		11/22/22 08:39	11/23/22 17:46	1
Nitrobenzene	ND	H	5.0	0.29	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitro-o-toluidine	ND	H	10	0.66	ug/L		11/22/22 08:39	11/23/22 17:46	1

Client Sample ID: MW-2022-5
Date Collected: 11/10/22 13:15
Date Received: 11/12/22 09:00

Lab Sample ID: 480-203847-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	H	10	0.36	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosodimethylamine	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosodi-n-butylamine	ND	H	10	0.60	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosodi-n-propylamine	ND	H	5.0	0.54	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosodiphenylamine	ND	H	5.0	0.51	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosomethylethylamine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosomorpholine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosopiperidine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
N-Nitrosopyrrolidine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
o,o',o''-Triethylphosphorothioate	ND	H	10	0.43	ug/L		11/22/22 08:39	11/23/22 17:46	1
Ethyl Parathion	ND	H	10	0.64	ug/L		11/22/22 08:39	11/23/22 17:46	1
Methyl parathion	ND	H	10	0.37	ug/L		11/22/22 08:39	11/23/22 17:46	1
p-Dimethylamino azobenzene	ND	H	10	0.75	ug/L		11/22/22 08:39	11/23/22 17:46	1
Pentachlorobenzene	ND	H	10	0.53	ug/L		11/22/22 08:39	11/23/22 17:46	1
Pentachloronitrobenzene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
Pentachlorophenol	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 17:46	1
Phenacetin	ND	H	10	0.61	ug/L		11/22/22 08:39	11/23/22 17:46	1
Phenanthrene	ND	H	5.0	0.44	ug/L		11/22/22 08:39	11/23/22 17:46	1
Phenol	ND	H	5.0	0.39	ug/L		11/22/22 08:39	11/23/22 17:46	1
Phorate	ND	H	10	0.50	ug/L		11/22/22 08:39	11/23/22 17:46	1
p-Phenylene diamine	ND	H *-	800	200	ug/L		11/22/22 08:39	11/23/22 17:46	1
Pronamide	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 17:46	1
Pyrene	ND	H	5.0	0.34	ug/L		11/22/22 08:39	11/23/22 17:46	1
Pyridine	ND	H	25	0.41	ug/L		11/22/22 08:39	11/23/22 17:46	1
Safrole	ND	H	10	0.46	ug/L		11/22/22 08:39	11/23/22 17:46	1
Sulfotepp	ND	H	10	0.64	ug/L		11/22/22 08:39	11/23/22 17:46	1
Thionazin	ND	H	10	0.38	ug/L		11/22/22 08:39	11/23/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*41 - 120*	*11/22/22 08:39*	*11/23/22 17:46*	*1*
2-Fluorobiphenyl (Surr)	*103*		*48 - 120*	*11/22/22 08:39*	*11/23/22 17:46*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 120*	*11/22/22 08:39*	*11/23/22 17:46*	*1*
Nitrobenzene-d5 (Surr)	*99*		*46 - 120*	*11/22/22 08:39*	*11/23/22 17:46*	*1*
Phenol-d5 (Surr)	*49*		*22 - 120*	*11/22/22 08:39*	*11/23/22 17:46*	*1*
p-Terphenyl-d14 (Surr)	*103*		*60 - 148*	*11/22/22 08:39*	*11/23/22 17:46*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		11/17/22 07:04	11/17/22 19:18	1
4,4'-DDE	ND		0.050	0.012	ug/L		11/17/22 07:04	11/17/22 19:18	1
4,4'-DDT	ND		0.050	0.011	ug/L		11/17/22 07:04	11/17/22 19:18	1
Aldrin	ND		0.050	0.0081	ug/L		11/17/22 07:04	11/17/22 19:18	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/17/22 07:04	11/17/22 19:18	1
beta-BHC	**0.030**	**J**	0.050	0.025	ug/L		11/17/22 07:04	11/17/22 19:18	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/17/22 07:04	11/17/22 19:18	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/17/22 07:04	11/17/22 19:18	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/17/22 07:04	11/17/22 19:18	1
delta-BHC	~~0.016~~ ~~J B~~ 0.050 U		0.050	0.010	ug/L		11/17/22 07:04	11/17/22 19:18	1
Dieldrin	ND		0.050	0.0098	ug/L		11/17/22 07:04	11/17/22 19:18	1
Endosulfan I	ND	*+	0.050	0.011	ug/L		11/17/22 07:04	11/17/22 19:18	1

Client Sample ID: MW-2022-5
Date Collected: 11/10/22 13:15
Date Received: 11/12/22 09:00

Lab Sample ID: 480-203847-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		0.050	0.012	ug/L		11/17/22 07:04	11/17/22 19:18	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/17/22 07:04	11/17/22 19:18	1
Endrin	ND		0.050	0.014	ug/L		11/17/22 07:04	11/17/22 19:18	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/17/22 07:04	11/17/22 19:18	1
Endrin ketone	**0.031**	**J**	0.050	0.012	ug/L		11/17/22 07:04	11/17/22 19:18	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/17/22 07:04	11/17/22 19:18	1
Heptachlor	ND		0.050	0.0085	ug/L		11/17/22 07:04	11/17/22 19:18	1
Heptachlor epoxide	ND	*	0.050	0.0074	ug/L		11/17/22 07:04	11/17/22 19:18	1
Methoxychlor	ND		0.050	0.014	ug/L		11/17/22 07:04	11/17/22 19:18	1
Toxaphene	ND		0.50	0.12	ug/L		11/17/22 07:04	11/17/22 19:18	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/17/22 07:04	11/17/22 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*20 - 120*	*11/17/22 07:04*	*11/17/22 19:18*	*1*
DCB Decachlorobiphenyl	*56*		*20 - 120*	*11/17/22 07:04*	*11/17/22 19:18*	*1*
Tetrachloro-m-xylene	*79*		*44 - 120*	*11/17/22 07:04*	*11/17/22 19:18*	*1*
Tetrachloro-m-xylene	*78*		*44 - 120*	*11/17/22 07:04*	*11/17/22 19:18*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 02:21	1
PCB-1221	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 02:21	1
PCB-1232	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 02:21	1
PCB-1242	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 02:21	1
PCB-1248	ND		0.50	0.18	ug/L		11/16/22 06:52	11/17/22 02:21	1
PCB-1254	ND		0.50	0.25	ug/L		11/16/22 06:52	11/17/22 02:21	1
PCB-1260	ND		0.50	0.25	ug/L		11/16/22 06:52	11/17/22 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*104*		*39 - 121*	*11/16/22 06:52*	*11/17/22 02:21*	*1*
Tetrachloro-m-xylene	*99*		*39 - 121*	*11/16/22 06:52*	*11/17/22 02:21*	*1*
DCB Decachlorobiphenyl	*51*		*19 - 120*	*11/16/22 06:52*	*11/17/22 02:21*	*1*
DCB Decachlorobiphenyl	*45*		*19 - 120*	*11/16/22 06:52*	*11/17/22 02:21*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		11/16/22 09:34	11/17/22 16:42	1
2,4-D	ND		0.48	0.16	ug/L		11/16/22 09:34	11/17/22 16:42	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		11/16/22 09:34	11/17/22 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*90*		*48 - 132*	*11/16/22 09:34*	*11/17/22 16:42*	*1*
2,4-Dichlorophenylacetic acid	*88*		*48 - 132*	*11/16/22 09:34*	*11/17/22 16:42*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	0.94	0.25	ug/L		11/18/22 04:25	11/21/22 10:20	1
Disulfoton	ND	H	0.94	0.38	ug/L		11/18/22 04:25	11/21/22 10:20	1
Famphur	ND	H	0.94	0.30	ug/L		11/18/22 04:25	11/21/22 10:20	1
Methyl parathion	ND	H	0.94	0.32	ug/L		11/18/22 04:25	11/21/22 10:20	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		11/18/22 04:25	11/21/22 10:20	1

UJ

Client Sample ID: MW-2022-5
Lab Sample ID: 480-203847-1

Date Collected: 11/10/22 13:15
Matrix: Water
Date Received: 11/12/22 09:00

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND	H UJ	0.94	0.36	ug/L		11/18/22 04:25	11/21/22 10:20	1
Sulfotepp	ND	H UJ	0.94	0.38	ug/L		11/18/22 04:25	11/21/22 10:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*25 - 127*	*11/18/22 04:25*	*11/21/22 10:20*	*1*
Tributyl phosphate	*77*		*25 - 127*	*11/18/22 04:25*	*11/21/22 10:20*	*1*
Triphenylphosphate	*93*		*70 - 155*	*11/18/22 04:25*	*11/21/22 10:20*	*1*
Triphenylphosphate	*95*		*70 - 155*	*11/18/22 04:25*	*11/21/22 10:20*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.61	ng/L		11/21/22 08:15	11/22/22 15:35	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		3.9	1.0	ng/L		11/21/22 08:15	11/22/22 15:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		3.9	1.3	ng/L		11/21/22 08:15	11/22/22 15:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		3.9	1.5	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorobutanesulfonic acid (PFBS)	**0.54**	**J**	1.6	0.49	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorobutanoic acid (PFBA)	**2.5**	**J**	3.9	0.94	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.31	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.36	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.39	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.32	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluoroheptanoic acid (PFHpA)	**0.48**	**J**	1.6	0.43	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**		1.6	0.43	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.51	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.72	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**J**	1.6	0.67	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorooctanoic acid (PFOA)	**1.1**	**J**	1.6	0.60	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.54	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.50	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.38	ng/L		11/21/22 08:15	11/22/22 15:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.43	ng/L		11/21/22 08:15	11/22/22 15:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*101*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C2 PFDoA	*79*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C2 PFHxA	*101*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C2 PFTeDA	*81*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C2 PFUnA	*89*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C3 PFBS	*100*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C4 PFBA	*86*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C4 PFHpA	*100*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C4 PFOA	*103*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*
13C4 PFOS	*104*		*50 - 150*	*11/21/22 08:15*	*11/22/22 15:35*	*1*

Client Sample ID: MW-2022-5
Lab Sample ID: 480-203847-1

Date Collected: 11/10/22 13:15
Matrix: Water
Date Received: 11/12/22 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	104		50 - 150	11/21/22 08:15	11/22/22 15:35	1
13C5 PFPeA	102		50 - 150	11/21/22 08:15	11/22/22 15:35	1
13C8 FOSA	101		50 - 150	11/21/22 08:15	11/22/22 15:35	1
18O2 PFHxS	104		50 - 150	11/21/22 08:15	11/22/22 15:35	1
d3-NMeFOSAA	85		50 - 150	11/21/22 08:15	11/22/22 15:35	1
d5-NEtFOSAA	82		50 - 150	11/21/22 08:15	11/22/22 15:35	1
M2-6:2 FTS	108		50 - 150	11/21/22 08:15	11/22/22 15:35	1
M2-8:2 FTS	101		50 - 150	11/21/22 08:15	11/22/22 15:35	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.6	J I B	24 U	0.079	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,4,6,7,8-HpCDF	ND		24	0.11	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,4,7,8,9-HpCDF	0.64	J I B	24 U	0.14	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,4,7,8-HxCDD	0.30	J B	24 U	0.059	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,4,7,8-HxCDF	ND		24	0.096	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,6,7,8-HxCDD	0.52	J I B	24 U	0.061	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,6,7,8-HxCDF	ND		24	0.095	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,7,8,9-HxCDD	ND		24	0.065	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,7,8,9-HxCDF	ND		24	0.11	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,7,8-PeCDD	ND		24	0.12	pg/L		11/30/22 09:55	12/02/22 18:28	1
1,2,3,7,8-PeCDF	0.89	J I B	24 U	0.059	pg/L		11/30/22 09:55	12/02/22 18:28	1
2,3,4,6,7,8-HxCDF	0.49	J B		0.11	pg/L		11/30/22 09:55	12/02/22 18:28	1
2,3,4,7,8-PeCDF	0.51	J I B		0.051	pg/L		11/30/22 09:55	12/02/22 18:28	1
2,3,7,8-TCDD	ND		4.8	0.038	pg/L		11/30/22 09:55	12/02/22 18:28	1
2,3,7,8-TCDF	ND		4.8	0.030	pg/L		11/30/22 09:55	12/02/22 18:28	1
OCDD	13	J I B	110 U	0.37	pg/L		11/30/22 09:55	12/02/22 18:28	1
OCDF	0.78	J I B	48 U	0.20	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total HpCDD	1.6	J I B	24 U	0.079	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total HpCDF	0.64	J I B		0.13	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total HxCDD	0.82	J I B		0.062	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total HxCDF	0.49	J I B		0.10	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total PeCDD	ND		24	0.12	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total PeCDF	1.4	J I B	24 U	0.055	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total TCDD	ND		4.8	0.038	pg/L		11/30/22 09:55	12/02/22 18:28	1
Total TCDF	ND		4.8	0.030	pg/L		11/30/22 09:55	12/02/22 18:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	84		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,4,6,7,8-HpCDF	91		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,4,7,8,9-HpCDF	91		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,4,7,8-HxCDD	83		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,4,7,8-HxCDF	88		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,6,7,8-HxCDD	81		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,6,7,8-HxCDF	88		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,7,8,9-HxCDD	76		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,7,8,9-HxCDF	83		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,7,8-PeCDD	74		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-1,2,3,7,8-PeCDF	77		40 - 135	11/30/22 09:55	12/02/22 18:28	1
13C-2,3,4,6,7,8-HxCDF	79		40 - 135	11/30/22 09:55	12/02/22 18:28	1

Client Sample ID: MW-2022-5
Lab Sample ID: 480-203847-1

Date Collected: 11/10/22 13:15
Matrix: Water
Date Received: 11/12/22 09:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*74*		*40 - 135*	*11/30/22 09:55*	*12/02/22 18:28*	*1*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*11/30/22 09:55*	*12/02/22 18:28*	*1*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*11/30/22 09:55*	*12/02/22 18:28*	*1*
13C-OCDD	*81*		*40 - 135*	*11/30/22 09:55*	*12/02/22 18:28*	*1*
13C-OCDF	*84*		*40 - 135*	*11/30/22 09:55*	*12/02/22 18:28*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/16/22 09:21	11/16/22 22:13	1
Arsenic	ND		0.015	0.0056	mg/L		11/16/22 09:21	11/16/22 22:13	1
Barium	**0.0065**		0.0020	0.00070	mg/L		11/16/22 09:21	11/16/22 22:13	1
Beryllium	ND		0.0020	0.00030	mg/L		11/16/22 09:21	11/16/22 22:13	1
Cadmium	ND		0.0020	0.00050	mg/L		11/16/22 09:21	11/16/22 22:13	1
Chromium	ND		0.0040	0.0010	mg/L		11/16/22 09:21	11/16/22 22:13	1
Cobalt	ND		0.0040	0.00063	mg/L		11/16/22 09:21	11/16/22 22:13	1
Copper	ND		0.010	0.0016	mg/L		11/16/22 09:21	11/16/22 22:13	1
Lead	ND		0.010	0.0030	mg/L		11/16/22 09:21	11/16/22 22:13	1
Nickel	ND		0.010	0.0013	mg/L		11/16/22 09:21	11/16/22 22:13	1
Selenium	ND		0.025	0.0087	mg/L		11/16/22 09:21	11/16/22 22:13	1
Silver	ND		0.0060	0.0017	mg/L		11/16/22 09:21	11/16/22 22:13	1
Thallium	ND		0.020	0.010	mg/L		11/16/22 09:21	11/16/22 22:13	1
Tin	ND		0.010	0.0051	mg/L		11/16/22 09:21	11/16/22 22:13	1
Vanadium	ND		0.0050	0.0015	mg/L		11/16/22 09:21	11/16/22 22:13	1
Zinc	ND		0.010	0.0015	mg/L		11/16/22 09:21	11/16/22 22:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		11/15/22 11:30	11/15/22 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			11/15/22 23:39	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			11/17/22 10:00	1

Client Sample ID: TripBlank 111022
Lab Sample ID: 480-203847-3

Date Collected: 11/10/22 00:00
Matrix: Water
Date Received: 11/12/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/15/22 17:38	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/15/22 17:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/15/22 17:38	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/15/22 17:38	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/15/22 17:38	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/15/22 17:38	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/15/22 17:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/15/22 17:38	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/15/22 17:38	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/15/22 17:38	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/15/22 17:38	1

Client Sample ID: TripBlank 111022
Lab Sample ID: 480-203847-3

Date Collected: 11/10/22 00:00
Matrix: Water
Date Received: 11/12/22 09:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			11/15/22 17:38	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/15/22 17:38	1	R
2-Hexanone	ND		5.0	1.2	ug/L			11/15/22 17:38	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/15/22 17:38	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/15/22 17:38	1	
Acetone	ND		10	3.0	ug/L			11/15/22 17:38	1	
Acetonitrile	ND		15	4.9	ug/L			11/15/22 17:38	1	
Acrolein	ND		20	0.91	ug/L			11/15/22 17:38	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/15/22 17:38	1	
Benzene	ND		1.0	0.41	ug/L			11/15/22 17:38	1	
Bromoform	ND		1.0	0.26	ug/L			11/15/22 17:38	1	
Bromomethane	ND		1.0	0.69	ug/L			11/15/22 17:38	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/15/22 17:38	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/15/22 17:38	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/15/22 17:38	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/15/22 17:38	1	
Chloroethane	ND		1.0	0.32	ug/L			11/15/22 17:38	1	
Chloroform	ND		1.0	0.34	ug/L			11/15/22 17:38	1	
Chloromethane	ND		1.0	0.35	ug/L			11/15/22 17:38	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/15/22 17:38	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/15/22 17:38	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/15/22 17:38	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/15/22 17:38	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/15/22 17:38	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/15/22 17:38	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/15/22 17:38	1	
Iodomethane	ND		1.0	0.30	ug/L			11/15/22 17:38	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			11/15/22 17:38	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			11/15/22 17:38	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/15/22 17:38	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/15/22 17:38	1	
o-Xylene	ND		1.0	0.76	ug/L			11/15/22 17:38	1	
Propionitrile	ND		10	5.8	ug/L			11/15/22 17:38	1	
Styrene	ND		1.0	0.73	ug/L			11/15/22 17:38	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/15/22 17:38	1	
Toluene	ND		1.0	0.51	ug/L			11/15/22 17:38	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/15/22 17:38	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/15/22 17:38	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/15/22 17:38	1	
Trichloroethene	ND		1.0	0.46	ug/L			11/15/22 17:38	1	
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/15/22 17:38	1	
Vinyl acetate	ND		5.0	0.85	ug/L			11/15/22 17:38	1	
Vinyl chloride	ND		1.0	0.90	ug/L			11/15/22 17:38	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*77 - 120*		*11/15/22 17:38*	*1*
4-Bromofluorobenzene (Surr)	*89*		*73 - 120*		*11/15/22 17:38*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*11/15/22 17:38*	*1*
Toluene-d8 (Surr)	*87*		*80 - 120*		*11/15/22 17:38*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-203904-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50611R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Calibration 10
3.2.1 Continuing Calibration 10
3.3 Laboratory Control Sample Analysis 11
3.4 System Performance and Overall Assessment 12
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 Blank Contamination 14
5.3 System Performance and Overall Assessment 15
5.4 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 15
6.2 Blank Contamination 16
6.3 Compound Identification 17
6.4 System Performance and Overall Assessment 17
6.5 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 17
7.1 Holding Times 18
7.2 System Performance and Overall Assessment 18

7.3 Data Validation Checklist 18
8 Metals Analyses 18
8.1 Holding Times 18
8.2 System Performance and Overall Assessment 19
8.3 Data Validation Checklist 19
9 General Chemistry Analyses 19
9.1 Holding Times 19
9.2 Blank Contamination 20
9.3 System Performance and Overall Assessment 20
9.4 Data Validation Checklist for General Chemistry 20
10 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Holding Time Exceedances 10
Table 7. Summary of Holding Time Qualifications 10
Table 8. Summary of Compounds Outside Specified Calibration Control Limits 10
Table 9. Continuing Calibration Evaluation Criteria and Qualifications 11
Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 11. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 12. Holding Time for Method SW-846 8082A 13
Table 13. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 14. Summary of Holding Time Exceedances 14
Table 15. Summary of Holding Time Qualifications 14
Table 16. Summary of Blank Contamination Qualifications 15
Table 17. Holding Time for Method SW-846 8290A 16
Table 18. Summary of Blank Contamination Qualifications 16
Table 19. Holding Time for Method 537 18
Table 20. Holding Time for Method SW-846 6010C/7470A 19

Table 21. Specified Holding Times 20

Table 22. Overall Summary of Data Usability 21

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-203904-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-1D	480-203904-1	Water	11/11/2022		X	X	X	X	X	X	X
TripBlank 111122	480-203904-2	Water	11/11/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	1	0	0	0	2
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
OPC	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
PFAS	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

The analyses that exceeded the holding are presented in the following table.

Table 65. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-1D RE	11 days from collection to extraction	7 days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8270D were qualified, as specified in the table below. All other holding times were met.

Table 6. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

Note: The case narrative documented that the sample MW-2022-1D (480-203904-1) was re-prepared and/or re-analyzed beyond the holding time due to laboratory control sample (LCS), matrix spike/matrix spike duplicate (MS/MSD) exhibited recoveries outside the control limits for some of the compounds and the compound di-n-butyl phthalate detected in the method blank associated with the preparation batch- 650418. The re-prepared and re-analyzed batch- 650942 results used for the documentation purposes and the affected results were qualified due to LCS recoveries exceedances. Some of the useable results were documented from the preparation batch- 650942. Refer to Section 3.3 for details.

3.2 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.2.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 8. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-1D	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0042

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 9. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 10. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-1D RE	Prep Batch: 650942	a,a-Dimethylphenethylamine	<10%
		p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 11. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J

Control Limit	Sample Result	Qualification
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 13. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Method	Matrix	Holding Time	Preservation
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding are presented in the following table.

Table 14. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-1D	The sample extracted on 10th day from collection	7 days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 15. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 16. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2022-1D	SW-846 8081B	Endosulfan II (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 17. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 18. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-1D	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,7,8-PeCDF (MB) OCDD (MB) Total HpCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 19. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 21. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 650557 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 22. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.1%	2
SVOCs	97.6%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 31, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 1, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-822-1184	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Preservation Codes: A - HCL, B - NaOH, M - Hexane, N - None, Z - other (specify), Other:

480-203904 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of contai	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-1D	11/11/22	11:25	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-1D MS	11/11/22	11:25	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-1D MSD	11/11/22	11:25	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 111122	11/11/22	---	G	Water									X							2	

TMK
11-14-2022

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Penny Rabasco	11/14/22 0900		Tim Kelly	11-14-22 0900	FETN
Tim Kelly	11-14-2022 1500	FETN	[illegible] W.O.P	11/15/22 1000	TVA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.1 2.1 1.6 0.9 # 1 ICE

Ver: 01/16/2019

12/8/2022 9:34 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

rofins
Environment Testing

480-203904 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	932.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsu... Massachusetts	Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-203904-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 11/29/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-203904-1)	11/11/22	11:25 Eastern		Water			X	2	
MW-2022-1D (480-203904-1MS)	11/11/22	11 25 Eastern	MS	Water			X	2	
MW-2022-1D (480-203904-1MSD)	11/11/22	11:25 Eastern	MSD	Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	11-16-22 1800	TAB	DLL	11-16-22 9:10	[illegible]
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

12/8/2022 9:34 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-203904 Chain of Custody

Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Massachusetts		Job #: 480-203904-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 11/29/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-203904-1)	11/11/22	11:25 Eastern		Water			X	2	
MW-2022-1D (480-203904-1MS)	11/11/22	11:25 Eastern	MS	Water			X	2	
MW-2022-1D (480-203904-1MSD)	11/11/22	11:25 Eastern	MSD	Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 11-16-22 1800	Company: TAL	Received by:	Date/Time: 11/17/22 1013	Company: TAL	
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

12/8/2022 9:34 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-76918.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-203904-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 11/29/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-203904-1)	11/11/22	11:25 Eastern		Water			X	2	
MW-2022-1D (480-203904-1MS)	11/11/22	11:25 Eastern	MS	Water			X	2	
MW-2022-1D (480-203904-1MSD)	11/11/22	11:25 Eastern	MSD	Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11-16-22 1800	TAB			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/17/22 10:05	Company ELLET

Custody Seals Intact: ☑ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7

SR

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-203904-1

Date Collected: 11/11/22 11:25
Matrix: Water

Date Received: 11/15/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/22 03:16	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/22 03:16	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/22 03:16	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/22 03:16	1	
1,1-Dichloroethane	**0.64**	**J**	1.0	0.38	ug/L			11/17/22 03:16	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/22 03:16	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/22 03:16	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/22 03:16	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/22 03:16	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/22 03:16	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/22 03:16	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			11/17/22 03:16	1	
2-Chloroethyl vinyl ether	ND	F1	5.0	0.96	ug/L			11/17/22 03:16	1	R
2-Hexanone	ND	F1	5.0	1.2	ug/L			11/17/22 03:16	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/17/22 03:16	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/22 03:16	1	
Acetone	ND	F1 *+	10	3.0	ug/L			11/17/22 03:16	1	
Acetonitrile	ND		15	4.9	ug/L			11/17/22 03:16	1	
Acrolein	ND		20	0.91	ug/L			11/17/22 03:16	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/22 03:16	1	
Benzene	ND		1.0	0.41	ug/L			11/17/22 03:16	1	
Bromoform	ND		1.0	0.26	ug/L			11/17/22 03:16	1	
Bromomethane	ND	F2	1.0	0.69	ug/L			11/17/22 03:16	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/22 03:16	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/22 03:16	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/22 03:16	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/17/22 03:16	1	
Chloroethane	ND		1.0	0.32	ug/L			11/17/22 03:16	1	
Chloroform	ND		1.0	0.34	ug/L			11/17/22 03:16	1	
Chloromethane	ND		1.0	0.35	ug/L			11/17/22 03:16	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/22 03:16	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/17/22 03:16	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/17/22 03:16	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/22 03:16	1	
Ethyl methacrylate	ND	F1	1.0	0.59	ug/L			11/17/22 03:16	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/22 03:16	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/17/22 03:16	1	
Iodomethane	ND		1.0	0.30	ug/L			11/17/22 03:16	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/22 03:16	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			11/17/22 03:16	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/22 03:16	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/22 03:16	1	
o-Xylene	ND		1.0	0.76	ug/L			11/17/22 03:16	1	
Propionitrile	ND		10	5.8	ug/L			11/17/22 03:16	1	
Styrene	ND		1.0	0.73	ug/L			11/17/22 03:16	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/22 03:16	1	
Toluene	ND		1.0	0.51	ug/L			11/17/22 03:16	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/22 03:16	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/22 03:16	1	

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-203904-1

Date Collected: 11/11/22 11:25
Matrix: Water

Date Received: 11/15/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/22 03:16	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/22 03:16	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/22 03:16	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/22 03:16	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/22 03:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*11/17/22 03:16*	*1*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*11/17/22 03:16*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*11/17/22 03:16*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/17/22 03:16*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,3,5-Trinitrobenzene	ND	F1	10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,4-Dioxane	ND		10	1.1	ug/L		11/17/22 08:24	11/18/22 16:53	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/17/22 08:24	11/18/22 16:53	1
1-Naphthylamine	ND	F1	10	1.3	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/17/22 08:24	11/18/22 16:53	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Acetylaminofluorene	ND	F1	10	2.3	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Naphthylamine	ND	F1	10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Nitroaniline	ND	F2	10	0.42	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Nitrophenol	ND	F2	5.0	0.48	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Picoline	ND	F1 F2	80	1.4	ug/L		11/17/22 08:24	11/18/22 16:53	1
2-Toluidine	ND		10	1.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/17/22 08:24	11/18/22 16:53	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1
3,3'-Dimethylbenzidine	ND	*- F1	40	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
3-Methylcholanthrene	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
3-Methylphenol	ND		10	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1
3-Nitroaniline	ND		10	0.48	ug/L		11/17/22 08:24	11/18/22 16:53	1

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-203904-1

Date Collected: 11/11/22 11:25
Matrix: Water

Date Received: 11/15/22 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Aminobiphenyl	ND	F1	10	0.81	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Methylphenol	ND		10	0.36	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Nitrophenol	ND		10	1.5	ug/L		11/17/22 08:24	11/18/22 16:53	1	
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/17/22 08:24	11/18/22 16:53	1	
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Acenaphthene	ND		5.0	0.41	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Acetophenone	ND		5.0	0.54	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Aniline	ND		10	0.61	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Anthracene	ND		5.0	0.28	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Aramite, Total	ND		20	1.6	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzidine	ND	*- F1	80	2.2	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzo[g,h,i]perylene	ND	F2	5.0	0.35	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/17/22 08:24	11/18/22 16:53	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Chrysene	ND		5.0	0.33	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Diallate	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Dibenzofuran	ND		10	0.51	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Diethyl phthalate	**18**	**F2**	5.0	0.22	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Dimethoate	ND		10	0.54	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Dimethyl phthalate	ND	F2	5.0	0.36	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Di-n-butyl phthalate	**9.5**	**B**	5.0	0.31	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Dinoseb	ND	F1	10	2.9	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Diphenylamine	ND		10	0.82	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Disulfoton	ND		10	0.42	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Chlorobenzilate	ND	F1	20	0.67	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Famphur	ND	F1 F2	40	1.9	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Fluoranthene	ND		5.0	0.40	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Fluorene	ND		5.0	0.36	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Hexachlorobenzene	ND	*+	5.0	0.51	ug/L		11/17/22 08:24	11/18/22 16:53	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/17/22 08:24	11/18/22 16:53	1	

Client Sample ID: MW-2022-1D
Date Collected: 11/11/22 11:25
Date Received: 11/15/22 10:00

Lab Sample ID: 480-203904-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/17/22 08:24	11/18/22 16:53	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/17/22 08:24	11/18/22 16:53	1
Hexachloropropene	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/17/22 08:24	11/18/22 16:53	1
Isodrin	ND		10	0.18	ug/L		11/17/22 08:24	11/18/22 16:53	1
Isophorone	ND		5.0	0.43	ug/L		11/17/22 08:24	11/18/22 16:53	1
Isosafrole	ND		10	0.58	ug/L		11/17/22 08:24	11/18/22 16:53	1
Kepone	ND	F1	50	1.8	ug/L		11/17/22 08:24	11/18/22 16:53	1
Methapyrilene	ND	*- F1 F2	50	1.8	ug/L		11/17/22 08:24	11/18/22 16:53	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
Naphthalene	ND		5.0	0.76	ug/L		11/17/22 08:24	11/18/22 16:53	1
Nitrobenzene	ND	F2	5.0	0.29	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/17/22 08:24	11/18/22 16:53	1
Ethyl Parathion	ND		10	0.64	ug/L		11/17/22 08:24	11/18/22 16:53	1
Methyl parathion	ND		10	0.37	ug/L		11/17/22 08:24	11/18/22 16:53	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/17/22 08:24	11/18/22 16:53	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/17/22 08:24	11/18/22 16:53	1
Pentachloronitrobenzene	ND	F1	10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
Pentachlorophenol	ND		10	2.2	ug/L		11/17/22 08:24	11/18/22 16:53	1
Phenacetin	ND	F1	10	0.61	ug/L		11/17/22 08:24	11/18/22 16:53	1
Phenanthrene	ND		5.0	0.44	ug/L		11/17/22 08:24	11/18/22 16:53	1
Phenol	ND		5.0	0.39	ug/L		11/17/22 08:24	11/18/22 16:53	1
Phorate	ND		10	0.50	ug/L		11/17/22 08:24	11/18/22 16:53	1
p-Phenylene diamine	ND	*	800	200	ug/L		11/17/22 08:24	11/18/22 16:53	1
Pronamide	ND	F1	10	2.5	ug/L		11/17/22 08:24	11/18/22 16:53	1
Pyrene	ND		5.0	0.34	ug/L		11/17/22 08:24	11/18/22 16:53	1
Pyridine	ND	F1	25	0.41	ug/L		11/17/22 08:24	11/18/22 16:53	1
Safrole	ND		10	0.46	ug/L		11/17/22 08:24	11/18/22 16:53	1
Sulfotepp	ND		10	0.64	ug/L		11/17/22 08:24	11/18/22 16:53	1
Thionazin	ND		10	0.38	ug/L		11/17/22 08:24	11/18/22 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*126*	*S1+*	*41 - 120*	*11/17/22 08:24*	*11/18/22 16:53*	*1*
2-Fluorobiphenyl (Surr)	*105*		*48 - 120*	*11/17/22 08:24*	*11/18/22 16:53*	*1*
2-Fluorophenol (Surr)	*66*		*35 - 120*	*11/17/22 08:24*	*11/18/22 16:53*	*1*
Nitrobenzene-d5 (Surr)	*91*		*46 - 120*	*11/17/22 08:24*	*11/18/22 16:53*	*1*
Phenol-d5 (Surr)	*47*		*22 - 120*	*11/17/22 08:24*	*11/18/22 16:53*	*1*
p-Terphenyl-d14 (Surr)	*71*		*60 - 148*	*11/17/22 08:24*	*11/18/22 16:53*	*1*

Client Sample ID: MW-2022-1D
Date Collected: 11/11/22 11:25
Date Received: 11/15/22 10:00

Lab Sample ID: 480-203904-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,2,4,5-Tetrachlorobenzene	ND	H	5.0	0.58	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,2,4-Trichlorobenzene	ND	H	10	0.44	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,2-Dichlorobenzene	ND	H	10	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,2-Diphenylhydrazine	ND	H	10	0.35	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,3,5-Trinitrobenzene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,3-Dichlorobenzene	ND	H	10	0.48	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,3-Dinitrobenzene	ND	H	20	0.82	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,4-Dioxane	ND	H	10	1.1	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1,4-Naphthoquinone	ND	H	10	0.24	ug/L		11/22/22 08:39	11/23/22 15:29	1	
1-Naphthylamine	ND	H F1	10	1.3	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,3,4,6-Tetrachlorophenol	ND	H	5.0	0.32	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,4,5-Trichlorophenol	ND	H	5.0	0.48	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,4,6-Trichlorophenol	ND	H	5.0	0.61	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,4-Dichlorophenol	ND	H	5.0	0.51	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,4-Dimethylphenol	ND	H	5.0	0.50	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,4-Dinitrophenol	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,4-Dinitrotoluene	ND	H	5.0	0.45	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,6-Dichlorophenol	ND	H	10	0.46	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2,6-Dinitrotoluene	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Acetylaminofluorene	ND	H	10	2.3	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Chloronaphthalene	ND	H	5.0	0.46	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Chlorophenol	ND	H	5.0	0.53	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Methylnaphthalene	ND	H	5.0	0.60	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Methylphenol	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Naphthylamine	ND	H F1 F2	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Nitroaniline	ND	H	10	0.42	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Nitrophenol	ND	H	5.0	0.48	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Picoline	ND	H F1	80	1.4	ug/L		11/22/22 08:39	11/23/22 15:29	1	
2-Toluidine	ND	H F1	10	1.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
3 & 4 Methylphenol	ND	H	10	0.36	ug/L		11/22/22 08:39	11/23/22 15:29	1	
3,3'-Dichlorobenzidine	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1	
3,3'-Dimethylbenzidine	ND	H F1	40	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
3-Methylcholanthrene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
3-Methylphenol	ND	H	10	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1	
3-Nitroaniline	ND	H	10	0.48	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4,6-Dinitro-2-methylphenol	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Aminobiphenyl	ND	H F1	10	0.81	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Bromophenyl phenyl ether	ND	H	5.0	0.45	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Chloro-3-methylphenol	ND	H	5.0	0.45	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Chloroaniline	ND	H	5.0	0.59	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Chlorophenyl phenyl ether	ND	H	5.0	0.35	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Methylphenol	ND	H	10	0.36	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Nitroaniline	ND	H	10	0.25	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Nitrophenol	ND	H	10	1.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
4-Nitroquinoline-1-oxide	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1	
7,12-Dimethylbenz(a)anthracene	ND	H	10	0.62	ug/L		11/22/22 08:39	11/23/22 15:29	1	
a,a-Dimethylphenethylamine	ND	H *-	100	40	ug/L		11/22/22 08:39	11/23/22 15:29	1	R
Acenaphthene	ND	H	5.0	0.41	ug/L		11/22/22 08:39	11/23/22 15:29	1	

Client Sample ID: MW-2022-1D
Date Collected: 11/11/22 11:25
Date Received: 11/15/22 10:00

Lab Sample ID: 480-203904-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	H	5.0	0.38	ug/L		11/22/22 08:39	11/23/22 15:29	1
Acetophenone	ND	H	5.0	0.54	ug/L		11/22/22 08:39	11/23/22 15:29	1
Aniline	ND	H	10	0.61	ug/L		11/22/22 08:39	11/23/22 15:29	1
Anthracene	ND	H	5.0	0.28	ug/L		11/22/22 08:39	11/23/22 15:29	1
Aramite, Total	ND	H F1	20	1.6	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzidine	ND	H F1	80	2.2	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzo[a]anthracene	ND	H	5.0	0.36	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzo[a]pyrene	ND	H	5.0	0.47	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzo[b]fluoranthene	ND	H	5.0	0.34	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzo[g,h,i]perylene	ND	H F2	5.0	0.35	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzo[k]fluoranthene	ND	H	5.0	0.73	ug/L		11/22/22 08:39	11/23/22 15:29	1
Benzyl alcohol	ND	H	20	2.0	ug/L		11/22/22 08:39	11/23/22 15:29	1
bis (2-chloroisopropyl) ether	ND	H	5.0	0.52	ug/L		11/22/22 08:39	11/23/22 15:29	1
Bis(2-chloroethoxy)methane	ND	H	5.0	0.35	ug/L		11/22/22 08:39	11/23/22 15:29	1
Bis(2-chloroethyl)ether	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L		11/22/22 08:39	11/23/22 15:29	1
Butyl benzyl phthalate	ND	H	5.0	1.0	ug/L		11/22/22 08:39	11/23/22 15:29	1
Chrysene	ND	H	5.0	0.33	ug/L		11/22/22 08:39	11/23/22 15:29	1
Diallate	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
Dibenz(a,h)anthracene	ND	H	5.0	0.42	ug/L		11/22/22 08:39	11/23/22 15:29	1
Dibenzofuran	ND	H	10	0.51	ug/L		11/22/22 08:39	11/23/22 15:29	1
Diethyl phthalate	**17**	**H**	5.0	0.22	ug/L		11/22/22 08:39	11/23/22 15:29	1
Dimethoate	ND	H	10	0.54	ug/L		11/22/22 08:39	11/23/22 15:29	1
Dimethyl phthalate	ND	H	5.0	0.36	ug/L		11/22/22 08:39	11/23/22 15:29	1
Di-n-butyl phthalate	ND	H	5.0	0.31	ug/L		11/22/22 08:39	11/23/22 15:29	1
Di-n-octyl phthalate	ND	H	5.0	0.47	ug/L		11/22/22 08:39	11/23/22 15:29	1
Dinoseb	ND	H	10	2.9	ug/L		11/22/22 08:39	11/23/22 15:29	1
Diphenylamine	ND	H	10	0.82	ug/L		11/22/22 08:39	11/23/22 15:29	1
Disulfoton	ND	H	10	0.42	ug/L		11/22/22 08:39	11/23/22 15:29	1
Chlorobenzilate	ND	H	20	0.67	ug/L		11/22/22 08:39	11/23/22 15:29	1
Ethyl methanesulfonate	ND	H	10	0.39	ug/L		11/22/22 08:39	11/23/22 15:29	1
Famphur	ND	H F1 F2 *-	40	1.9	ug/L		11/22/22 08:39	11/23/22 15:29	1
Fluoranthene	ND	H	5.0	0.40	ug/L		11/22/22 08:39	11/23/22 15:29	1
Fluorene	ND	H	5.0	0.36	ug/L		11/22/22 08:39	11/23/22 15:29	1
Hexachlorobenzene	ND	H	5.0	0.51	ug/L		11/22/22 08:39	11/23/22 15:29	1
Hexachlorobutadiene	ND	H	5.0	0.68	ug/L		11/22/22 08:39	11/23/22 15:29	1
Hexachlorocyclopentadiene	ND	H	5.0	0.59	ug/L		11/22/22 08:39	11/23/22 15:29	1
Hexachloroethane	ND	H	5.0	0.59	ug/L		11/22/22 08:39	11/23/22 15:29	1
Hexachloropropene	ND	H F1	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
Indeno[1,2,3-cd]pyrene	ND	H	5.0	0.47	ug/L		11/22/22 08:39	11/23/22 15:29	1
Isodrin	ND	H	10	0.18	ug/L		11/22/22 08:39	11/23/22 15:29	1
Isophorone	ND	H	5.0	0.43	ug/L		11/22/22 08:39	11/23/22 15:29	1
Isosafrole	ND	H	10	0.58	ug/L		11/22/22 08:39	11/23/22 15:29	1
Kepone	ND	H F1 *-	50	1.8	ug/L		11/22/22 08:39	11/23/22 15:29	1
Methapyrilene	ND	H F1 F2	50	1.8	ug/L		11/22/22 08:39	11/23/22 15:29	1
Methyl methanesulfonate	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
Naphthalene	ND	H	5.0	0.76	ug/L		11/22/22 08:39	11/23/22 15:29	1
Nitrobenzene	ND	H	5.0	0.29	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitro-o-toluidine	ND	H	10	0.66	ug/L		11/22/22 08:39	11/23/22 15:29	1

UJ

Client Sample ID: MW-2022-1D
Date Collected: 11/11/22 11:25
Date Received: 11/15/22 10:00

Lab Sample ID: 480-203904-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	H	10	0.36	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosodimethylamine	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosodi-n-butylamine	ND	H	10	0.60	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosodi-n-propylamine	ND	H	5.0	0.54	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosodiphenylamine	ND	H	5.0	0.51	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosomethylethylamine	ND	H F1	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosomorpholine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosopiperidine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
N-Nitrosopyrrolidine	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
o,o',o''-Triethylphosphorothioate	ND	H	10	0.43	ug/L		11/22/22 08:39	11/23/22 15:29	1
Ethyl Parathion	ND	H	10	0.64	ug/L		11/22/22 08:39	11/23/22 15:29	1
Methyl parathion	ND	H	10	0.37	ug/L		11/22/22 08:39	11/23/22 15:29	1
p-Dimethylamino azobenzene	ND	H	10	0.75	ug/L		11/22/22 08:39	11/23/22 15:29	1
Pentachlorobenzene	ND	H	10	0.53	ug/L		11/22/22 08:39	11/23/22 15:29	1
Pentachloronitrobenzene	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
Pentachlorophenol	ND	H	10	2.2	ug/L		11/22/22 08:39	11/23/22 15:29	1
Phenacetin	ND	H	10	0.61	ug/L		11/22/22 08:39	11/23/22 15:29	1
Phenanthrene	ND	H	5.0	0.44	ug/L		11/22/22 08:39	11/23/22 15:29	1
Phenol	ND	H	5.0	0.39	ug/L		11/22/22 08:39	11/23/22 15:29	1
Phorate	ND	H	10	0.50	ug/L		11/22/22 08:39	11/23/22 15:29	1
p-Phenylene diamine	ND	H *	800	200	ug/L		11/22/22 08:39	11/23/22 15:29	1
Pronamide	ND	H	10	2.5	ug/L		11/22/22 08:39	11/23/22 15:29	1
Pyrene	ND	H	5.0	0.34	ug/L		11/22/22 08:39	11/23/22 15:29	1
Pyridine	ND	H F1	25	0.41	ug/L		11/22/22 08:39	11/23/22 15:29	1
Safrole	ND	H	10	0.46	ug/L		11/22/22 08:39	11/23/22 15:29	1
Sulfotepp	ND	H	10	0.64	ug/L		11/22/22 08:39	11/23/22 15:29	1
Thionazin	ND	H	10	0.38	ug/L		11/22/22 08:39	11/23/22 15:29	1

R

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*102*		*41 - 120*	*11/22/22 08:39*	*11/23/22 15:29*	*1*
2-Fluorobiphenyl (Surr)	*101*		*48 - 120*	*11/22/22 08:39*	*11/23/22 15:29*	*1*
2-Fluorophenol (Surr)	*65*		*35 - 120*	*11/22/22 08:39*	*11/23/22 15:29*	*1*
Nitrobenzene-d5 (Surr)	*90*		*46 - 120*	*11/22/22 08:39*	*11/23/22 15:29*	*1*
Phenol-d5 (Surr)	*46*		*22 - 120*	*11/22/22 08:39*	*11/23/22 15:29*	*1*
p-Terphenyl-d14 (Surr)	*64*		*60 - 148*	*11/22/22 08:39*	*11/23/22 15:29*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.014**	**J F1**	0.050	0.0092	ug/L		11/17/22 07:04	11/17/22 16:03	1
4,4'-DDE	ND	F1	0.050	0.012	ug/L		11/17/22 07:04	11/17/22 16:03	1
4,4'-DDT	**0.013**	**J F1**	0.050	0.011	ug/L		11/17/22 07:04	11/17/22 16:03	1
Aldrin	ND	F1	0.050	0.0081	ug/L		11/17/22 07:04	11/17/22 16:03	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/17/22 07:04	11/17/22 16:03	1
beta-BHC	ND		0.050	0.025	ug/L		11/17/22 07:04	11/17/22 16:03	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/17/22 07:04	11/17/22 16:03	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/17/22 07:04	11/17/22 16:03	1
cis-Chlordane	ND	F1	0.050	0.015	ug/L		11/17/22 07:04	11/17/22 16:03	1
delta-BHC	ND		0.050	0.010	ug/L		11/17/22 07:04	11/17/22 16:03	1
Dieldrin	ND		0.050	0.0098	ug/L		11/17/22 07:04	11/17/22 16:03	1
Endosulfan I	ND	* F1	0.050	0.011	ug/L		11/17/22 07:04	11/17/22 16:03	1

Client Sample ID: MW-2022-1D
Date Collected: 11/11/22 11:25
Date Received: 11/15/22 10:00

Lab Sample ID: 480-203904-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	~~0.032~~	~~J B~~ 0.050 U	0.050	0.012	ug/L		11/17/22 07:04	11/17/22 16:03	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/17/22 07:04	11/17/22 16:03	1
Endrin	ND		0.050	0.014	ug/L		11/17/22 07:04	11/17/22 16:03	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/17/22 07:04	11/17/22 16:03	1
Endrin ketone	ND		0.050	0.012	ug/L		11/17/22 07:04	11/17/22 16:03	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/17/22 07:04	11/17/22 16:03	1
Heptachlor	ND	F1	0.050	0.0085	ug/L		11/17/22 07:04	11/17/22 16:03	1
Heptachlor epoxide	0.011	J *+ J	0.050	0.0074	ug/L		11/17/22 07:04	11/17/22 16:03	1
Methoxychlor	ND		0.050	0.014	ug/L		11/17/22 07:04	11/17/22 16:03	1
Toxaphene	ND		0.50	0.12	ug/L		11/17/22 07:04	11/17/22 16:03	1
trans-Chlordane	ND	~~F1~~	0.050	0.011	ug/L		11/17/22 07:04	11/17/22 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*20 - 120*	*11/17/22 07:04*	*11/17/22 16:03*	*1*
DCB Decachlorobiphenyl	*37*		*20 - 120*	*11/17/22 07:04*	*11/17/22 16:03*	*1*
Tetrachloro-m-xylene	*58*		*44 - 120*	*11/17/22 07:04*	*11/17/22 16:03*	*1*
Tetrachloro-m-xylene	*59*		*44 - 120*	*11/17/22 07:04*	*11/17/22 16:03*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:27	1
PCB-1221	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:27	1
PCB-1232	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:27	1
PCB-1242	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:27	1
PCB-1248	ND		0.50	0.18	ug/L		11/16/22 06:52	11/16/22 23:27	1
PCB-1254	ND		0.50	0.25	ug/L		11/16/22 06:52	11/16/22 23:27	1
PCB-1260	ND		0.50	0.25	ug/L		11/16/22 06:52	11/16/22 23:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*39 - 121*	*11/16/22 06:52*	*11/16/22 23:27*	*1*
Tetrachloro-m-xylene	*48*		*39 - 121*	*11/16/22 06:52*	*11/16/22 23:27*	*1*
DCB Decachlorobiphenyl	*24*		*19 - 120*	*11/16/22 06:52*	*11/16/22 23:27*	*1*
DCB Decachlorobiphenyl	*21*		*19 - 120*	*11/16/22 06:52*	*11/16/22 23:27*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		11/17/22 09:08	11/18/22 16:12	1
2,4-D	ND		0.48	0.16	ug/L		11/17/22 09:08	11/18/22 16:12	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		11/17/22 09:08	11/18/22 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*96*		*48 - 132*	*11/17/22 09:08*	*11/18/22 16:12*	*1*
2,4-Dichlorophenylacetic acid	*90*		*48 - 132*	*11/17/22 09:08*	*11/18/22 16:12*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H UJ	0.94	0.25	ug/L		11/21/22 04:30	11/28/22 11:05	1
Disulfoton	ND	H	0.94	0.38	ug/L		11/21/22 04:30	11/28/22 11:05	1
Famphur	ND	H	0.94	0.30	ug/L		11/21/22 04:30	11/28/22 11:05	1
Methyl parathion	ND	H	0.94	0.32	ug/L		11/21/22 04:30	11/28/22 11:05	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		11/21/22 04:30	11/28/22 11:05	1

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-203904-1

Date Collected: 11/11/22 11:25
Matrix: Water

Date Received: 11/15/22 10:00

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND	H UJ	0.94	0.36	ug/L		11/21/22 04:30	11/28/22 11:05	1
Sulfotepp	ND	H UJ	0.94	0.38	ug/L		11/21/22 04:30	11/28/22 11:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*103*		*25 - 127*	*11/21/22 04:30*	*11/28/22 11:05*	*1*
Tributyl phosphate	*96*		*25 - 127*	*11/21/22 04:30*	*11/28/22 11:05*	*1*
Triphenylphosphate	*123*		*70 - 155*	*11/21/22 04:30*	*11/28/22 11:05*	*1*
Triphenylphosphate	*125*		*70 - 155*	*11/21/22 04:30*	*11/28/22 11:05*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.62	ng/L		11/21/22 09:16	11/21/22 21:10	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.1	ng/L		11/21/22 09:16	11/21/22 21:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		11/21/22 09:16	11/21/22 21:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.6	0.50	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorobutanoic acid (PFBA)	**1.8**	**J**	4.0	0.97	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.33**	**J**	1.6	0.33	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorohexanesulfonic acid (PFHxS)	**18**		1.6	0.45	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorohexanoic acid (PFHxA)	**1.8**		1.6	0.53	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorooctanesulfonic acid (PFOS)	**93**		1.6	0.69	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorooctanoic acid (PFOA)	**0.81**	**J**	1.6	0.62	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluoropentanoic acid (PFPeA)	**2.5**		1.6	0.55	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		11/21/22 09:16	11/21/22 21:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		11/21/22 09:16	11/21/22 21:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*102*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C2 PFDoA	*100*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C2 PFHxA	*97*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C2 PFTeDA	*107*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C2 PFUnA	*103*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C3 PFBS	*98*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C4 PFBA	*99*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C4 PFHpA	*95*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C4 PFOA	*99*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*
13C4 PFOS	*96*		*50 - 150*	*11/21/22 09:16*	*11/21/22 21:10*	*1*

Client Sample ID: MW-2022-1D
Date Collected: 11/11/22 11:25
Date Received: 11/15/22 10:00

Lab Sample ID: 480-203904-1
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	103		50 - 150	11/21/22 09:16	11/21/22 21:10	1
13C5 PFPeA	98		50 - 150	11/21/22 09:16	11/21/22 21:10	1
13C8 FOSA	92		50 - 150	11/21/22 09:16	11/21/22 21:10	1
18O2 PFHxS	100		50 - 150	11/21/22 09:16	11/21/22 21:10	1
d3-NMeFOSAA	91		50 - 150	11/21/22 09:16	11/21/22 21:10	1
d5-NEtFOSAA	96		50 - 150	11/21/22 09:16	11/21/22 21:10	1
M2-6:2 FTS	124		50 - 150	11/21/22 09:16	11/21/22 21:10	1
M2-8:2 FTS	114		50 - 150	11/21/22 09:16	11/21/22 21:10	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.9	J I JNX	24	0.24	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,4,6,7,8-HpCDF	~~0.44~~	~~J I B~~ 24 U	24	0.067	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,4,7,8,9-HpCDF	0.31	~~J I~~ JNX	24	0.086	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,4,7,8-HxCDD	ND		24	0.055	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,4,7,8-HxCDF	ND		24	0.13	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,6,7,8-HxCDD	0.28	~~J I~~ JNX	24	0.051	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,6,7,8-HxCDF	ND		24	0.12	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,7,8,9-HxCDD	ND		24	0.051	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,7,8,9-HxCDF	ND		24	0.14	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,7,8-PeCDD	0.55	~~J I~~ JNX	24	0.11	pg/L		11/30/22 10:05	12/02/22 20:59	1
1,2,3,7,8-PeCDF	~~0.56~~	~~J I B~~ 24 U	24	0.16	pg/L		11/30/22 10:05	12/02/22 20:59	1
2,3,4,6,7,8-HxCDF	ND		24	0.12	pg/L		11/30/22 10:05	12/02/22 20:59	1
2,3,4,7,8-PeCDF	ND		24	0.13	pg/L		11/30/22 10:05	12/02/22 20:59	1
2,3,7,8-TCDD	ND		4.8	0.041	pg/L		11/30/22 10:05	12/02/22 20:59	1
2,3,7,8-TCDF	ND		4.8	0.029	pg/L		11/30/22 10:05	12/02/22 20:59	1
OCDD	~~4.5~~	~~J I B~~ 110 U	110	0.30	pg/L		11/30/22 10:05	12/02/22 20:59	1
OCDF	0.64	J I JNX	48	0.16	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total HpCDD	1.9	J I JNX	24	0.24	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total HpCDF	~~0.75~~	~~J I B~~ 24 U	24	0.077	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total HxCDD	0.28	~~J I~~ JNX	24	0.052	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total HxCDF	ND		24	0.14	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total PeCDD	0.55	J I JNX	24	0.11	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total PeCDF	~~0.56~~	~~J I B~~ 24 U	24	0.15	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total TCDD	ND		4.8	0.041	pg/L		11/30/22 10:05	12/02/22 20:59	1
Total TCDF	ND		4.8	0.029	pg/L		11/30/22 10:05	12/02/22 20:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	79		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,4,6,7,8-HpCDF	88		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,4,7,8,9-HpCDF	84		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,4,7,8-HxCDD	79		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,4,7,8-HxCDF	84		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,6,7,8-HxCDD	79		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,6,7,8-HxCDF	83		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,7,8,9-HxCDD	78		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,7,8,9-HxCDF	82		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,7,8-PeCDD	75		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-1,2,3,7,8-PeCDF	76		40 - 135	11/30/22 10:05	12/02/22 20:59	1
13C-2,3,4,6,7,8-HxCDF	85		40 - 135	11/30/22 10:05	12/02/22 20:59	1

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-203904-1

Date Collected: 11/11/22 11:25
Matrix: Water
Date Received: 11/15/22 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*79*		*40 - 135*	*11/30/22 10:05*	*12/02/22 20:59*	*1*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*11/30/22 10:05*	*12/02/22 20:59*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*11/30/22 10:05*	*12/02/22 20:59*	*1*
13C-OCDD	*74*		*40 - 135*	*11/30/22 10:05*	*12/02/22 20:59*	*1*
13C-OCDF	*78*		*40 - 135*	*11/30/22 10:05*	*12/02/22 20:59*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/18/22 10:10	11/30/22 14:01	1
Arsenic	ND		0.015	0.0056	mg/L		11/18/22 10:10	11/30/22 14:01	1
Barium	**0.016**		0.0020	0.00070	mg/L		11/18/22 10:10	11/30/22 14:01	1
Beryllium	ND		0.0020	0.00030	mg/L		11/18/22 10:10	11/30/22 14:01	1
Cadmium	ND		0.0020	0.00050	mg/L		11/18/22 10:10	11/30/22 14:01	1
Chromium	ND		0.0040	0.0010	mg/L		11/18/22 10:10	11/30/22 14:01	1
Cobalt	ND		0.0040	0.00063	mg/L		11/18/22 10:10	11/30/22 14:01	1
Copper	ND		0.010	0.0016	mg/L		11/18/22 10:10	11/30/22 14:01	1
Lead	ND		0.010	0.0030	mg/L		11/18/22 10:10	11/30/22 14:01	1
Nickel	ND		0.010	0.0013	mg/L		11/18/22 10:10	11/30/22 14:01	1
Selenium	ND		0.025	0.0087	mg/L		11/18/22 10:10	11/30/22 14:01	1
Silver	ND		0.0060	0.0017	mg/L		11/18/22 10:10	11/30/22 14:01	1
Thallium	ND		0.020	0.010	mg/L		11/18/22 10:10	11/30/22 14:01	1
Tin	ND		0.010	0.0051	mg/L		11/18/22 10:10	11/30/22 14:01	1
Vanadium	ND		0.0050	0.0015	mg/L		11/18/22 10:10	11/30/22 14:01	1
Zinc	**0.011**		0.010	0.0015	mg/L		11/18/22 10:10	11/30/22 14:01	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		11/16/22 11:15	11/16/22 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			11/17/22 15:31	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			11/17/22 10:00	1

Client Sample ID: TB
Lab Sample ID: 480-203904-2

Date Collected: 11/11/22 00:00
Matrix: Water
Date Received: 11/15/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/17/22 03:40	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/17/22 03:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/17/22 03:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/17/22 03:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/17/22 03:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/17/22 03:40	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/17/22 03:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/17/22 03:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/17/22 03:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/17/22 03:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/17/22 03:40	1

Client Sample ID: TB
Lab Sample ID: 480-203904-2

Date Collected: 11/11/22 00:00
Matrix: Water
Date Received: 11/15/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			11/17/22 03:40	1
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~11/17/22 03:40~~	~~1~~ R
2-Hexanone	ND		5.0	1.2	ug/L			11/17/22 03:40	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/17/22 03:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/17/22 03:40	1
Acetone	ND	*+	10	3.0	ug/L			11/17/22 03:40	1
Acetonitrile	ND		15	4.9	ug/L			11/17/22 03:40	1
Acrolein	ND		20	0.91	ug/L			11/17/22 03:40	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/17/22 03:40	1
Benzene	ND		1.0	0.41	ug/L			11/17/22 03:40	1
Bromoform	ND		1.0	0.26	ug/L			11/17/22 03:40	1
Bromomethane	ND		1.0	0.69	ug/L			11/17/22 03:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/17/22 03:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/17/22 03:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/17/22 03:40	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/17/22 03:40	1
Chloroethane	ND		1.0	0.32	ug/L			11/17/22 03:40	1
Chloroform	ND		1.0	0.34	ug/L			11/17/22 03:40	1
Chloromethane	ND		1.0	0.35	ug/L			11/17/22 03:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/17/22 03:40	1
Dibromomethane	ND		1.0	0.41	ug/L			11/17/22 03:40	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/17/22 03:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/17/22 03:40	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/17/22 03:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/17/22 03:40	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/17/22 03:40	1
Iodomethane	ND		1.0	0.30	ug/L			11/17/22 03:40	1
Methacrylonitrile	ND		5.0	0.69	ug/L			11/17/22 03:40	1
Methyl methacrylate	ND		1.0	0.61	ug/L			11/17/22 03:40	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/17/22 03:40	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/17/22 03:40	1
o-Xylene	ND		1.0	0.76	ug/L			11/17/22 03:40	1
Propionitrile	ND		10	5.8	ug/L			11/17/22 03:40	1
Styrene	ND		1.0	0.73	ug/L			11/17/22 03:40	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/17/22 03:40	1
Toluene	ND		1.0	0.51	ug/L			11/17/22 03:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/17/22 03:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/17/22 03:40	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/17/22 03:40	1
Trichloroethene	ND		1.0	0.46	ug/L			11/17/22 03:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/17/22 03:40	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/17/22 03:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/17/22 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*77 - 120*		*11/17/22 03:40*	*1*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*11/17/22 03:40*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*11/17/22 03:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/17/22 03:40*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-204058-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50542R
Review Level: Tier I/II
Project: 30181915 Task 0003

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 7
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 11
2.4.2 Continuing Calibration 11
2.5 Surrogates/System Monitoring Compounds 12
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
2.8 Laboratory Control Sample Analysis 13
2.9 Field Duplicate Analysis 14
2.10 Compound Identification 14
2.11 System Performance and Overall Assessment 14
2.12 Data Validation Checklist 14
3 Semi-volatile Organic Compound Analyses 16
3.1 Holding Times 16
3.2 Blank Contamination 16
3.3 Mass Spectrometer Tuning 17
3.4 Calibration 17
3.4.1 Initial Calibration 17
3.4.2 Continuing Calibration 18
3.5 Surrogates/System Monitoring Compounds 19
3.6 Internal Standard Performance 19
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 19
3.8 Laboratory Control Sample Analysis 20
3.9 Field Duplicate Analysis 21
3.10 Compound Identification 21
3.11 System Performance and Overall Assessment 21

3.12 Data Validation Checklist 21
4 Polychlorinated Biphenyl Analyses 23
4.1 Holding Times 23
4.2 Blank Contamination 23
4.3 System Performance 23
4.4 Calibration 23
4.4.1 Initial Calibration 24
4.4.2 Continuing Calibration 24
4.5 Surrogates/System Monitoring Compounds 24
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 24
4.7 Laboratory Control Sample Analysis / Laboratory Control Sample Duplicate 24
4.8 Field Duplicate Analysis 25
4.9 Compound Identification 25
4.10 System Performance and Overall Assessment 25
4.11 Data Validation Checklist 25
5 Pesticide/Herbicide Analyses 26
5.1 Holding Times 26
5.2 Blank Contamination 27
5.3 System Performance 28
5.4 Calibration 28
5.4.1 Initial Calibration 28
5.4.2 Continuing Calibration 28
5.5 Surrogates/System Monitoring Compounds 29
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 29
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 29
5.8 Field Duplicate Analysis 29
5.9 Compound Identification 29
5.10 System Performance and Overall Assessment 30
5.11 Data Validation Checklist 30
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 31
6.1 Holding Times 31
6.2 Blank Contamination 31
6.3 Mass Spectrometer Tuning 32

6.4 Calibration 32
6.4.1 Initial Calibration 33
6.4.2 Continuing Calibration 33
6.5 Labeled Standard Performance 33
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 33
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 33
6.8 Field Duplicate Analysis 34
6.9 Compound Identification 34
6.10 System Performance and Overall Assessment 34
6.11 Data Validation Checklist 34
7 Perfluoroalkyl Substances Analyses 36
7.1 Holding Times 36
7.2 Blank Contamination 36
7.3 Mass Calibration 37
7.4 Calibration 37
7.4.1 Initial Calibration 37
7.4.2 Continuing Calibration 37
7.5 Isotopically Labelled Standards 37
7.5.1 Extracted Internal Standard 37
7.5.2 Injection Internal Standards 38
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 38
7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 38
7.8 Field Duplicate Analysis 38
7.9 Compound Identification 38
7.10 System Performance and Overall Assessment 38
7.11 Data Validation Checklist 39
8 Metals Analyses 40
8.1 Holding Times 40
8.2 Blank Contamination 41
8.3 Calibration 41
8.3.1 Initial Calibration and Continuing Calibration 41
8.3.2 Lower Limit of Quantitation Check Standard 41
8.3.3 ICP Interference Control Sample 41

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 42
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 42
8.4.2 Laboratory Duplicate Analysis 42
8.5 Field Duplicate Analysis 42
8.6 Laboratory Control Sample Analysis 42
8.7 Serial Dilution 43
8.8 System Performance and Overall Assessment 43
8.9 Data Validation Checklist 43
9 General Chemistry Analyses 44
9.1 Holding Times 44
9.2 Blank Contamination 44
9.3 Calibration 45
9.3.1 Initial Calibration and Continuing Calibration 45
9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 45
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 45
9.4.2 Laboratory Duplicate Analysis 46
9.5 Field Duplicate Analysis 46
9.6 Laboratory Control Sample (LCS) Analysis 46
9.7 System Performance and Overall Assessment 47
9.8 Data Validation Checklist for General Chemistry 47
10 Overall Data Usability 48

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 10
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 6. Continuing Calibration Evaluation Criteria and Qualifications 12
Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits 13
Table 8. Laboratory Control Sample Recovery Criteria and Qualifications 13
Table 9. Holding Time for Method SW-846 8270D 16
Table 10. Summary of Compounds Outside Specified Calibration Control Limits 17

Table 11. Initial Calibration Evaluation Criteria and Qualifications 17
Table 12. Summary of Compounds Outside Specified Calibration Control Limits 18
Table 13. Continuing Calibration Evaluation Criteria and Qualifications 19
Table 14. Samples with Laboratory Control Sample Recoveries Outside Control Limits 20
Table 15. Laboratory Control Sample Recovery Criteria and Qualifications 20
Table 16. Holding Time for Method SW-846 8082A 23
Table 17. Holding Time for Method SW-846 8081B/8141B/8151A 27
Table 18. Summary of Holding Time Exceedances 27
Table 19. Summary of Holding Time Qualifications 27
Table 20. Summary of Compounds Outside Specified Calibration Control Limits 28
Table 21. Continuing Calibration Evaluation Criteria and Qualifications 28
Table 22. Holding Time for Method SW-846 8290A 31
Table 23. Summary of Blank Contamination Qualifications 32
Table 24. Holding Time for Method 537 36
Table 25. Summary of Blank Contamination Qualifications 37
Table 26. Holding Time for Method SW-846 6010C/7470A 40
Table 27. Specified Holding Times 44
Table 28. Samples with Matrix Spike Recoveries Outside Control Limits 45
Table 29. Matrix Spike Recovery Evaluation Criteria and Qualifications 46
Table 30. Overall Summary of Data Usability 48

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-204058-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-4D	480-204058-1	Water	11/15/2022		X	X	X	X	X	X	X
TRIP BLANK 111522	480-204058-2	Water	11/15/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	1	0	1	2
SVOCs	0	0	0	1	0	0	1
PCBs	0	0	0	1	0	0	1
PEST	0	0	0	1	0	0	1
HERB	0	0	0	1	0	0	1
OPC	0	0	0	1	0	0	1
PCDD/PCDF	0	0	0	1	0	0	1
PFAS	0	0	0	1	0	0	1
Metals	0	0	0	1	0	0	1
MISC	0	0	0	1	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-4D TRIP BLANK 111522	CCV %D	2-Butanone (MEK)	+25.6%
		4-Methyl-2-pentanone (MIBK)	+41.6%
		2-Hexanone	+41.9%
		1,2-Dibromo-3-Chloropropane	+28.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-4D	651003	2-Hexanone	>UL
		4-Methyl-2-pentanone (MIBK)	>UL

Note:
UL Upper control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action

Control Limit	Sample Result	Qualification
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 9. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing

concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

All compounds associated with the initial calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 10. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial Calibration	Compound	Criteria
MW-2022-4D	ICV %D	a,a-Dimethylphenethylamine	+40.5%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 11. Initial Calibration Evaluation Criteria and Qualifications

Initial Calibration	Criteria	Sample Result	Qualification
Initial Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R

Initial Calibration	Criteria	Sample Result	Qualification
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Initial Calibration Verification (ICV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 12. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-4D	CCV %D	4-Nitroquinoline-1-oxide	-53.8%
	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0039

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 13. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

3.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 14. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-4D	Prep Batch: 650942	a,a-Dimethylphenethylamine	<10%
		Famphur	<LL but >10%
		Kepone	<LL but >10%
		p-Phenylene diamine	<10%

Note:
LL Lower control limit

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 15. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil.

A field duplicate sample was not collected within this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration verification %Ds		X	X		
Continuing calibration RRFs		X	X		
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The continuing calibration %D were within the specified control limits.

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis / Laboratory Control Sample Duplicate

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate sample was not collected within this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding are presented in the following table.

Table 18. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-4D	The sample extracted on 13th day from collection	7 days from collection to extraction (SW-846 8141B)

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 19. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds 4,4'-DDD, 4,4'-DDT, and endrin aldehyde were detected in the associated method blank batch-650176; however, the associated sample results were non-detect. No qualification of the sample results was required.

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 20. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-4D	CCV %D	Dimethoate	-53.3%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 5. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	%RSD > 20% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
Continuing Calibration Verification (CCV)	%D >15% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
RPD Relative percent difference
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 22. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the

estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 23. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-4D	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

The continuing calibration %D were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio $\geq$ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix $\leq$ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 24. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of ten times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 6. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2022-4D	6:2 FTS (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the continuing calibrations were within the specified control limits.

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. Extracted Internal Standard (EIS) recoveries must be within the limits of 50% to150% (25% to 150% for poor responding analytes FBA, PFPeA, fluorotelomer sulfonates).

All EIS recoveries were within the specified control limits.

7.5.2 Injection Internal Standards

Injection internal standards are added to the aliquot of sample dilutions, QC samples, and standards just prior to analysis. Peak areas must be within 50-150% of the area measured in the ICAL midpoint standard. On days when ICAL is not performed, the peak areas must be within 50-150% of the peak area measured in daily initial CCV.

Samples associated with internal standards exhibited responses within the control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate sample was not collected within this SDG.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review,

the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Field blanks	X				X
C. Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)	X				X
Extracted Internal Standards (EIS) %R		X		X	
Injection Internal Standard %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier III Validation					
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Instrument sensitivity check		X		X	
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT windows		X		X	
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 26. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on sample associated with this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample.

The serial dilution was not performed on sample associated with this SDG.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
%D Percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 27. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 651455 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample for the analyte cyanide associated with this SDG.

The MS analysis performed on sample MW-2022-4D for the analyte sulfide exhibiting recoveries outside of the control limits are presented in the following table.

Table 28. Samples with Matrix Spike Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery
MW-2022-4D	Sulfide	160%

The criteria used to evaluate MS recoveries are presented in the following table. In the case of an MS deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte sulfide associated with this SDG.

Table 29. Matrix Spike Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS percent recovery <30%	Non-detect	R
	Detect	J
MS percent recovery >125%	Non-detect	No Action
	Detect	J

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis performed on sample MW-2022-4D exhibited acceptable RPD value.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate sample was not collected within this SDG.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 30. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.1%	2
SVOCs	97.6%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: August 3, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 3, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

Syracuse #225

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):
Client Contact: Mr. David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:
Company: ARCADIS U.S. Inc	PWSID:		
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:		
City: Syracuse	TAT Requested (days): Standard		
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No		
Phone: 315-671-9374(Tel)	PO #: 30150026.3000		
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site: Upland Disposal Facility	SSOW#:		

COC No: 480-174956-37668.1
Page: Page 1 of 1
Job #:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-4D	11/15/22	14:15	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 111522	11/15/22	---	G	Water									X							2	

TNK
11-17-2022

480-204058 Chain of Custody

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Penny T. Rabasco	11-17-22 0900	Arcadis	Tim Kolle	11-17-22 0900	EETN
Tim Krollmeyer	11-17-2022 1500	EETN	RE Englich	11-18-22, 10:00	Syr
RE Englich	11-21-22, 1200	Syr	Vanview Cinolo	11/21/22 1515	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record



urofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	No: 77104 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofin...	Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State - Massachusetts	Job #: 480-204058-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 12/5/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solic, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4D (480-204058-1)	11/15/22	14:15 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment: SS 11/23/22		
Relinquished by:	Date/Time: 11-22-22 1800	Company: TAS	Received by:	Date/Time: 11/23/22 0915	Company: E. Pitt	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-204058 Chain of Custody

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 480-77092.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Massachusetts	Job #: 480-204058-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 12/5/2022		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4D (480-204058-1)	11/15/22	14:15 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:

	Date/Time	Company	Received by:	Date/Time.	Company
Relinquished by:	11-22-22 1800	TAB		11/23/22 1040	ETABurl
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time.	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No :	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-77100.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): State - Massachusetts		Job #: 480-204058-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 12/5/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4D (480-204058-1)	11/15/22	14:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 11-22-22 1800	Company: TAB	Received by: [signature]	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 11-23-22 1045	Company: LUE
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.7/1.4		

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

LCMS

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-204058-1

Date Collected: 11/15/22 14:15
Matrix: Water

Date Received: 11/21/22 15:15

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/23/22 05:48	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/23/22 05:48	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/23/22 05:48	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/23/22 05:48	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/23/22 05:48	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/23/22 05:48	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/23/22 05:48	1	
1,2-Dibromo-3-Chloropropane	ND	UJ	1.0	0.39	ug/L			11/23/22 05:48	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/23/22 05:48	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/23/22 05:48	1	
2-Butanone (MEK)	ND	UJ	10	1.3	ug/L			11/23/22 05:48	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			11/23/22 05:48	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/23/22 05:48	1	R
2-Hexanone	ND	UJ	5.0	1.2	ug/L			11/23/22 05:48	1	
3-Chloro-1-propene	ND	UJ	1.0	0.44	ug/L			11/23/22 05:48	1	
4-Methyl-2-pentanone (MIBK)	ND	UJ	5.0	2.1	ug/L			11/23/22 05:48	1	
Acetone	ND		10	3.0	ug/L			11/23/22 05:48	1	
Acetonitrile	ND	UJ	15	4.9	ug/L			11/23/22 05:48	1	
Acrolein	ND		20	0.91	ug/L			11/23/22 05:48	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/23/22 05:48	1	
Benzene	ND		1.0	0.41	ug/L			11/23/22 05:48	1	
Bromoform	ND		1.0	0.26	ug/L			11/23/22 05:48	1	
Bromomethane	ND		1.0	0.69	ug/L			11/23/22 05:48	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/23/22 05:48	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/23/22 05:48	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/23/22 05:48	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/23/22 05:48	1	
Chloroethane	ND		1.0	0.32	ug/L			11/23/22 05:48	1	
Chloroform	ND		1.0	0.34	ug/L			11/23/22 05:48	1	
Chloromethane	ND		1.0	0.35	ug/L			11/23/22 05:48	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/23/22 05:48	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/23/22 05:48	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/23/22 05:48	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/23/22 05:48	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/23/22 05:48	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/23/22 05:48	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/23/22 05:48	1	
Iodomethane	ND		1.0	0.30	ug/L			11/23/22 05:48	1	
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/23/22 05:48	1	
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/23/22 05:48	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/23/22 05:48	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/23/22 05:48	1	
o-Xylene	ND		1.0	0.76	ug/L			11/23/22 05:48	1	
Propionitrile	ND	UJ	10	5.8	ug/L			11/23/22 05:48	1	
Styrene	ND		1.0	0.73	ug/L			11/23/22 05:48	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/23/22 05:48	1	
Toluene	ND		1.0	0.51	ug/L			11/23/22 05:48	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/23/22 05:48	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/23/22 05:48	1	

Client Sample ID: MW-2022-4D
Date Collected: 11/15/22 14:15
Date Received: 11/21/22 15:15

Lab Sample ID: 480-204058-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/23/22 05:48	1
Trichloroethene	ND		1.0	0.46	ug/L			11/23/22 05:48	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/23/22 05:48	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/23/22 05:48	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/23/22 05:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*11/23/22 05:48*	*1*
4-Bromofluorobenzene (Surr)	*86*		*73 - 120*		*11/23/22 05:48*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*11/23/22 05:48*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*11/23/22 05:48*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,4-Dioxane	ND		10	1.1	ug/L		11/22/22 09:25	11/23/22 18:13	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/22/22 09:25	11/23/22 18:13	1
1-Naphthylamine	ND		10	1.3	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/22/22 09:25	11/23/22 18:13	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Naphthylamine	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Nitroaniline	ND		10	0.42	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Picoline	ND		80	1.4	ug/L		11/22/22 09:25	11/23/22 18:13	1
2-Toluidine	ND		10	1.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/22/22 09:25	11/23/22 18:13	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
3-Methylcholanthrene	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
3-Methylphenol	ND		10	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1
3-Nitroaniline	ND		10	0.48	ug/L		11/22/22 09:25	11/23/22 18:13	1

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-204058-1

Date Collected: 11/15/22 14:15
Matrix: Water

Date Received: 11/21/22 15:15

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Methylphenol	ND		10	0.36	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/22/22 09:25	11/23/22 18:13	1	
4-Nitrophenol	ND		10	1.5	ug/L		11/22/22 09:25	11/23/22 18:13	1	
~~4-Nitroquinoline-1-oxide~~	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/22/22 09:25	11/23/22 18:13	1	
~~a,a-Dimethylphenethylamine~~	ND	*-	100	40	ug/L		11/22/22 09:25	11/23/22 18:13	1	R
Acenaphthene	ND		5.0	0.41	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Acetophenone	ND		5.0	0.54	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Aniline	ND		10	0.61	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Anthracene	ND		5.0	0.28	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Aramite, Total	ND		20	1.6	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzidine	ND		80	2.2	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/22/22 09:25	11/23/22 18:13	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Chrysene	ND		5.0	0.33	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Diallate	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Dibenzofuran	ND		10	0.51	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Dimethoate	ND		10	0.54	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Dinoseb	ND		10	2.9	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Diphenylamine	ND		10	0.82	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Disulfoton	ND		10	0.42	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Chlorobenzilate	ND		20	0.67	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Famphur	ND	*-	40	1.9	ug/L		11/22/22 09:25	11/23/22 18:13	1	UJ
Fluoranthene	ND		5.0	0.40	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Fluorene	ND		5.0	0.36	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/22/22 09:25	11/23/22 18:13	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/22/22 09:25	11/23/22 18:13	1	

Client Sample ID: MW-2022-4D
Date Collected: 11/15/22 14:15
Date Received: 11/21/22 15:15

Lab Sample ID: 480-204058-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/22/22 09:25	11/23/22 18:13	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/22/22 09:25	11/23/22 18:13	1
Hexachloropropene	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/22/22 09:25	11/23/22 18:13	1
Isodrin	ND		10	0.18	ug/L		11/22/22 09:25	11/23/22 18:13	1
Isophorone	ND		5.0	0.43	ug/L		11/22/22 09:25	11/23/22 18:13	1
Isosafrole	ND		10	0.58	ug/L		11/22/22 09:25	11/23/22 18:13	1
Kepone	ND	*- UJ	50	1.8	ug/L		11/22/22 09:25	11/23/22 18:13	1
Methapyrilene	ND		50	1.8	ug/L		11/22/22 09:25	11/23/22 18:13	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
Naphthalene	ND		5.0	0.76	ug/L		11/22/22 09:25	11/23/22 18:13	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/22/22 09:25	11/23/22 18:13	1
Ethyl Parathion	ND		10	0.64	ug/L		11/22/22 09:25	11/23/22 18:13	1
Methyl parathion	ND		10	0.37	ug/L		11/22/22 09:25	11/23/22 18:13	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/22/22 09:25	11/23/22 18:13	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/22/22 09:25	11/23/22 18:13	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
Pentachlorophenol	ND		10	2.2	ug/L		11/22/22 09:25	11/23/22 18:13	1
Phenacetin	ND		10	0.61	ug/L		11/22/22 09:25	11/23/22 18:13	1
Phenanthrene	ND		5.0	0.44	ug/L		11/22/22 09:25	11/23/22 18:13	1
Phenol	ND		5.0	0.39	ug/L		11/22/22 09:25	11/23/22 18:13	1
Phorate	ND		10	0.50	ug/L		11/22/22 09:25	11/23/22 18:13	1
p-Phenylene diamine	ND	*-	800	200	ug/L		11/22/22 09:25	11/23/22 18:13	1 R
Pronamide	ND		10	2.5	ug/L		11/22/22 09:25	11/23/22 18:13	1
Pyrene	ND		5.0	0.34	ug/L		11/22/22 09:25	11/23/22 18:13	1
Pyridine	ND		25	0.41	ug/L		11/22/22 09:25	11/23/22 18:13	1
Safrole	ND		10	0.46	ug/L		11/22/22 09:25	11/23/22 18:13	1
Sulfotepp	ND		10	0.64	ug/L		11/22/22 09:25	11/23/22 18:13	1
Thionazin	ND		10	0.38	ug/L		11/22/22 09:25	11/23/22 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*41 - 120*	*11/22/22 09:25*	*11/23/22 18:13*	*1*
2-Fluorobiphenyl (Surr)	*106*		*48 - 120*	*11/22/22 09:25*	*11/23/22 18:13*	*1*
2-Fluorophenol (Surr)	*74*		*35 - 120*	*11/22/22 09:25*	*11/23/22 18:13*	*1*
Nitrobenzene-d5 (Surr)	*90*		*46 - 120*	*11/22/22 09:25*	*11/23/22 18:13*	*1*
Phenol-d5 (Surr)	*49*		*22 - 120*	*11/22/22 09:25*	*11/23/22 18:13*	*1*
p-Terphenyl-d14 (Surr)	*100*		*60 - 148*	*11/22/22 09:25*	*11/23/22 18:13*	*1*

Client Sample ID: MW-2022-4D
Date Collected: 11/15/22 14:15
Date Received: 11/21/22 15:15

Lab Sample ID: 480-204058-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		11/22/22 15:59	11/23/22 11:02	1
4,4'-DDE	ND		0.050	0.012	ug/L		11/22/22 15:59	11/23/22 11:02	1
4,4'-DDT	ND		0.050	0.011	ug/L		11/22/22 15:59	11/23/22 11:02	1
Aldrin	ND		0.050	0.0081	ug/L		11/22/22 15:59	11/23/22 11:02	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/22/22 15:59	11/23/22 11:02	1
beta-BHC	ND		0.050	0.025	ug/L		11/22/22 15:59	11/23/22 11:02	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/22/22 15:59	11/23/22 11:02	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/22/22 15:59	11/23/22 11:02	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/22/22 15:59	11/23/22 11:02	1
delta-BHC	ND		0.050	0.010	ug/L		11/22/22 15:59	11/23/22 11:02	1
Dieldrin	ND		0.050	0.0098	ug/L		11/22/22 15:59	11/23/22 11:02	1
Endosulfan I	ND		0.050	0.011	ug/L		11/22/22 15:59	11/23/22 11:02	1
Endosulfan II	ND		0.050	0.012	ug/L		11/22/22 15:59	11/23/22 11:02	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/22/22 15:59	11/23/22 11:02	1
Endrin	ND		0.050	0.014	ug/L		11/22/22 15:59	11/23/22 11:02	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/22/22 15:59	11/23/22 11:02	1
Endrin ketone	ND		0.050	0.012	ug/L		11/22/22 15:59	11/23/22 11:02	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/22/22 15:59	11/23/22 11:02	1
Heptachlor	ND		0.050	0.0085	ug/L		11/22/22 15:59	11/23/22 11:02	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		11/22/22 15:59	11/23/22 11:02	1
Methoxychlor	ND		0.050	0.014	ug/L		11/22/22 15:59	11/23/22 11:02	1
Toxaphene	ND		0.50	0.12	ug/L		11/22/22 15:59	11/23/22 11:02	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/22/22 15:59	11/23/22 11:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*20 - 120*	*11/22/22 15:59*	*11/23/22 11:02*	*1*
Tetrachloro-m-xylene	*66*		*44 - 120*	*11/22/22 15:59*	*11/23/22 11:02*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	H	0.050	0.0092	ug/L		11/29/22 08:31	11/30/22 12:31	1
4,4'-DDE	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 12:31	1
4,4'-DDT	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 12:31	1
Aldrin	ND	H	0.050	0.0081	ug/L		11/29/22 08:31	11/30/22 12:31	1
alpha-BHC	ND	H	0.050	0.0077	ug/L		11/29/22 08:31	11/30/22 12:31	1
beta-BHC	ND	H	0.050	0.025	ug/L		11/29/22 08:31	11/30/22 12:31	1
Chlordane (technical)	ND	H	0.50	0.29	ug/L		11/29/22 08:31	11/30/22 12:31	1
Chlorobenzilate	ND	H	5.0	0.090	ug/L		11/29/22 08:31	11/30/22 12:31	1
cis-Chlordane	ND	H	0.050	0.015	ug/L		11/29/22 08:31	11/30/22 12:31	1
delta-BHC	ND	H	0.050	0.010	ug/L		11/29/22 08:31	11/30/22 12:31	1
Dieldrin	ND	H	0.050	0.0098	ug/L		11/29/22 08:31	11/30/22 12:31	1
Endosulfan I	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 12:31	1
Endosulfan II	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 12:31	1
Endosulfan sulfate	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 12:31	1
Endrin	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 12:31	1
Endrin aldehyde	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 12:31	1
Endrin ketone	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 12:31	1
gamma-BHC (Lindane)	ND	H	0.050	0.0080	ug/L		11/29/22 08:31	11/30/22 12:31	1
Heptachlor	ND	H	0.050	0.0085	ug/L		11/29/22 08:31	11/30/22 12:31	1
Heptachlor epoxide	ND	H	0.050	0.0074	ug/L		11/29/22 08:31	11/30/22 12:31	1

Client Sample ID: MW-2022-4D
Date Collected: 11/15/22 14:15
Date Received: 11/21/22 15:15

Lab Sample ID: 480-204058-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 12:31	1
Toxaphene	ND	H	0.50	0.12	ug/L		11/29/22 08:31	11/30/22 12:31	1
trans-Chlordane	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*50*		*20 - 120*	*11/29/22 08:31*	*11/30/22 12:31*	*1*
Tetrachloro-m-xylene	*69*		*44 - 120*	*11/29/22 08:31*	*11/30/22 12:31*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/23/22 08:45	11/27/22 23:23	1
PCB-1221	ND		0.50	0.18	ug/L		11/23/22 08:45	11/27/22 23:23	1
PCB-1232	ND		0.50	0.18	ug/L		11/23/22 08:45	11/27/22 23:23	1
PCB-1242	ND		0.50	0.18	ug/L		11/23/22 08:45	11/27/22 23:23	1
PCB-1248	ND		0.50	0.18	ug/L		11/23/22 08:45	11/27/22 23:23	1
PCB-1254	ND		0.50	0.25	ug/L		11/23/22 08:45	11/27/22 23:23	1
PCB-1260	ND		0.50	0.25	ug/L		11/23/22 08:45	11/27/22 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*39 - 121*	*11/23/22 08:45*	*11/27/22 23:23*	*1*
Tetrachloro-m-xylene	*89*		*39 - 121*	*11/23/22 08:45*	*11/27/22 23:23*	*1*
DCB Decachlorobiphenyl	*60*		*19 - 120*	*11/23/22 08:45*	*11/27/22 23:23*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*11/23/22 08:45*	*11/27/22 23:23*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		11/22/22 09:53	11/28/22 15:47	1
2,4-D	ND		0.48	0.16	ug/L		11/22/22 09:53	11/28/22 15:47	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		11/22/22 09:53	11/28/22 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*48 - 132*	*11/22/22 09:53*	*11/28/22 15:47*	*1*
2,4-Dichlorophenylacetic acid	*82*		*48 - 132*	*11/22/22 09:53*	*11/28/22 15:47*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	0.94	0.25	ug/L		11/28/22 03:00	11/29/22 12:49	1
Disulfoton	ND	H	0.94	0.38	ug/L		11/28/22 03:00	11/29/22 12:49	1
Famphur	ND	H	0.94	0.30	ug/L		11/28/22 03:00	11/29/22 12:49	1
Methyl parathion	ND	H	0.94	0.32	ug/L		11/28/22 03:00	11/29/22 12:49	1
Ethyl Parathion	ND	H	0.94	0.34	ug/L		11/28/22 03:00	11/29/22 12:49	1
Phorate	ND	H	0.94	0.36	ug/L		11/28/22 03:00	11/29/22 12:49	1
Sulfotepp	ND	H	0.94	0.38	ug/L		11/28/22 03:00	11/29/22 12:49	1

UJ

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*86*		*25 - 127*	*11/28/22 03:00*	*11/29/22 12:49*	*1*
Tributyl phosphate	*80*		*25 - 127*	*11/28/22 03:00*	*11/29/22 12:49*	*1*
Triphenylphosphate	*90*		*70 - 155*	*11/28/22 03:00*	*11/29/22 12:49*	*1*
Triphenylphosphate	*88*		*70 - 155*	*11/28/22 03:00*	*11/29/22 12:49*	*1*

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-204058-1

Date Collected: 11/15/22 14:15
Matrix: Water

Date Received: 11/21/22 15:15

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.66	ng/L		11/28/22 16:30	11/29/22 17:47	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	~~1.8~~ ~~J B~~ 4.3 U		4.3	1.1	ng/L		11/28/22 16:30	11/29/22 17:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.4	ng/L		11/28/22 16:30	11/29/22 17:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.6	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.53	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorobutanoic acid (PFBA)	ND		4.3	1.0	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.42	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.35	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.46	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	1.7	0.47	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.56	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.79	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorooctanesulfonic acid (PFOS)	**2.4**		1.7	0.73	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.65	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.58	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.41	ng/L		11/28/22 16:30	11/29/22 17:47	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.47	ng/L		11/28/22 16:30	11/29/22 17:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*96*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C2 PFDoA	*88*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C2 PFHxA	*98*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C2 PFTeDA	*87*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C2 PFUnA	*93*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C3 PFBS	*104*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C4 PFBA	*97*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C4 PFHpA	*96*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C4 PFOA	*100*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C4 PFOS	*102*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C5 PFNA	*103*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C5 PFPeA	*96*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
13C8 FOSA	*102*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
18O2 PFHxS	*104*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
d3-NMeFOSAA	*91*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
M2-6:2 FTS	*112*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*
M2-8:2 FTS	*105*		*50 - 150*	*11/28/22 16:30*	*11/29/22 17:47*	*1*

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24	0.13	pg/L		01/05/23 09:42	01/05/23 18:54	1

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-204058-1

Date Collected: 11/15/22 14:15
Matrix: Water

Date Received: 11/21/22 15:15

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	0.52	J B 24 U	24	0.040	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,4,7,8,9-HpCDF	ND		24	0.049	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,4,7,8-HxCDD	0.74	J I B 24 U	24	0.063	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,4,7,8-HxCDF	0.49	J I JNX	24	0.10	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,6,7,8-HxCDD	0.36	J I B 24 U	24	0.064	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,6,7,8-HxCDF	0.52	J I JNX	24	0.10	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,7,8,9-HxCDD	ND		24	0.068	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,7,8,9-HxCDF	0.97	J I JNX	24	0.13	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,7,8-PeCDD	ND		24	0.094	pg/L		01/05/23 09:42	01/05/23 18:54	1
1,2,3,7,8-PeCDF	0.16	J I B 24 U	24	0.072	pg/L		01/05/23 09:42	01/05/23 18:54	1
2,3,4,6,7,8-HxCDF	1.0	J I B	24	0.13	pg/L		01/05/23 09:42	01/05/23 18:54	1
2,3,4,7,8-PeCDF	0.51	J I B	24	0.073	pg/L		01/05/23 09:42	01/05/23 18:54	1
2,3,7,8-TCDD	ND		4.8	0.10	pg/L		01/05/23 09:42	01/05/23 18:54	1
2,3,7,8-TCDF	ND		4.8	0.10	pg/L		01/05/23 09:42	01/05/23 18:54	1
OCDD	0.77	J I B 110 U	110	0.077	pg/L		01/05/23 09:42	01/05/23 18:54	1
OCDF	ND		48	0.072	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total HpCDD	ND		24	0.13	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total HpCDF	0.52	J B 24 U	24	0.044	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total HxCDD	1.1	J I B	24	0.065	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total HxCDF	3.0	J I B	24	0.12	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total PeCDD	ND		24	0.094	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total PeCDF	0.67	J I B 24 U	24	0.072	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total TCDD	ND		4.8	0.10	pg/L		01/05/23 09:42	01/05/23 18:54	1
Total TCDF	ND		4.8	0.10	pg/L		01/05/23 09:42	01/05/23 18:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*63*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*68*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,4,7,8-HxCDD	*61*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,4,7,8-HxCDF	*65*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,6,7,8-HxCDF	*66*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,7,8,9-HxCDD	*54*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,7,8,9-HxCDF	*54*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,7,8-PeCDD	*60*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-2,3,4,6,7,8-HxCDF	*48*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-2,3,4,7,8-PeCDF	*48*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-2,3,7,8-TCDF	*52*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-OCDD	*74*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*
13C-OCDF	*73*		*40 - 135*	*01/05/23 09:42*	*01/05/23 18:54*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/23/22 09:46	11/30/22 02:13	1
Arsenic	ND		0.015	0.0056	mg/L		11/23/22 09:46	11/30/22 02:13	1
Barium	0.0076		0.0020	0.00070	mg/L		11/23/22 09:46	11/30/22 02:13	1
Beryllium	ND		0.0020	0.00030	mg/L		11/23/22 09:46	11/30/22 02:13	1

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-204058-1

Date Collected: 11/15/22 14:15
Matrix: Water
Date Received: 11/21/22 15:15

Method: SW846 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0020	0.00050	mg/L		11/23/22 09:46	11/30/22 02:13	1
Chromium	ND		0.0040	0.0010	mg/L		11/23/22 09:46	11/30/22 02:13	1
Cobalt	ND		0.0040	0.00063	mg/L		11/23/22 09:46	11/30/22 02:13	1
Copper	ND		0.010	0.0016	mg/L		11/23/22 09:46	11/30/22 02:13	1
Lead	ND		0.010	0.0030	mg/L		11/23/22 09:46	11/30/22 02:13	1
Nickel	ND		0.010	0.0013	mg/L		11/23/22 09:46	11/30/22 02:13	1
Selenium	ND		0.025	0.0087	mg/L		11/23/22 09:46	11/30/22 02:13	1
Silver	ND		0.0060	0.0017	mg/L		11/23/22 09:46	11/30/22 02:13	1
Thallium	ND		0.020	0.010	mg/L		11/23/22 09:46	11/30/22 02:13	1
Tin	ND		0.010	0.0051	mg/L		11/23/22 09:46	11/30/22 02:13	1
Vanadium	ND		0.0050	0.0015	mg/L		11/23/22 09:46	11/30/22 02:13	1
Zinc	ND		0.010	0.0015	mg/L		11/23/22 09:46	11/30/22 02:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		11/23/22 11:28	11/23/22 14:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			11/28/22 16:35	1
Sulfide (SM 4500 S2 F)	ND	F1	1.0	0.67	mg/L			11/22/22 12:00	1

Client Sample ID: TRIP BLANK 111522
Lab Sample ID: 480-204058-2

Date Collected: 11/15/22 00:00
Matrix: Water
Date Received: 11/21/22 15:15

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/23/22 06:09	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/23/22 06:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/23/22 06:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/23/22 06:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/23/22 06:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/23/22 06:09	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/23/22 06:09	1
1,2-Dibromo-3-Chloropropane	ND	UJ	1.0	0.39	ug/L			11/23/22 06:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/23/22 06:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/23/22 06:09	1
2-Butanone (MEK)	ND	UJ	10	1.3	ug/L			11/23/22 06:09	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			11/23/22 06:09	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/23/22 06:09	1 R
2-Hexanone	ND	*+ UJ	5.0	1.2	ug/L			11/23/22 06:09	1
3-Chloro-1-propene	ND	UJ	1.0	0.44	ug/L			11/23/22 06:09	1
4-Methyl-2-pentanone (MIBK)	ND	*+ UJ	5.0	2.1	ug/L			11/23/22 06:09	1
Acetone	ND		10	3.0	ug/L			11/23/22 06:09	1
Acetonitrile	ND	UJ	15	4.9	ug/L			11/23/22 06:09	1
Acrolein	ND		20	0.91	ug/L			11/23/22 06:09	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/23/22 06:09	1
Benzene	ND		1.0	0.41	ug/L			11/23/22 06:09	1
Bromoform	ND		1.0	0.26	ug/L			11/23/22 06:09	1

Client Sample ID: TRIP BLANK 111522
Lab Sample ID: 480-204058-2

Date Collected: 11/15/22 00:00
Matrix: Water
Date Received: 11/21/22 15:15

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	0.69	ug/L			11/23/22 06:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/23/22 06:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/23/22 06:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/23/22 06:09	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/23/22 06:09	1
Chloroethane	ND		1.0	0.32	ug/L			11/23/22 06:09	1
Chloroform	ND		1.0	0.34	ug/L			11/23/22 06:09	1
Chloromethane	ND		1.0	0.35	ug/L			11/23/22 06:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/23/22 06:09	1
Dibromomethane	ND		1.0	0.41	ug/L			11/23/22 06:09	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/23/22 06:09	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/23/22 06:09	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/23/22 06:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/23/22 06:09	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/23/22 06:09	1
Iodomethane	ND		1.0	0.30	ug/L			11/23/22 06:09	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/23/22 06:09	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/23/22 06:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/23/22 06:09	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/23/22 06:09	1
o-Xylene	ND		1.0	0.76	ug/L			11/23/22 06:09	1
Propionitrile	ND	UJ	10	5.8	ug/L			11/23/22 06:09	1
Styrene	ND		1.0	0.73	ug/L			11/23/22 06:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/23/22 06:09	1
Toluene	ND		1.0	0.51	ug/L			11/23/22 06:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/23/22 06:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/23/22 06:09	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			11/23/22 06:09	1
Trichloroethene	ND		1.0	0.46	ug/L			11/23/22 06:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/23/22 06:09	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/23/22 06:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/23/22 06:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*11/23/22 06:09*	*1*
4-Bromofluorobenzene (Surr)	*85*		*73 - 120*		*11/23/22 06:09*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*11/23/22 06:09*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*11/23/22 06:09*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-204125-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50543R
Review Level: Tier I/II
Project: 30181915 Task 0003

Contents

1 Summary 8
1.1 Analytical Data Package Documentation 8
1.2 Data Validation Procedures 9
2 Volatile Organic Compound Analyses 11
2.1 Holding Times 11
2.2 Blank Contamination 12
2.3 Mass Spectrometer Tuning 12
2.4 Calibration 12
2.4.1 Initial Calibration 12
2.4.2 Continuing Calibration 13
2.5 Surrogates/System Monitoring Compounds 14
2.6 Internal Standard Performance 15
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 15
2.8 Laboratory Control Sample Analysis 15
2.9 Field Duplicate Analysis 15
2.10 Compound Identification 15
2.11 System Performance and Overall Assessment 16
2.12 Data Validation Checklist 16
3 Semi-volatile Organic Compound Analyses 17
3.1 Holding Times 17
3.2 Blank Contamination 18
3.3 Mass Spectrometer Tuning 18
3.4 Calibration 18
3.4.1 Initial Calibration 19
3.4.2 Continuing Calibration 20
3.5 Surrogates/System Monitoring Compounds 21
3.6 Internal Standard Performance 21
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 21
3.8 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 22
3.9 Field Duplicate Analysis 23
3.10 Compound Identification 23
3.11 System Performance and Overall Assessment 24

3.12 Data Validation Checklist 24
4 Polychlorinated Biphenyl Analyses 25
4.1 Holding Times 25
4.2 Blank Contamination 26
4.3 System Performance 26
4.4 Calibration 26
4.4.1 Initial Calibration 26
4.4.2 Continuing Calibration 26
4.5 Surrogates/System Monitoring Compounds 27
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 27
4.7 Laboratory Control Sample Analysis / Laboratory Control Sample Duplicate 27
4.8 Field Duplicate Analysis 27
4.9 Compound Identification 27
4.10 System Performance and Overall Assessment 28
4.11 Data Validation Checklist 28
5 Pesticide/Herbicide Analyses 29
5.1 Holding Times 29
5.2 Blank Contamination 30
5.3 System Performance 31
5.4 Calibration 31
5.4.1 Initial Calibration 31
5.4.2 Continuing Calibration 31
5.5 Surrogates/System Monitoring Compounds 32
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 33
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 33
5.8 Field Duplicate Analysis 34
5.9 Compound Identification 34
5.10 System Performance and Overall Assessment 35
5.11 Data Validation Checklist 35
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 36
6.1 Holding Times 36
6.2 Blank Contamination 36
6.3 Mass Spectrometer Tuning 38

6.4 Calibration 38
6.4.1 Initial Calibration 38
6.4.2 Continuing Calibration 38
6.5 Labeled Standard Performance 38
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 39
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 39
6.8 Field Duplicate Analysis 39
6.9 Compound Identification 40
6.10 System Performance and Overall Assessment 40
6.11 Data Validation Checklist 40
7 Perfluoroalkyl Substances Analyses 42
7.1 Holding Times 42
7.2 Blank Contamination 42
7.3 Mass Calibration 42
7.4 Calibration 43
7.4.1 Initial Calibration 43
7.4.2 Continuing Calibration 43
7.5 Isotopically Labelled Standards 43
7.5.1 Extracted Internal Standard 43
7.5.2 Injection Internal Standards 43
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 43
7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 44
7.8 Field Duplicate Analysis 44
7.9 Compound Identification 44
7.10 System Performance and Overall Assessment 44
7.11 Data Validation Checklist 44
8 Metals Analyses 46
8.1 Holding Times 46
8.2 Blank Contamination 46
8.3 Calibration 47
8.3.1 Initial Calibration and Continuing Calibration 47
8.3.2 Lower Limit of Quantitation Check Standard 47
8.3.3 ICP Interference Control Sample 47

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 47
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 47
8.4.2 Laboratory Duplicate Analysis 48
8.5 Field Duplicate Analysis 48
8.6 Laboratory Control Sample Analysis 48
8.7 Serial Dilution 48
8.8 System Performance and Overall Assessment 48
8.9 Data Validation Checklist 49
9 General Chemistry Analyses 50
9.1 Holding Times 50
9.2 Blank Contamination 50
9.3 Calibration 51
9.3.1 Initial Calibration and Continuing Calibration 51
9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 51
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 51
9.4.2 Laboratory Duplicate Analysis 52
9.5 Field Duplicate Analysis 52
9.6 Laboratory Control Sample (LCS) Analysis 52
9.7 System Performance and Overall Assessment 53
9.8 Data Validation Checklist for General Chemistry 53
10 Overall Data Usability 54

Tables

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation 8
Table 2. Evaluation of Data Package Completeness 9
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 11
Table 4. Holding Time for Method SW-846 8260C 11
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 6. Initial Calibration Evaluation Criteria and Qualifications 13
Table 7. Summary of Compounds Outside Specified Calibration Control Limits 14
Table 8. Continuing Calibration Evaluation Criteria and Qualifications 14
Table 9. Holding Time for Method SW-846 8270D 18
Table 10. Summary of Blank Contamination Qualifications 18

Table 11. Summary of Compounds Outside Specified Calibration Control Limits 19

Table 12. Initial Calibration Evaluation Criteria and Qualifications 19

Table 13. Summary of Compounds Outside Specified Calibration Control Limits 20

Table 14. Continuing Calibration Evaluation Criteria and Qualifications 20

Table 15. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 22

Table 16. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 22

Table 17. Samples with Relative Percent Difference Greater than Control Limits 23

Table 18. Relative Percent Difference Evaluation Criteria and Qualifications 23

Table 19. Holding Time for Method SW-846 8082A 25

Table 20. Holding Time for Method SW-846 8081B/8141B/8151A 29

Table 21. Summary of Holding Time Exceedances 30

Table 22. Summary of Holding Time Qualifications 30

Table 23. Summary of Blank Contamination Qualifications 30

Table 24. Summary of Compounds Outside Specified Calibration Control Limits 31

Table 25. Continuing Calibration Evaluation Criteria and Qualifications 31

Table 26. Samples Associated with Surrogates Exhibiting Recoveries Outside of the Control Limits 32

Table 27. Evaluation Criteria for Surrogate Recoveries 32

Table 28. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits 33

Table 29. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 33

Table 30. Samples with Relative Percent Difference Greater than Control Limits 34

Table 30. Relative Percent Difference Evaluation Criteria and Qualifications 34

Table 31. Holding Time for Method SW-846 8290A 36

Table 32. Summary of Blank Contamination Qualifications 37

Table 33. Samples Associated with Labelled Standards Exhibiting Recoveries Outside of the Control Limits 38

Table 34. Evaluation Criteria for Labelled Standard Recoveries 39

Table 35. Holding Time for Method 537 42

Table 36. Holding Time for Method SW-846 6010C/7470A 46

Table 37. Specified Holding Times 50

Table 38. Summary of Holding Time Exceedances 50

Table 39. Summary of Holding Time Qualifications 50

Table 40. Samples with Matrix Spike Recoveries Outside Control Limits..... 51

Table 41. Matrix Spike Recovery Evaluation Criteria and Qualifications 52

Table 42. Overall Summary of Data Usability 54

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-204125-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-RB-1	480-204125-1	Water	11/17/2022		X	X	X	X	X	X	X
MW-2022-2	480-204125-2	Water	11/17/2022		X	X	X	X	X	X	X
TRIPBLANK 111722	480-204125-3	Water	11/17/2022		X						
MW-2022-3	480-204125-4	Water	11/17/2022		X	X	X	X	X	X	X

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	2	0	2	4
SVOCs	0	0	0	2	0	1	3
PCBs	0	0	0	2	0	1	3
PEST	0	0	0	2	0	1	3
HERB	0	0	0	2	0	1	3
OPC	0	0	0	2	0	1	3
PCDD/PCDF	0	0	0	2	0	1	3
PFAS	0	0	0	2	0	1	3
Metals	0	0	0	2	0	1	3
MISC	0	0	0	2	0	1	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial Calibration	Compound	Criteria
MW-2022-RB-1 MW-2022-2	ICV %D	Acrolein	-27.6%

Sample ID	Initial Calibration	Compound	Criteria
TRIPBLANK 111722 MW-2022-3			

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Initial Calibration Evaluation Criteria and Qualifications

Initial Calibration	Criteria	Sample Result	Qualification
Initial Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Initial Calibration Verification (ICV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 7. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-RB-1 MW-2022-2 TRIPBLANK 111722 MW-2022-3	CCV %D	trans-1,4-Dichloro-2-butene	+29.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 8. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment Blanks/Field Blanks		X		X	
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 9. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 10. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-2	Di-n-butyl phthalate (MB, RB)	Detected sample results <RL and <BAL	“U” at the RL
	Pyridine (MB, RB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-3	Di-n-butyl phthalate (MB, RB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RB Rinse blank
RL Reporting limit

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at

the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

All compounds associated with the initial calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 11. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Initial Calibration	Compound	Criteria
MW-2022-RB-1 MW-2022-2 MW-2022-3	ICV %D	a,a-Dimethylphenethylamine	+26.5%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 12. Initial Calibration Evaluation Criteria and Qualifications

Initial Calibration	Criteria	Sample Result	Qualification
Initial Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 30% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ

Initial Calibration	Criteria	Sample Result	Qualification
Initial Calibration Verification (ICV)		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 13. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-RB-1 MW-2022-2 MW-2022-3	CCV %D	a,a-Dimethylphenethylamine	-37.2%
		4-Nitroquinoline-1-oxide	-48.0%
	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0048

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 14. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration Verification (CCV)		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

3.8 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample/laboratory control sample (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 15. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-RB-1 MW-2022-2 MW-2022-3	Prep Batch: 651208	2,3,4,6-Tetrachlorophenol	>UL	AC
		3,3'-Dimethylbenzidine	<LL but >10%	<LL but >10%
		a,a-Dimethylphenethylamine	<10%	<10%
		Benzidine	<10%	<10%
		Kepone	<LL but >10%	AC
		Methapyrilene	<LL but >10%	<LL but >10%
		N-Nitrosomorpholine	AC	<10%
		Pentachloronitrobenzene	>UL	>UL
		p-Phenylene diamine	<10%	<10%

Notes:

LL Lower control limit
UL Upper control limit
AC Acceptable

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 16. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R

Control Limit	Sample Result	Qualification
	Detect	J

Samples associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Table 17. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Batch	Compounds
MW-2022-RB-1	Prep Batch: 651208	Benzidine
MW-2022-2		Kepone
MW-2022-3		N-Nitrosomorpholine

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 18. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Picoline, 4-Nitroquinoline-1-oxide, Aramite, Total, and Sulfotepp; however, they were not spiked or evaluated in the LCS/LCSD. Therefore, these results will be qualified as estimated, J/UJ.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
B. Equipment Blanks/Field Blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X	X	X	
Continuing calibration RRFs		X	X		

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The continuing calibration %D were within the specified control limits.

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis / Laboratory Control Sample Duplicate

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment Blanks/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

Note: The case narrative section documented that the samples MW-2022-RB-1 (480-204125-1), MW-2022-2 (480-204125-2), and MW-2022-3 (480-204125-3) were re-prepared and re-analyzed beyond the holding time for the analysis of method SW-846 8081B due to LCS recoveries exceedance during the initial analysis. The initial analysis results used for documentation purpose and sample results were qualified due to LCS recovery exceedance. Refer to Section 5.7 for details.

Note: The case narrative section documented that the samples MW-2022-RB-1 (480-204125-1), MW-2022-2 (480-204125-2), and MW-2022-3 (480-204125-3) were re-prepared and re-analyzed beyond the holding time for the analysis of method SW-846 8151A due to surrogate and LCS recoveries exceedance during the initial analysis. The initial analysis results used for documentation purpose and sample results were qualified due to surrogate recovery and LCS recovery exceedances. Refer to Sections 5.5, 5.7 for details respectively.

The analyses that exceeded the holding are presented in the following table.

Table 21. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-RB-1 MW-2022-2 MW-2022-3	The samples were extracted on 13th day from collection	7 days from collection to extraction (SW-846 8141B)

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 22. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 5. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2022-2	4,4'-DDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 24. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-RB-1 MW-2022-2 MW-2022-3	CCV %D	Dimethoate	-54.4%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	%RSD > 20% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration Verification (CCV)	%D >15% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

Samples associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Table 26. Samples Associated with Surrogates Exhibiting Recoveries Outside of the Control Limits

Sample ID	Surrogate	Recovery
MW-2022-RB-1 MW-2022-2	2,4-Dichlorophenylacetic acid (Method SW-846 8151A)	<LL but >10%

Note:
LL Lower control limit

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table 27. Evaluation Criteria for Surrogate Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Surrogates diluted below the calibration curve due to the high concentration of a target compound.	Non-detect	UJ/J[1]
	Detect	

Note:
1. A more concentrated analysis was not performed with surrogate compounds within the calibration range; therefore, no determination of extraction efficiency could be made.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 28. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-RB-1 MW-2022-2 MW-2022-3	Prep Batch: 651231 (Method: SW-846 8081B)	4,4'-DDE	<LL but >10%	<LL but >10%
	Prep Batch: 651209 (Method: SW-846 8151A)	2,4-D	AC	<LL but >10%
		Silvex (2,4,5-TP)	AC	<LL but >10%

Notes:
AC Acceptable
LL Lower control limit

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 29. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ

Control Limit	Sample Result	Qualification
	Detect	J
< 10%	Non-detect	R
	Detect	J

Samples associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Table 30. Samples with Relative Percent Difference Greater than Control Limits

Sample ID	Batch	Compound
MW-2022-RB-1 MW-2022-2 MW-2022-3	Prep Batch: 651209 (Method: SW-846 8151A)	2,4-D
		Silvex (2,4,5-TP)

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Table 30. Relative Percent Difference Evaluation Criteria and Qualifications

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
B. Equipment Blanks/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X	X		
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
RPD Relative percent difference
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 31. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 32. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-2	1,2,3,4,6,7,8-HpCDF (MB, RB) 1,2,3,4,7,8,9-HpCDF (MB, RB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 2,3,4,6,7,8-HxCDF (MB) OCDD (MB, RB) OCDF (MB) Total HpCDF (MB, RB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-3	1,2,3,4,6,7,8-HpCDF (MB, RB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB, RB) OCDF (MB) Total HpCDF (MB, RB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:

MB Method blank
RB Rinse blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

The continuing calibration %D were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

Samples associated with labelled standards exhibiting recoveries outside of the control limits presented in the following table.

Table 33. Samples Associated with Labelled Standards Exhibiting Recoveries Outside of the Control Limits

Sample ID	Labelled Standards	Associated Compounds	Recovery
MW-2022-2	13C-2,3,4,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	<LL but >10%
	13C-2,3,4,7,8-PeCDF	2,3,4,7,8-PeCDF	<LL but >10%
	13C-2,3,7,8-TCDF	2,3,7,8-TCDF	<LL but >10%

Note:
LL Lower control limit

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Table 34. Evaluation Criteria for Labelled Standard Recoveries

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less

than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
B. Equipment Blanks/Field Blanks		X	X		
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X	X		
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio $\geq$ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix $\leq$ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					

%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 35. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of ten times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the continuing calibrations were within the specified control limits.

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. Extracted Internal Standard (EIS) recoveries must be within the limits of 50% to150% (25% to 150% for poor responding analytes FBA, PFPeA, fluorotelomer sulfonates).

All EIS recoveries were within the specified control limits.

7.5.2 Injection Internal Standards

Injection internal standards are added to the aliquot of sample dilutions, QC samples, and standards just prior to analysis. Peak areas must be within 50-150% of the area measured in the ICAL midpoint standard. On days when ICAL is not performed, the peak areas must be within 50-150% of the peak area measured in daily initial CCV.

Samples associated with internal standards exhibited responses within the control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate sample was not collected within this SDG.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Blanks					
A. Method Blanks		X		X	
B. Field Blanks		X		X	
C. Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)	X				X
Extracted Internal Standards (EIS) %R		X		X	
Injection Internal Standard %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier III Validation					
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
Instrument sensitivity check		X		X	
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
windows					
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 36. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Nickel was detected in the associated method blank batch- 651518; however, the associated sample results were non-detect. No qualification of the sample results was required.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on sample associated with this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample.

The serial dilution was not performed on sample associated with this SDG.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		
C. Equipment Blanks/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery

RPD Relative percent difference
%D Percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 37. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

The analyses that exceeded the holding are presented in the following table.

Table 38. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-RB-1 MW-2022-2 MW-2022-3	The samples were extracted on 22nd day from collection	14 days from collection to analysis (Cyanide)

Sample results associated with sample locations analyzed by analytical method SW-846 9012B were qualified, as specified in the table below. All other holding times were met.

Table 39. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 652955 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample for the analyte cyanide associated with this SDG.

The MS analysis performed on sample MW-2022-RB-1 for the analyte sulfide exhibiting recoveries outside of the control limits are presented in the following table.

Table 40. Samples with Matrix Spike Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery
MW-2022-RB-1	Sulfide	148%

The criteria used to evaluate MS recoveries are presented in the following table. In the case of an MS deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte sulfide associated with this SDG.

Table 41. Matrix Spike Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS percent recovery <30%	Non-detect	R
	Detect	J
MS percent recovery >125%	Non-detect	No Action
	Detect	J

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis performed on sample MW-2022-RB-1 exhibited acceptable RPD value.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate sample was not collected within this SDG.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks		X	X		
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 42. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.1%	4
SVOCs	96.0%	15
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: August 3, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 3, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

480-204125 Chain of Custody

Other:

Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA

S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-RB-1	11/17/22	8:30	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-2	11/17/22	11:45	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 111722	11/17/22	---	G	Water									X							2	
MW-2022-3	11/17/22	14:35	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	

TMK

11-21-22

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: fedexgrand

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Penny T. Rabasco	11-21-22		[signature]	11-21-22 0900	TETN
[signature]	11-21-2022 1500	EETN	[signature]	11/23/22 1100	TVA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.4 1.7 2.0 2.1 # 1 ICE

Ver: 01/16/2019

12/19/2022
3:09 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-204125 Chain of Custody

Eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	Lo.: 7154.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofir.	1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP - New York, State - Massachusetts	Job #: 480-204125-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 12/8/2022		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-RB-1 (480-204125-1)	11/17/22	08 30 Eastern		Water			X	2	
MW-2022-2 (480-204125-2)	11/17/22	11 45 Eastern		Water			X	2	
MW-2022-3 (480-204125-4)	11/17/22	14 35 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date:	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		11-28-22 1605	JAB		11-29-22 0700	BTAPH
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-204125 Chain of Custody

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 480-77147 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York, State - Massachusetts	Job #: 480-204125-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 12/8/2022		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-RB-1 (480-204125-1)	11/17/22	08:30 Eastern		Water			X	2	
MW-2022-2 (480-204125-2)	11/17/22	11:45 Eastern		Water			X	2	
MW-2022-3 (480-204125-4)	11/17/22	14:35 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	11-28-22 1600	TAB	[signature]	11/29/22 1030	ETA Burl
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-77151.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-204125-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 12/8/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-RB-1 (480-204125-1)	11/17/22	08:30 Eastern		Water			X	2	
MW-2022-2 (480-204125-2)	11/17/22	11:45 Eastern		Water			X	2	
MW-2022-3 (480-204125-4)	11/17/22	14:35 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11-28-22 1600	JAB			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	11/29/22 1010	

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4

MB

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water

Date Received: 11/23/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/28/22 14:23	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/28/22 14:23	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/28/22 14:23	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/28/22 14:23	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/28/22 14:23	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/28/22 14:23	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/28/22 14:23	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/28/22 14:23	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/28/22 14:23	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/28/22 14:23	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			11/28/22 14:23	1	
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/28/22 14:23	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/28/22 14:23	1	R
2-Hexanone	ND		5.0	1.2	ug/L			11/28/22 14:23	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/28/22 14:23	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/28/22 14:23	1	
Acetone	ND		10	3.0	ug/L			11/28/22 14:23	1	
Acetonitrile	ND	UJ	15	4.9	ug/L			11/28/22 14:23	1	
Acrolein	ND	UJ	20	0.91	ug/L			11/28/22 14:23	1	
Acrylonitrile	ND		5.0	0.83	ug/L			11/28/22 14:23	1	
Benzene	ND		1.0	0.41	ug/L			11/28/22 14:23	1	
Bromoform	ND		1.0	0.26	ug/L			11/28/22 14:23	1	
Bromomethane	ND		1.0	0.69	ug/L			11/28/22 14:23	1	
Carbon disulfide	ND		1.0	0.19	ug/L			11/28/22 14:23	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/28/22 14:23	1	
Chlorobenzene	ND		1.0	0.75	ug/L			11/28/22 14:23	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/28/22 14:23	1	
Chloroethane	ND		1.0	0.32	ug/L			11/28/22 14:23	1	
Chloroform	ND		1.0	0.34	ug/L			11/28/22 14:23	1	
Chloromethane	ND		1.0	0.35	ug/L			11/28/22 14:23	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/28/22 14:23	1	
Dibromomethane	ND		1.0	0.41	ug/L			11/28/22 14:23	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/28/22 14:23	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/28/22 14:23	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/28/22 14:23	1	
Ethylbenzene	ND		1.0	0.74	ug/L			11/28/22 14:23	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/28/22 14:23	1	
Iodomethane	ND		1.0	0.30	ug/L			11/28/22 14:23	1	
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/28/22 14:23	1	
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/28/22 14:23	1	
Methylene Chloride	ND		1.0	0.44	ug/L			11/28/22 14:23	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/28/22 14:23	1	
o-Xylene	ND		1.0	0.76	ug/L			11/28/22 14:23	1	
Propionitrile	ND	UJ	10	5.8	ug/L			11/28/22 14:23	1	
Styrene	ND		1.0	0.73	ug/L			11/28/22 14:23	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			11/28/22 14:23	1	
Toluene	ND		1.0	0.51	ug/L			11/28/22 14:23	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/28/22 14:23	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/28/22 14:23	1	

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND	UJ	1.0	0.22	ug/L			11/28/22 14:23	1
Trichloroethene	ND		1.0	0.46	ug/L			11/28/22 14:23	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/28/22 14:23	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/28/22 14:23	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/28/22 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*11/28/22 14:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*11/28/22 14:23*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*11/28/22 14:23*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/28/22 14:23*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,4-Dioxane	ND		10	1.1	ug/L		11/23/22 12:49	11/28/22 14:31	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/23/22 12:49	11/28/22 14:31	1
1-Naphthylamine	ND		10	1.3	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,3,4,6-Tetrachlorophenol	ND	**	5.0	0.32	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 14:31	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Naphthylamine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Nitroaniline	ND		10	0.42	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Picoline	ND	*	80	1.4	ug/L		11/23/22 12:49	11/28/22 14:31	1
2-Toluidine	ND	UJ	10	1.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 14:31	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1
3,3'-Dimethylbenzidine	ND	*	40	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
3-Methylcholanthrene	ND	UJ	10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
3-Methylphenol	ND		10	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1
3-Nitroaniline	ND		10	0.48	ug/L		11/23/22 12:49	11/28/22 14:31	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water

Date Received: 11/23/22 11:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Methylphenol	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/23/22 12:49	11/28/22 14:31	1	
4-Nitrophenol	ND		10	1.5	ug/L		11/23/22 12:49	11/28/22 14:31	1	
~~4-Nitroquinoline-1-oxide~~	~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 14:31~~	~~1~~	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/23/22 12:49	11/28/22 14:31	1	
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 14:31~~	~~1~~	R
Acenaphthene	ND		5.0	0.41	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Acetophenone	ND		5.0	0.54	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Aniline	ND		10	0.61	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Anthracene	ND		5.0	0.28	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Aramite, Total	ND	~~*1~~ UJ	20	1.6	ug/L		11/23/22 12:49	11/28/22 14:31	1	
~~Benzidine~~	~~ND~~	~~*1~~	~~80~~	~~2.2~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 14:31~~	~~1~~	R
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/23/22 12:49	11/28/22 14:31	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Chrysene	ND		5.0	0.33	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Diallate	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Dibenzofuran	ND		10	0.51	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Dimethoate	ND		10	0.54	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Di-n-butyl phthalate	**0.79**	**J ~~B~~**	5.0	0.31	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Dinoseb	ND		10	2.9	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Diphenylamine	ND		10	0.82	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Disulfoton	ND		10	0.42	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Chlorobenzilate	ND		20	0.67	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Famphur	ND		40	1.9	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Fluoranthene	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Fluorene	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 14:31	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/23/22 12:49	11/28/22 14:31	1	

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water

Date Received: 11/23/22 11:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 14:31	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 14:31	1
Hexachloropropene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 14:31	1
Isodrin	ND		10	0.18	ug/L		11/23/22 12:49	11/28/22 14:31	1
Isophorone	ND		5.0	0.43	ug/L		11/23/22 12:49	11/28/22 14:31	1
Isosafrole	ND		10	0.58	ug/L		11/23/22 12:49	11/28/22 14:31	1
Kepone	ND	*- *1 UJ	50	1.8	ug/L		11/23/22 12:49	11/28/22 14:31	1
Methapyrilene	ND	*- UJ	50	1.8	ug/L		11/23/22 12:49	11/28/22 14:31	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
Naphthalene	ND		5.0	0.76	ug/L		11/23/22 12:49	11/28/22 14:31	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosomorpholine	ND	*-	10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1 R
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/23/22 12:49	11/28/22 14:31	1
Ethyl Parathion	ND		10	0.64	ug/L		11/23/22 12:49	11/28/22 14:31	1
Methyl parathion	ND		10	0.37	ug/L		11/23/22 12:49	11/28/22 14:31	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/23/22 12:49	11/28/22 14:31	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/23/22 12:49	11/28/22 14:31	1
Pentachloronitrobenzene	ND	*+	10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
Pentachlorophenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:31	1
Phenacetin	ND		10	0.61	ug/L		11/23/22 12:49	11/28/22 14:31	1
Phenanthrene	ND		5.0	0.44	ug/L		11/23/22 12:49	11/28/22 14:31	1
Phenol	ND		5.0	0.39	ug/L		11/23/22 12:49	11/28/22 14:31	1
Phorate	ND		10	0.50	ug/L		11/23/22 12:49	11/28/22 14:31	1
p-Phenylene diamine	ND	*-	800	200	ug/L		11/23/22 12:49	11/28/22 14:31	1 R
Pronamide	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:31	1
Pyrene	ND		5.0	0.34	ug/L		11/23/22 12:49	11/28/22 14:31	1
Pyridine	**4.1**	**J B**	25	0.41	ug/L		11/23/22 12:49	11/28/22 14:31	1
Safrole	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 14:31	1
Sulfotepp	ND	UJ	10	0.64	ug/L		11/23/22 12:49	11/28/22 14:31	1
Thionazin	ND		10	0.38	ug/L		11/23/22 12:49	11/28/22 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*41 - 120*	*11/23/22 12:49*	*11/28/22 14:31*	*1*
2-Fluorobiphenyl (Surr)	*108*		*48 - 120*	*11/23/22 12:49*	*11/28/22 14:31*	*1*
2-Fluorophenol (Surr)	*69*		*35 - 120*	*11/23/22 12:49*	*11/28/22 14:31*	*1*
Nitrobenzene-d5 (Surr)	*100*		*46 - 120*	*11/23/22 12:49*	*11/28/22 14:31*	*1*
Phenol-d5 (Surr)	*51*		*22 - 120*	*11/23/22 12:49*	*11/28/22 14:31*	*1*
p-Terphenyl-d14 (Surr)	*105*		*60 - 148*	*11/23/22 12:49*	*11/28/22 14:31*	*1*

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water

Date Received: 11/23/22 11:00

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		11/23/22 16:07	11/28/22 11:20	1
4,4'-DDE	ND	* UJ	0.050	0.012	ug/L		11/23/22 16:07	11/28/22 11:20	1
4,4'-DDT	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 11:20	1
Aldrin	ND		0.050	0.0081	ug/L		11/23/22 16:07	11/28/22 11:20	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/23/22 16:07	11/28/22 11:20	1
beta-BHC	ND		0.050	0.025	ug/L		11/23/22 16:07	11/28/22 11:20	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/23/22 16:07	11/28/22 11:20	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/23/22 16:07	11/28/22 11:20	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/23/22 16:07	11/28/22 11:20	1
delta-BHC	ND		0.050	0.010	ug/L		11/23/22 16:07	11/28/22 11:20	1
Dieldrin	ND		0.050	0.0098	ug/L		11/23/22 16:07	11/28/22 11:20	1
Endosulfan I	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 11:20	1
Endosulfan II	ND		0.050	0.012	ug/L		11/23/22 16:07	11/28/22 11:20	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/23/22 16:07	11/28/22 11:20	1
Endrin	ND		0.050	0.014	ug/L		11/23/22 16:07	11/28/22 11:20	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/23/22 16:07	11/28/22 11:20	1
Endrin ketone	ND		0.050	0.012	ug/L		11/23/22 16:07	11/28/22 11:20	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/23/22 16:07	11/28/22 11:20	1
Heptachlor	ND		0.050	0.0085	ug/L		11/23/22 16:07	11/28/22 11:20	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		11/23/22 16:07	11/28/22 11:20	1
Methoxychlor	ND		0.050	0.014	ug/L		11/23/22 16:07	11/28/22 11:20	1
Toxaphene	ND		0.50	0.12	ug/L		11/23/22 16:07	11/28/22 11:20	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 11:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*37*		*20 - 120*	*11/23/22 16:07*	*11/28/22 11:20*	*1*
Tetrachloro-m-xylene	*81*		*44 - 120*	*11/23/22 16:07*	*11/28/22 11:20*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	H	0.050	0.0092	ug/L		11/29/22 08:31	11/30/22 13:50	1
4,4'-DDE	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 13:50	1
4,4'-DDT	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 13:50	1
Aldrin	ND	H	0.050	0.0081	ug/L		11/29/22 08:31	11/30/22 13:50	1
alpha-BHC	ND	H	0.050	0.0077	ug/L		11/29/22 08:31	11/30/22 13:50	1
beta-BHC	ND	H	0.050	0.025	ug/L		11/29/22 08:31	11/30/22 13:50	1
Chlordane (technical)	ND	H	0.50	0.29	ug/L		11/29/22 08:31	11/30/22 13:50	1
Chlorobenzilate	ND	H	5.0	0.090	ug/L		11/29/22 08:31	11/30/22 13:50	1
cis-Chlordane	ND	H	0.050	0.015	ug/L		11/29/22 08:31	11/30/22 13:50	1
delta-BHC	ND	H	0.050	0.010	ug/L		11/29/22 08:31	11/30/22 13:50	1
Dieldrin	ND	H	0.050	0.0098	ug/L		11/29/22 08:31	11/30/22 13:50	1
Endosulfan I	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 13:50	1
Endosulfan II	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 13:50	1
Endosulfan sulfate	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 13:50	1
Endrin	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 13:50	1
Endrin aldehyde	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 13:50	1
Endrin ketone	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 13:50	1
gamma-BHC (Lindane)	ND	H	0.050	0.0080	ug/L		11/29/22 08:31	11/30/22 13:50	1
Heptachlor	ND	H	0.050	0.0085	ug/L		11/29/22 08:31	11/30/22 13:50	1
Heptachlor epoxide	ND	H	0.050	0.0074	ug/L		11/29/22 08:31	11/30/22 13:50	1

Client Sample ID: MW-2022-RB-1
Date Collected: 11/17/22 08:30
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 13:50	1
Toxaphene	ND	H	0.50	0.12	ug/L		11/29/22 08:31	11/30/22 13:50	1
trans-Chlordane	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*32*		*20 - 120*	*11/29/22 08:31*	*11/30/22 13:50*	*1*
Tetrachloro-m-xylene	*70*		*44 - 120*	*11/29/22 08:31*	*11/30/22 13:50*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:38	1
PCB-1221	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:38	1
PCB-1232	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:38	1
PCB-1242	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:38	1
PCB-1248	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:38	1
PCB-1254	ND		0.50	0.25	ug/L		11/28/22 08:08	11/28/22 17:38	1
PCB-1260	ND		0.50	0.25	ug/L		11/28/22 08:08	11/28/22 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*39 - 121*	*11/28/22 08:08*	*11/28/22 17:38*	*1*
Tetrachloro-m-xylene	*85*		*39 - 121*	*11/28/22 08:08*	*11/28/22 17:38*	*1*
DCB Decachlorobiphenyl	*43*		*19 - 120*	*11/28/22 08:08*	*11/28/22 17:38*	*1*
DCB Decachlorobiphenyl	*41*		*19 - 120*	*11/28/22 08:08*	*11/28/22 17:38*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	UJ	0.51	0.069	ug/L		11/23/22 13:03	11/28/22 22:16	1
2,4-D	ND	*1	0.51	0.17	ug/L		11/23/22 13:03	11/28/22 22:16	1
Silvex (2,4,5-TP)	ND	*	0.51	0.051	ug/L		11/23/22 13:03	11/28/22 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*10*	*S1-*	*48 - 132*	*11/23/22 13:03*	*11/28/22 22:16*	*1*

Method: SW846 8151A - Herbicides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	H	0.51	0.069	ug/L		11/30/22 09:26	12/01/22 17:08	1
2,4-D	ND	H	0.51	0.17	ug/L		11/30/22 09:26	12/01/22 17:08	1
Silvex (2,4,5-TP)	ND	H	0.51	0.051	ug/L		11/30/22 09:26	12/01/22 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*88*		*48 - 132*	*11/30/22 09:26*	*12/01/22 17:08*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	0.95	0.25	ug/L		11/30/22 03:00	12/05/22 12:57	1
Disulfoton	ND		0.95	0.39	ug/L		11/30/22 03:00	12/05/22 12:57	1
Famphur	ND		0.95	0.31	ug/L		11/30/22 03:00	12/05/22 12:57	1
Methyl parathion	ND		0.95	0.33	ug/L		11/30/22 03:00	12/05/22 12:57	1
Ethyl Parathion	ND		0.95	0.35	ug/L		11/30/22 03:00	12/05/22 12:57	1
Phorate	ND		0.95	0.36	ug/L		11/30/22 03:00	12/05/22 12:57	1
Sulfotepp	ND		0.95	0.38	ug/L		11/30/22 03:00	12/05/22 12:57	1

Client Sample ID: MW-2022-RB-1
Date Collected: 11/17/22 08:30
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	66		25 - 127	11/30/22 03:00	12/05/22 12:57	1
Tributyl phosphate	61		25 - 127	11/30/22 03:00	12/05/22 12:57	1
Triphenylphosphate	78		70 - 155	11/30/22 03:00	12/05/22 12:57	1
Triphenylphosphate	83		70 - 155	11/30/22 03:00	12/05/22 12:57	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.62	ng/L		11/30/22 08:00	11/30/22 20:02	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.1	ng/L		11/30/22 08:00	11/30/22 20:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		11/30/22 08:00	11/30/22 20:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.50	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorobutanoic acid (PFBA)	ND		4.0	0.97	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.44	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.74	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.61	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.55	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		11/30/22 08:00	11/30/22 20:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.44	ng/L		11/30/22 08:00	11/30/22 20:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	99		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C2 PFDoA	77		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C2 PFHxA	103		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C2 PFTeDA	80		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C2 PFUnA	95		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C3 PFBS	96		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C4 PFBA	96		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C4 PFHpA	103		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C4 PFOA	101		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C4 PFOS	95		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C5 PFNA	97		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C5 PFPeA	98		50 - 150	11/30/22 08:00	11/30/22 20:02	1
13C8 FOSA	85		50 - 150	11/30/22 08:00	11/30/22 20:02	1
18O2 PFHxS	99		50 - 150	11/30/22 08:00	11/30/22 20:02	1
d3-NMeFOSAA	87		50 - 150	11/30/22 08:00	11/30/22 20:02	1
d5-NEtFOSAA	88		50 - 150	11/30/22 08:00	11/30/22 20:02	1
M2-6:2 FTS	107		50 - 150	11/30/22 08:00	11/30/22 20:02	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water
Date Received: 11/23/22 11:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	101		50 - 150	11/30/22 08:00	11/30/22 20:02	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.93	J I B JNX	24	0.084	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,4,6,7,8-HpCDF	0.26	J I B JNX	24	0.020	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,4,7,8,9-HpCDF	0.49	J I B JNX	24	0.029	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,4,7,8-HxCDD	ND		24	0.033	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,4,7,8-HxCDF	ND		24	0.16	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,6,7,8-HxCDD	ND		24	0.034	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,6,7,8-HxCDF	ND		24	0.16	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,7,8,9-HxCDD	ND		24	0.040	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,7,8,9-HxCDF	ND		24	0.22	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,7,8-PeCDD	ND		24	0.060	pg/L		12/14/22 08:58	12/15/22 09:47	1
1,2,3,7,8-PeCDF	ND		24	0.042	pg/L		12/14/22 08:58	12/15/22 09:47	1
2,3,4,6,7,8-HxCDF	ND		24	0.21	pg/L		12/14/22 08:58	12/15/22 09:47	1
2,3,4,7,8-PeCDF	ND		24	0.042	pg/L		12/14/22 08:58	12/15/22 09:47	1
2,3,7,8-TCDD	ND		4.8	0.071	pg/L		12/14/22 08:58	12/15/22 09:47	1
2,3,7,8-TCDF	ND		4.8	0.068	pg/L		12/14/22 08:58	12/15/22 09:47	1
OCDD	1.7	J B JNX	110	0.044	pg/L		12/14/22 08:58	12/15/22 09:47	1
OCDF	ND		48	0.039	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total HpCDD	0.93	J I B JNX	24	0.084	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total HpCDF	0.75	J I B JNX	24	0.024	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total HxCDD	ND		24	0.040	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total HxCDF	ND		24	0.22	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total PeCDD	ND		24	0.060	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total PeCDF	ND		24	0.042	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total TCDD	ND		4.8	0.071	pg/L		12/14/22 08:58	12/15/22 09:47	1
Total TCDF	ND		4.8	0.068	pg/L		12/14/22 08:58	12/15/22 09:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	67		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,4,6,7,8-HpCDF	76		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,4,7,8,9-HpCDF	74		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,4,7,8-HxCDD	70		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,4,7,8-HxCDF	73		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,6,7,8-HxCDD	70		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,6,7,8-HxCDF	75		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,7,8,9-HxCDD	58		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,7,8,9-HxCDF	58		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,7,8-PeCDD	66		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-1,2,3,7,8-PeCDF	71		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-2,3,4,6,7,8-HxCDF	53		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-2,3,4,7,8-PeCDF	57		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-2,3,7,8-TCDD	77		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-2,3,7,8-TCDF	56		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-OCDD	77		40 - 135	12/14/22 08:58	12/15/22 09:47	1
13C-OCDF	82		40 - 135	12/14/22 08:58	12/15/22 09:47	1

Client Sample ID: MW-2022-RB-1
Lab Sample ID: 480-204125-1

Date Collected: 11/17/22 08:30
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/28/22 09:53	12/06/22 23:05	1
Arsenic	ND		0.015	0.0056	mg/L		11/28/22 09:53	12/06/22 23:05	1
Barium	ND		0.0020	0.00070	mg/L		11/28/22 09:53	12/06/22 23:05	1
Beryllium	ND		0.0020	0.00030	mg/L		11/28/22 09:53	12/06/22 23:05	1
Cadmium	ND		0.0020	0.00050	mg/L		11/28/22 09:53	12/06/22 23:05	1
Chromium	ND		0.0040	0.0010	mg/L		11/28/22 09:53	12/06/22 23:05	1
Cobalt	ND		0.0040	0.00063	mg/L		11/28/22 09:53	12/06/22 23:05	1
Copper	ND		0.010	0.0016	mg/L		11/28/22 09:53	12/06/22 23:05	1
Lead	ND		0.010	0.0030	mg/L		11/28/22 09:53	12/06/22 23:05	1
Nickel	ND		0.010	0.0013	mg/L		11/28/22 09:53	12/06/22 23:05	1
Selenium	ND		0.025	0.0087	mg/L		11/28/22 09:53	12/06/22 23:05	1
Silver	ND		0.0060	0.0017	mg/L		11/28/22 09:53	12/06/22 23:05	1
Thallium	ND		0.020	0.010	mg/L		11/28/22 09:53	12/06/22 23:05	1
Tin	ND		0.010	0.0051	mg/L		11/28/22 09:53	12/06/22 23:05	1
Vanadium	ND		0.0050	0.0015	mg/L		11/28/22 09:53	12/06/22 23:05	1
Zinc	ND		0.010	0.0015	mg/L		11/28/22 09:53	12/06/22 23:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/02/22 10:30	12/02/22 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND	H UJ	0.010	0.0041	mg/L			12/09/22 11:34	1
Sulfide (SM 4500 S2 F)	ND	^+	1.0	0.67	mg/L			11/23/22 14:00	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-204125-2

Date Collected: 11/17/22 11:45
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/28/22 14:46	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/28/22 14:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/28/22 14:46	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/28/22 14:46	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/28/22 14:46	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/28/22 14:46	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/28/22 14:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/28/22 14:46	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/28/22 14:46	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/28/22 14:46	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/28/22 14:46	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/28/22 14:46	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			11/28/22 14:46	1 R
2-Hexanone	ND		5.0	1.2	ug/L			11/28/22 14:46	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/28/22 14:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/28/22 14:46	1
Acetone	ND		10	3.0	ug/L			11/28/22 14:46	1
Acetonitrile	ND	UJ	15	4.9	ug/L			11/28/22 14:46	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND	UJ	20	0.91	ug/L			11/28/22 14:46	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/28/22 14:46	1
Benzene	ND		1.0	0.41	ug/L			11/28/22 14:46	1
Bromoform	ND		1.0	0.26	ug/L			11/28/22 14:46	1
Bromomethane	ND		1.0	0.69	ug/L			11/28/22 14:46	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/28/22 14:46	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/28/22 14:46	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/28/22 14:46	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/28/22 14:46	1
Chloroethane	ND		1.0	0.32	ug/L			11/28/22 14:46	1
Chloroform	ND		1.0	0.34	ug/L			11/28/22 14:46	1
Chloromethane	ND		1.0	0.35	ug/L			11/28/22 14:46	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/28/22 14:46	1
Dibromomethane	ND		1.0	0.41	ug/L			11/28/22 14:46	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/28/22 14:46	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/28/22 14:46	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/28/22 14:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/28/22 14:46	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/28/22 14:46	1
Iodomethane	ND		1.0	0.30	ug/L			11/28/22 14:46	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/28/22 14:46	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/28/22 14:46	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/28/22 14:46	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/28/22 14:46	1
o-Xylene	ND		1.0	0.76	ug/L			11/28/22 14:46	1
Propionitrile	ND	UJ	10	5.8	ug/L			11/28/22 14:46	1
Styrene	ND		1.0	0.73	ug/L			11/28/22 14:46	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/28/22 14:46	1
Toluene	ND		1.0	0.51	ug/L			11/28/22 14:46	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/28/22 14:46	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/28/22 14:46	1
trans-1,4-Dichloro-2-butene	ND	UJ	1.0	0.22	ug/L			11/28/22 14:46	1
Trichloroethene	ND		1.0	0.46	ug/L			11/28/22 14:46	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/28/22 14:46	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/28/22 14:46	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/28/22 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*11/28/22 14:46*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*11/28/22 14:46*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*11/28/22 14:46*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/28/22 14:46*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,4-Dioxane	ND		10	1.1	ug/L		11/23/22 12:49	11/28/22 14:59	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/23/22 12:49	11/28/22 14:59	1
1-Naphthylamine	ND		10	1.3	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,3,4,6-Tetrachlorophenol	ND	*+	5.0	0.32	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 14:59	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Naphthylamine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Nitroaniline	ND		10	0.42	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Picoline	ND	*- UJ	80	1.4	ug/L		11/23/22 12:49	11/28/22 14:59	1
2-Toluidine	ND		10	1.5	ug/L		11/23/22 12:49	11/28/22 14:59	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 14:59	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1
3,3'-Dimethylbenzidine	ND	*- UJ	40	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1
3-Methylcholanthrene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1
3-Methylphenol	ND		10	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1
3-Nitroaniline	ND		10	0.48	ug/L		11/23/22 12:49	11/28/22 14:59	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Aminobiphenyl	ND		10	0.81	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Methylphenol	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Nitroaniline	ND		10	0.25	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Nitrophenol	ND		10	1.5	ug/L		11/23/22 12:49	11/28/22 14:59	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1 R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/23/22 12:49	11/28/22 14:59	1
a,a-Dimethylphenethylamine	ND	*-	100	40	ug/L		11/23/22 12:49	11/28/22 14:59	1 R
Acenaphthene	ND		5.0	0.41	ug/L		11/23/22 12:49	11/28/22 14:59	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/23/22 12:49	11/28/22 14:59	1
Acetophenone	ND		5.0	0.54	ug/L		11/23/22 12:49	11/28/22 14:59	1
Aniline	ND		10	0.61	ug/L		11/23/22 12:49	11/28/22 14:59	1
Anthracene	ND		5.0	0.28	ug/L		11/23/22 12:49	11/28/22 14:59	1
Aramite, Total	ND	*+ UJ	20	1.6	ug/L		11/23/22 12:49	11/28/22 14:59	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
~~Benzidine~~	ND	*1	80	2.2	ug/L		11/23/22 12:49	11/28/22 14:59	1	R
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Benzyl alcohol	ND		20	2.0	ug/L		11/23/22 12:49	11/28/22 14:59	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Chrysene	ND		5.0	0.33	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Diallate	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Dibenzofuran	ND		10	0.51	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Dimethoate	ND		10	0.54	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Di-n-butyl phthalate	~~0.87~~ ~~J B~~ 5.0 U		5.0	0.31	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Dinoseb	ND		10	2.9	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Diphenylamine	ND		10	0.82	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Disulfoton	ND		10	0.42	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Chlorobenzilate	ND		20	0.67	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Famphur	ND		40	1.9	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Fluoranthene	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Fluorene	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Hexachloroethane	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Hexachloropropene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Isodrin	ND		10	0.18	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Isophorone	ND		5.0	0.43	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Isosafrole	ND		10	0.58	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Kepone	ND	*1 UJ	50	1.8	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Methapyrilene	ND	UJ	50	1.8	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Methyl methanesulfonate	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Naphthalene	ND		5.0	0.76	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Nitrobenzene	ND		5.0	0.29	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 14:59	1	

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosomorpholine	ND	*	10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	R
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
o,o',o"-Triethylphosphorothioate	ND		10	0.43	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Ethyl Parathion	ND		10	0.64	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Methyl parathion	ND		10	0.37	ug/L		11/23/22 12:49	11/28/22 14:59	1	
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Pentachlorobenzene	ND		10	0.53	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Pentachloronitrobenzene	ND	*	10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Pentachlorophenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Phenacetin	ND		10	0.61	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Phenanthrene	ND		5.0	0.44	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Phenol	ND		5.0	0.39	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Phorate	ND		10	0.50	ug/L		11/23/22 12:49	11/28/22 14:59	1	
p-Phenylene diamine	ND	*	800	200	ug/L		11/23/22 12:49	11/28/22 14:59	1	R
Pronamide	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Pyrene	ND		5.0	0.34	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Pyridine	4.3 J B	25 U	25	0.41	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Safrole	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Sulfotepp	ND	UJ	10	0.64	ug/L		11/23/22 12:49	11/28/22 14:59	1	
Thionazin	ND		10	0.38	ug/L		11/23/22 12:49	11/28/22 14:59	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*41 - 120*	*11/23/22 12:49*	*11/28/22 14:59*	*1*
2-Fluorobiphenyl (Surr)	*118*		*48 - 120*	*11/23/22 12:49*	*11/28/22 14:59*	*1*
2-Fluorophenol (Surr)	*73*		*35 - 120*	*11/23/22 12:49*	*11/28/22 14:59*	*1*
Nitrobenzene-d5 (Surr)	*104*		*46 - 120*	*11/23/22 12:49*	*11/28/22 14:59*	*1*
Phenol-d5 (Surr)	*53*		*22 - 120*	*11/23/22 12:49*	*11/28/22 14:59*	*1*
p-Terphenyl-d14 (Surr)	*97*		*60 - 148*	*11/23/22 12:49*	*11/28/22 14:59*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.015 J B	0.050 U	0.050	0.0092	ug/L		11/23/22 16:07	11/28/22 11:40	1
4,4'-DDE	ND	* UJ	0.050	0.012	ug/L		11/23/22 16:07	11/28/22 11:40	1
4,4'-DDT	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 11:40	1
Aldrin	ND		0.050	0.0081	ug/L		11/23/22 16:07	11/28/22 11:40	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/23/22 16:07	11/28/22 11:40	1
beta-BHC	ND		0.050	0.025	ug/L		11/23/22 16:07	11/28/22 11:40	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/23/22 16:07	11/28/22 11:40	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/23/22 16:07	11/28/22 11:40	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/23/22 16:07	11/28/22 11:40	1
delta-BHC	ND		0.050	0.010	ug/L		11/23/22 16:07	11/28/22 11:40	1
Dieldrin	ND		0.050	0.0098	ug/L		11/23/22 16:07	11/28/22 11:40	1
Endosulfan I	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 11:40	1
Endosulfan II	ND		0.050	0.012	ug/L		11/23/22 16:07	11/28/22 11:40	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/23/22 16:07	11/28/22 11:40	1
Endrin	ND		0.050	0.014	ug/L		11/23/22 16:07	11/28/22 11:40	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/23/22 16:07	11/28/22 11:40	1
Endrin ketone	ND		0.050	0.012	ug/L		11/23/22 16:07	11/28/22 11:40	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/23/22 16:07	11/28/22 11:40	1
Heptachlor	ND		0.050	0.0085	ug/L		11/23/22 16:07	11/28/22 11:40	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		11/23/22 16:07	11/28/22 11:40	1
Methoxychlor	ND		0.050	0.014	ug/L		11/23/22 16:07	11/28/22 11:40	1
Toxaphene	ND		0.50	0.12	ug/L		11/23/22 16:07	11/28/22 11:40	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 11:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*42*		*20 - 120*	*11/23/22 16:07*	*11/28/22 11:40*	*1*
Tetrachloro-m-xylene	*79*		*44 - 120*	*11/23/22 16:07*	*11/28/22 11:40*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	H	0.050	0.0092	ug/L		11/29/22 08:31	11/30/22 14:10	1
4,4'-DDE	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 14:10	1
4,4'-DDT	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 14:10	1
Aldrin	ND	H	0.050	0.0081	ug/L		11/29/22 08:31	11/30/22 14:10	1
alpha-BHC	ND	H	0.050	0.0077	ug/L		11/29/22 08:31	11/30/22 14:10	1
beta-BHC	ND	H	0.050	0.025	ug/L		11/29/22 08:31	11/30/22 14:10	1
Chlordane (technical)	ND	H	0.50	0.29	ug/L		11/29/22 08:31	11/30/22 14:10	1
Chlorobenzilate	ND	H	5.0	0.090	ug/L		11/29/22 08:31	11/30/22 14:10	1
cis-Chlordane	ND	H	0.050	0.015	ug/L		11/29/22 08:31	11/30/22 14:10	1
delta-BHC	ND	H	0.050	0.010	ug/L		11/29/22 08:31	11/30/22 14:10	1
Dieldrin	ND	H	0.050	0.0098	ug/L		11/29/22 08:31	11/30/22 14:10	1
Endosulfan I	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 14:10	1
Endosulfan II	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 14:10	1
Endosulfan sulfate	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 14:10	1
Endrin	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 14:10	1
Endrin aldehyde	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 14:10	1
Endrin ketone	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 14:10	1
gamma-BHC (Lindane)	ND	H	0.050	0.0080	ug/L		11/29/22 08:31	11/30/22 14:10	1
Heptachlor	ND	H	0.050	0.0085	ug/L		11/29/22 08:31	11/30/22 14:10	1
Heptachlor epoxide	ND	H	0.050	0.0074	ug/L		11/29/22 08:31	11/30/22 14:10	1
Methoxychlor	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 14:10	1
Toxaphene	ND	H	0.50	0.12	ug/L		11/29/22 08:31	11/30/22 14:10	1
trans-Chlordane	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*43*		*20 - 120*	*11/29/22 08:31*	*11/30/22 14:10*	*1*
Tetrachloro-m-xylene	*71*		*44 - 120*	*11/29/22 08:31*	*11/30/22 14:10*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:51	1
PCB-1221	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:51	1
PCB-1232	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:51	1
PCB-1242	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:51	1
PCB-1248	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 17:51	1
PCB-1254	ND		0.50	0.25	ug/L		11/28/22 08:08	11/28/22 17:51	1
PCB-1260	ND		0.50	0.25	ug/L		11/28/22 08:08	11/28/22 17:51	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	88		39 - 121	11/28/22 08:08	11/28/22 17:51	1
Tetrachloro-m-xylene	85		39 - 121	11/28/22 08:08	11/28/22 17:51	1
DCB Decachlorobiphenyl	51		19 - 120	11/28/22 08:08	11/28/22 17:51	1
DCB Decachlorobiphenyl	48		19 - 120	11/28/22 08:08	11/28/22 17:51	1

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	UJ	0.48	0.065	ug/L		11/23/22 13:03	11/28/22 22:35	1
2,4-D	ND	*1	0.48	0.16	ug/L		11/23/22 13:03	11/28/22 22:35	1
Silvex (2,4,5-TP)	ND	*	0.48	0.048	ug/L		11/23/22 13:03	11/28/22 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	37	S1-	48 - 132	11/23/22 13:03	11/28/22 22:35	1

Method: SW846 8151A - Herbicides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	H	0.48	0.065	ug/L		11/30/22 09:26	12/01/22 17:27	1
2,4-D	ND	H	0.48	0.16	ug/L		11/30/22 09:26	12/01/22 17:27	1
Silvex (2,4,5-TP)	ND	H	0.48	0.048	ug/L		11/30/22 09:26	12/01/22 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	47	S1-	48 - 132	11/30/22 09:26	12/01/22 17:27	1

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	0.94	0.25	ug/L		11/30/22 03:00	12/05/22 13:29	1
Disulfoton	ND		0.94	0.38	ug/L		11/30/22 03:00	12/05/22 13:29	1
Famphur	ND		0.94	0.30	ug/L		11/30/22 03:00	12/05/22 13:29	1
Methyl parathion	ND		0.94	0.32	ug/L		11/30/22 03:00	12/05/22 13:29	1
Ethyl Parathion	ND		0.94	0.34	ug/L		11/30/22 03:00	12/05/22 13:29	1
Phorate	ND		0.94	0.36	ug/L		11/30/22 03:00	12/05/22 13:29	1
Sulfotepp	ND		0.94	0.38	ug/L		11/30/22 03:00	12/05/22 13:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	66		25 - 127	11/30/22 03:00	12/05/22 13:29	1
Tributyl phosphate	61		25 - 127	11/30/22 03:00	12/05/22 13:29	1
Triphenylphosphate	77		70 - 155	11/30/22 03:00	12/05/22 13:29	1
Triphenylphosphate	82		70 - 155	11/30/22 03:00	12/05/22 13:29	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.62	ng/L		11/30/22 08:00	11/30/22 20:10	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.0	ng/L		11/30/22 08:00	11/30/22 20:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		11/30/22 08:00	11/30/22 20:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.50	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorobutanoic acid (PFBA)	ND		4.0	0.97	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		11/30/22 08:00	11/30/22 20:10	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.39	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.43	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.44	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.52	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.74	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.68	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.61	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.55	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		11/30/22 08:00	11/30/22 20:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.44	ng/L		11/30/22 08:00	11/30/22 20:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*92*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C2 PFDoA	*76*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C2 PFHxA	*99*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C2 PFTeDA	*79*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C2 PFUnA	*82*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C3 PFBS	*97*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C4 PFBA	*97*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C4 PFHpA	*97*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C4 PFOA	*93*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C4 PFOS	*90*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C5 PFNA	*96*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C5 PFPeA	*97*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
13C8 FOSA	*94*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
18O2 PFHxS	*95*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
d3-NMeFOSAA	*81*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
d5-NEtFOSAA	*78*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
M2-6:2 FTS	*107*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*
M2-8:2 FTS	*93*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:10*	*1*

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24	0.59	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,4,6,7,8-HpCDF	1.2	J I B 24 U	24	0.036	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,4,7,8,9-HpCDF	1.9	J I B	24	0.065	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,4,7,8-HxCDD	0.66	J I B	24	0.075	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,4,7,8-HxCDF	1.5	J I JNX	24	0.33	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,6,7,8-HxCDD	1.0	J I JNX	24	0.077	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,6,7,8-HxCDF	ND		24	0.34	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,7,8,9-HxCDD	1.7	J I B 24 U	24	0.097	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,7,8,9-HxCDF	3.1	J I B 24 U	24	0.56	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,7,8-PeCDD	1.9	J I JNX	24	0.14	pg/L		12/14/22 08:58	12/15/22 21:47	1
1,2,3,7,8-PeCDF	ND		24	0.19	pg/L		12/14/22 08:58	12/15/22 21:47	1
2,3,4,6,7,8-HxCDF	2.7	J B 24 UJ	24	0.46	pg/L		12/14/22 08:58	12/15/22 21:47	1
2,3,4,7,8-PeCDF	2.4	J I JNX	24	0.21	pg/L		12/14/22 08:58	12/15/22 21:47	1
2,3,7,8-TCDD	ND		4.8	0.18	pg/L		12/14/22 08:58	12/15/22 21:47	1

Client Sample ID: MW-2022-2
Date Collected: 11/17/22 11:45
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-2
Matrix: Water

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND	UJ	4.8	0.19	pg/L		12/14/22 08:58	12/15/22 21:47	1
OCDD	**3.7**	**J I B** 110 U	110	0.099	pg/L		12/14/22 08:58	12/15/22 21:47	1
OCDF	**3.4**	**J B** 48 U	48	0.083	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total HpCDD	ND		24	0.59	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total HpCDF	**3.1**	**J I B** 24 U	24	0.050	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total HxCDD	**3.4**	**J I B**	24	0.083	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total HxCDF	**7.3**	**J I B**	24	0.42	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total PeCDD	**1.9**	**J I** JNX	24	0.14	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total PeCDF	**2.4**	**J I B** 24 U	24	0.20	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total TCDD	ND		4.8	0.18	pg/L		12/14/22 08:58	12/15/22 21:47	1
Total TCDF	ND		4.8	0.19	pg/L		12/14/22 08:58	12/15/22 21:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*46*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*53*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,4,7,8-HxCDD	*48*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,6,7,8-HxCDD	*50*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,6,7,8-HxCDF	*60*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,7,8,9-HxCDD	*41*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,7,8,9-HxCDF	*41*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,7,8-PeCDD	*44*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-1,2,3,7,8-PeCDF	*50*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-2,3,4,6,7,8-HxCDF	*39*	**5-*	*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-2,3,4,7,8-PeCDF	*37*	**5-*	*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-2,3,7,8-TCDD	*45*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-2,3,7,8-TCDF	*34*	**5-*	*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-OCDD	*55*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*
13C-OCDF	*63*		*40 - 135*	*12/14/22 08:58*	*12/15/22 21:47*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/28/22 09:53	12/06/22 23:09	1
Arsenic	ND		0.015	0.0056	mg/L		11/28/22 09:53	12/06/22 23:09	1
Barium	**0.013**		0.0020	0.00070	mg/L		11/28/22 09:53	12/06/22 23:09	1
Beryllium	ND		0.0020	0.00030	mg/L		11/28/22 09:53	12/06/22 23:09	1
Cadmium	ND		0.0020	0.00050	mg/L		11/28/22 09:53	12/06/22 23:09	1
Chromium	ND		0.0040	0.0010	mg/L		11/28/22 09:53	12/06/22 23:09	1
Cobalt	ND		0.0040	0.00063	mg/L		11/28/22 09:53	12/06/22 23:09	1
Copper	ND		0.010	0.0016	mg/L		11/28/22 09:53	12/06/22 23:09	1
Lead	ND		0.010	0.0030	mg/L		11/28/22 09:53	12/06/22 23:09	1
Nickel	ND		0.010	0.0013	mg/L		11/28/22 09:53	12/06/22 23:09	1
Selenium	ND		0.025	0.0087	mg/L		11/28/22 09:53	12/06/22 23:09	1
Silver	ND		0.0060	0.0017	mg/L		11/28/22 09:53	12/06/22 23:09	1
Thallium	ND		0.020	0.010	mg/L		11/28/22 09:53	12/06/22 23:09	1
Tin	ND		0.010	0.0051	mg/L		11/28/22 09:53	12/06/22 23:09	1
Vanadium	ND		0.0050	0.0015	mg/L		11/28/22 09:53	12/06/22 23:09	1
Zinc	**0.0018**	**J**	0.010	0.0015	mg/L		11/28/22 09:53	12/06/22 23:09	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-204125-2

Date Collected: 11/17/22 11:45
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/02/22 10:30	12/02/22 14:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND	H UJ	0.010	0.0041	mg/L			12/09/22 11:37	1
Sulfide (SM 4500 S2 F)	ND	^+	1.0	0.67	mg/L			11/23/22 14:00	1

Client Sample ID: TRIPBLANK 111722
Lab Sample ID: 480-204125-3

Date Collected: 11/17/22 00:00
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/28/22 15:09	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/28/22 15:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/28/22 15:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/28/22 15:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/28/22 15:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/28/22 15:09	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/28/22 15:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/28/22 15:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/28/22 15:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/28/22 15:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/28/22 15:09	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/28/22 15:09	1
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~11/28/22 15:09~~	~~1~~ R
2-Hexanone	ND		5.0	1.2	ug/L			11/28/22 15:09	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/28/22 15:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/28/22 15:09	1
Acetone	ND		10	3.0	ug/L			11/28/22 15:09	1
Acetonitrile	ND	UJ	15	4.9	ug/L			11/28/22 15:09	1
Acrolein	ND	UJ	20	0.91	ug/L			11/28/22 15:09	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/28/22 15:09	1
Benzene	ND		1.0	0.41	ug/L			11/28/22 15:09	1
Bromoform	ND		1.0	0.26	ug/L			11/28/22 15:09	1
Bromomethane	ND		1.0	0.69	ug/L			11/28/22 15:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/28/22 15:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/28/22 15:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/28/22 15:09	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/28/22 15:09	1
Chloroethane	ND		1.0	0.32	ug/L			11/28/22 15:09	1
Chloroform	ND		1.0	0.34	ug/L			11/28/22 15:09	1
Chloromethane	ND		1.0	0.35	ug/L			11/28/22 15:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/28/22 15:09	1
Dibromomethane	ND		1.0	0.41	ug/L			11/28/22 15:09	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/28/22 15:09	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/28/22 15:09	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/28/22 15:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/28/22 15:09	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/28/22 15:09	1

Client Sample ID: TRIPBLANK 111722
Lab Sample ID: 480-204125-3

Date Collected: 11/17/22 00:00
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iodomethane	ND		1.0	0.30	ug/L			11/28/22 15:09	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/28/22 15:09	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/28/22 15:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/28/22 15:09	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/28/22 15:09	1
o-Xylene	ND		1.0	0.76	ug/L			11/28/22 15:09	1
Propionitrile	ND	UJ	10	5.8	ug/L			11/28/22 15:09	1
Styrene	ND		1.0	0.73	ug/L			11/28/22 15:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/28/22 15:09	1
Toluene	ND		1.0	0.51	ug/L			11/28/22 15:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/28/22 15:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/28/22 15:09	1
trans-1,4-Dichloro-2-butene	ND	UJ	1.0	0.22	ug/L			11/28/22 15:09	1
Trichloroethene	ND		1.0	0.46	ug/L			11/28/22 15:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/28/22 15:09	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/28/22 15:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/28/22 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*11/28/22 15:09*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*11/28/22 15:09*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*11/28/22 15:09*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/28/22 15:09*	*1*

Client Sample ID: MW-2022-3
Lab Sample ID: 480-204125-4

Date Collected: 11/17/22 14:35
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			11/28/22 15:31	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/28/22 15:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/28/22 15:31	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/28/22 15:31	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/28/22 15:31	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/28/22 15:31	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			11/28/22 15:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/28/22 15:31	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/28/22 15:31	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/28/22 15:31	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/28/22 15:31	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			11/28/22 15:31	1
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~11/28/22 15:31~~	~~1~~ R
2-Hexanone	ND		5.0	1.2	ug/L			11/28/22 15:31	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			11/28/22 15:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/28/22 15:31	1
Acetone	ND		10	3.0	ug/L			11/28/22 15:31	1
Acetonitrile	ND	UJ	15	4.9	ug/L			11/28/22 15:31	1
Acrolein	ND	UJ	20	0.91	ug/L			11/28/22 15:31	1
Acrylonitrile	ND		5.0	0.83	ug/L			11/28/22 15:31	1

Client Sample ID: MW-2022-3
Date Collected: 11/17/22 14:35
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-4
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.41	ug/L			11/28/22 15:31	1
Bromoform	ND		1.0	0.26	ug/L			11/28/22 15:31	1
Bromomethane	ND		1.0	0.69	ug/L			11/28/22 15:31	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/28/22 15:31	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/28/22 15:31	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/28/22 15:31	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			11/28/22 15:31	1
Chloroethane	ND		1.0	0.32	ug/L			11/28/22 15:31	1
Chloroform	ND		1.0	0.34	ug/L			11/28/22 15:31	1
Chloromethane	ND		1.0	0.35	ug/L			11/28/22 15:31	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/28/22 15:31	1
Dibromomethane	ND		1.0	0.41	ug/L			11/28/22 15:31	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			11/28/22 15:31	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/28/22 15:31	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			11/28/22 15:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/28/22 15:31	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			11/28/22 15:31	1
Iodomethane	ND		1.0	0.30	ug/L			11/28/22 15:31	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			11/28/22 15:31	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			11/28/22 15:31	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/28/22 15:31	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/28/22 15:31	1
o-Xylene	ND		1.0	0.76	ug/L			11/28/22 15:31	1
Propionitrile	ND	UJ	10	5.8	ug/L			11/28/22 15:31	1
Styrene	ND		1.0	0.73	ug/L			11/28/22 15:31	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/28/22 15:31	1
Toluene	ND		1.0	0.51	ug/L			11/28/22 15:31	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/28/22 15:31	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/28/22 15:31	1
trans-1,4-Dichloro-2-butene	ND	UJ	1.0	0.22	ug/L			11/28/22 15:31	1
Trichloroethene	ND		1.0	0.46	ug/L			11/28/22 15:31	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/28/22 15:31	1
Vinyl acetate	ND		5.0	0.85	ug/L			11/28/22 15:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/28/22 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*11/28/22 15:31*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*11/28/22 15:31*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*11/28/22 15:31*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/28/22 15:31*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		11/23/22 12:49	11/28/22 15:26	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		11/23/22 12:49	11/28/22 15:26	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		11/23/22 12:49	11/28/22 15:26	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/23/22 12:49	11/28/22 15:26	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		11/23/22 12:49	11/28/22 15:26	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-204125-4

Date Collected: 11/17/22 14:35
Matrix: Water

Date Received: 11/23/22 11:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 15:26	1	
1,4-Dioxane	ND		10	1.1	ug/L		11/23/22 12:49	11/28/22 15:26	1	
1,4-Naphthoquinone	ND		10	0.24	ug/L		11/23/22 12:49	11/28/22 15:26	1	
1-Naphthylamine	ND		10	1.3	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,3,4,6-Tetrachlorophenol	ND	*+	5.0	0.32	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,6-Dichlorophenol	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Acetylaminofluorene	ND		10	2.3	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Chlorophenol	ND		5.0	0.53	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Methylphenol	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Naphthylamine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Nitroaniline	ND		10	0.42	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Nitrophenol	ND		5.0	0.48	ug/L		11/23/22 12:49	11/28/22 15:26	1	
2-Picoline	ND	*-	80	1.4	ug/L		11/23/22 12:49	11/28/22 15:26	1	UJ
2-Toluidine	ND		10	1.5	ug/L		11/23/22 12:49	11/28/22 15:26	1	
3 & 4 Methylphenol	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 15:26	1	
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1	
3,3'-Dimethylbenzidine	ND	*-	40	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1	UJ
3-Methylcholanthrene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1	
3-Methylphenol	ND		10	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1	
3-Nitroaniline	ND		10	0.48	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Methylphenol	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Nitroaniline	ND		10	0.25	ug/L		11/23/22 12:49	11/28/22 15:26	1	
4-Nitrophenol	ND		10	1.5	ug/L		11/23/22 12:49	11/28/22 15:26	1	
~~4-Nitroquinoline-1-oxide~~	~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 15:26~~	~~1~~	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		11/23/22 12:49	11/28/22 15:26	1	
~~a,a-Dimethylphenethylamine~~	~~ND~~	*-	~~100~~	~~40~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 15:26~~	~~1~~	R
Acenaphthene	ND		5.0	0.41	ug/L		11/23/22 12:49	11/28/22 15:26	1	
Acenaphthylene	ND		5.0	0.38	ug/L		11/23/22 12:49	11/28/22 15:26	1	
Acetophenone	ND		5.0	0.54	ug/L		11/23/22 12:49	11/28/22 15:26	1	
Aniline	ND		10	0.61	ug/L		11/23/22 12:49	11/28/22 15:26	1	
Anthracene	ND		5.0	0.28	ug/L		11/23/22 12:49	11/28/22 15:26	1	
Aramite, Total	ND	*+	20	1.6	ug/L		11/23/22 12:49	11/28/22 15:26	1	UJ
~~Benzidine~~	~~ND~~	*1	~~80~~	~~2.2~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 15:26~~	~~1~~	R
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 15:26	1	

Client Sample ID: MW-2022-3
Date Collected: 11/17/22 14:35
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-4
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 15:26	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/23/22 12:49	11/28/22 15:26	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 15:26	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/23/22 12:49	11/28/22 15:26	1
Benzyl alcohol	ND		20	2.0	ug/L		11/23/22 12:49	11/28/22 15:26	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/23/22 12:49	11/28/22 15:26	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/23/22 12:49	11/28/22 15:26	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/23/22 12:49	11/28/22 15:26	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/23/22 12:49	11/28/22 15:26	1
Chrysene	ND		5.0	0.33	ug/L		11/23/22 12:49	11/28/22 15:26	1
Diallate	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/23/22 12:49	11/28/22 15:26	1
Dibenzofuran	ND		10	0.51	ug/L		11/23/22 12:49	11/28/22 15:26	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/23/22 12:49	11/28/22 15:26	1
Dimethoate	ND		10	0.54	ug/L		11/23/22 12:49	11/28/22 15:26	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 15:26	1
Di-n-butyl phthalate	~~0.74~~ ~~J B~~ 5.0 U		5.0	0.31	ug/L		11/23/22 12:49	11/28/22 15:26	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 15:26	1
Dinoseb	ND		10	2.9	ug/L		11/23/22 12:49	11/28/22 15:26	1
Diphenylamine	ND		10	0.82	ug/L		11/23/22 12:49	11/28/22 15:26	1
Disulfoton	ND		10	0.42	ug/L		11/23/22 12:49	11/28/22 15:26	1
Chlorobenzilate	ND		20	0.67	ug/L		11/23/22 12:49	11/28/22 15:26	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		11/23/22 12:49	11/28/22 15:26	1
Famphur	ND		40	1.9	ug/L		11/23/22 12:49	11/28/22 15:26	1
Fluoranthene	ND		5.0	0.40	ug/L		11/23/22 12:49	11/28/22 15:26	1
Fluorene	ND		5.0	0.36	ug/L		11/23/22 12:49	11/28/22 15:26	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 15:26	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/23/22 12:49	11/28/22 15:26	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 15:26	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/23/22 12:49	11/28/22 15:26	1
Hexachloropropene	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/23/22 12:49	11/28/22 15:26	1
Isodrin	ND		10	0.18	ug/L		11/23/22 12:49	11/28/22 15:26	1
Isophorone	ND		5.0	0.43	ug/L		11/23/22 12:49	11/28/22 15:26	1
Isosafrole	ND		10	0.58	ug/L		11/23/22 12:49	11/28/22 15:26	1
Kepone	ND	*- *1 UJ	50	1.8	ug/L		11/23/22 12:49	11/28/22 15:26	1
Methapyrilene	ND	*- UJ	50	1.8	ug/L		11/23/22 12:49	11/28/22 15:26	1
Methyl methanesulfonate	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
Naphthalene	ND		5.0	0.76	ug/L		11/23/22 12:49	11/28/22 15:26	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
~~N-Nitrosomorpholine~~	~~ND~~	~~*-~~	~~10~~	~~2.5~~	~~ug/L~~		~~11/23/22 12:49~~	~~11/28/22 15:26~~	~~1~~ R

Client Sample ID: MW-2022-3
Date Collected: 11/17/22 14:35
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-4
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosopiperidine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		11/23/22 12:49	11/28/22 15:26	1
Ethyl Parathion	ND		10	0.64	ug/L		11/23/22 12:49	11/28/22 15:26	1
Methyl parathion	ND		10	0.37	ug/L		11/23/22 12:49	11/28/22 15:26	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		11/23/22 12:49	11/28/22 15:26	1
Pentachlorobenzene	ND		10	0.53	ug/L		11/23/22 12:49	11/28/22 15:26	1
Pentachloronitrobenzene	ND	*+	10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
Pentachlorophenol	ND		10	2.2	ug/L		11/23/22 12:49	11/28/22 15:26	1
Phenacetin	ND		10	0.61	ug/L		11/23/22 12:49	11/28/22 15:26	1
Phenanthrene	ND		5.0	0.44	ug/L		11/23/22 12:49	11/28/22 15:26	1
Phenol	ND		5.0	0.39	ug/L		11/23/22 12:49	11/28/22 15:26	1
Phorate	ND		10	0.50	ug/L		11/23/22 12:49	11/28/22 15:26	1
p-Phenylene diamine	ND	*-	800	200	ug/L		11/23/22 12:49	11/28/22 15:26	1 R
Pronamide	ND		10	2.5	ug/L		11/23/22 12:49	11/28/22 15:26	1
Pyrene	ND		5.0	0.34	ug/L		11/23/22 12:49	11/28/22 15:26	1
Pyridine	ND		25	0.41	ug/L		11/23/22 12:49	11/28/22 15:26	1
Safrole	ND		10	0.46	ug/L		11/23/22 12:49	11/28/22 15:26	1
Sulfotepp	ND	UJ	10	0.64	ug/L		11/23/22 12:49	11/28/22 15:26	1
Thionazin	ND		10	0.38	ug/L		11/23/22 12:49	11/28/22 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*41 - 120*	*11/23/22 12:49*	*11/28/22 15:26*	*1*
2-Fluorobiphenyl (Surr)	*113*		*48 - 120*	*11/23/22 12:49*	*11/28/22 15:26*	*1*
2-Fluorophenol (Surr)	*74*		*35 - 120*	*11/23/22 12:49*	*11/28/22 15:26*	*1*
Nitrobenzene-d5 (Surr)	*103*		*46 - 120*	*11/23/22 12:49*	*11/28/22 15:26*	*1*
Phenol-d5 (Surr)	*53*		*22 - 120*	*11/23/22 12:49*	*11/28/22 15:26*	*1*
p-Terphenyl-d14 (Surr)	*95*		*60 - 148*	*11/23/22 12:49*	*11/28/22 15:26*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		11/23/22 16:07	11/28/22 12:00	1
4,4'-DDE	ND	*- UJ	0.050	0.012	ug/L		11/23/22 16:07	11/28/22 12:00	1
4,4'-DDT	**0.043**	**J**	0.050	0.011	ug/L		11/23/22 16:07	11/28/22 12:00	1
Aldrin	ND		0.050	0.0081	ug/L		11/23/22 16:07	11/28/22 12:00	1
alpha-BHC	ND		0.050	0.0077	ug/L		11/23/22 16:07	11/28/22 12:00	1
beta-BHC	ND		0.050	0.025	ug/L		11/23/22 16:07	11/28/22 12:00	1
Chlordane (technical)	ND		0.50	0.29	ug/L		11/23/22 16:07	11/28/22 12:00	1
Chlorobenzilate	ND		5.0	0.090	ug/L		11/23/22 16:07	11/28/22 12:00	1
cis-Chlordane	ND		0.050	0.015	ug/L		11/23/22 16:07	11/28/22 12:00	1
delta-BHC	ND		0.050	0.010	ug/L		11/23/22 16:07	11/28/22 12:00	1
Dieldrin	ND		0.050	0.0098	ug/L		11/23/22 16:07	11/28/22 12:00	1
Endosulfan I	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 12:00	1
Endosulfan II	ND		0.050	0.012	ug/L		11/23/22 16:07	11/28/22 12:00	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		11/23/22 16:07	11/28/22 12:00	1
Endrin	ND		0.050	0.014	ug/L		11/23/22 16:07	11/28/22 12:00	1
Endrin aldehyde	ND		0.050	0.016	ug/L		11/23/22 16:07	11/28/22 12:00	1
Endrin ketone	ND		0.050	0.012	ug/L		11/23/22 16:07	11/28/22 12:00	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		11/23/22 16:07	11/28/22 12:00	1
Heptachlor	ND		0.050	0.0085	ug/L		11/23/22 16:07	11/28/22 12:00	1

Client Sample ID: MW-2022-3
Date Collected: 11/17/22 14:35
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-4
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide	ND		0.050	0.0074	ug/L		11/23/22 16:07	11/28/22 12:00	1
Methoxychlor	ND		0.050	0.014	ug/L		11/23/22 16:07	11/28/22 12:00	1
Toxaphene	ND		0.50	0.12	ug/L		11/23/22 16:07	11/28/22 12:00	1
trans-Chlordane	ND		0.050	0.011	ug/L		11/23/22 16:07	11/28/22 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*42*		*20 - 120*	*11/23/22 16:07*	*11/28/22 12:00*	*1*
Tetrachloro-m-xylene	*74*		*44 - 120*	*11/23/22 16:07*	*11/28/22 12:00*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	H	0.050	0.0092	ug/L		11/29/22 08:31	11/30/22 14:29	1
4,4'-DDE	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 14:29	1
4,4'-DDT	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 14:29	1
Aldrin	ND	H	0.050	0.0081	ug/L		11/29/22 08:31	11/30/22 14:29	1
alpha-BHC	ND	H	0.050	0.0077	ug/L		11/29/22 08:31	11/30/22 14:29	1
beta-BHC	ND	H	0.050	0.025	ug/L		11/29/22 08:31	11/30/22 14:29	1
Chlordane (technical)	ND	H	0.50	0.29	ug/L		11/29/22 08:31	11/30/22 14:29	1
Chlorobenzilate	ND	H	5.0	0.090	ug/L		11/29/22 08:31	11/30/22 14:29	1
cis-Chlordane	ND	H	0.050	0.015	ug/L		11/29/22 08:31	11/30/22 14:29	1
delta-BHC	ND	H	0.050	0.010	ug/L		11/29/22 08:31	11/30/22 14:29	1
Dieldrin	ND	H	0.050	0.0098	ug/L		11/29/22 08:31	11/30/22 14:29	1
Endosulfan I	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 14:29	1
Endosulfan II	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 14:29	1
Endosulfan sulfate	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 14:29	1
Endrin	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 14:29	1
Endrin aldehyde	ND	H	0.050	0.016	ug/L		11/29/22 08:31	11/30/22 14:29	1
Endrin ketone	ND	H	0.050	0.012	ug/L		11/29/22 08:31	11/30/22 14:29	1
gamma-BHC (Lindane)	ND	H	0.050	0.0080	ug/L		11/29/22 08:31	11/30/22 14:29	1
Heptachlor	ND	H	0.050	0.0085	ug/L		11/29/22 08:31	11/30/22 14:29	1
Heptachlor epoxide	ND	H	0.050	0.0074	ug/L		11/29/22 08:31	11/30/22 14:29	1
Methoxychlor	ND	H	0.050	0.014	ug/L		11/29/22 08:31	11/30/22 14:29	1
Toxaphene	ND	H	0.50	0.12	ug/L		11/29/22 08:31	11/30/22 14:29	1
trans-Chlordane	ND	H	0.050	0.011	ug/L		11/29/22 08:31	11/30/22 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*50*		*20 - 120*	*11/29/22 08:31*	*11/30/22 14:29*	*1*
Tetrachloro-m-xylene	*71*		*44 - 120*	*11/29/22 08:31*	*11/30/22 14:29*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 18:04	1
PCB-1221	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 18:04	1
PCB-1232	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 18:04	1
PCB-1242	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 18:04	1
PCB-1248	ND		0.50	0.18	ug/L		11/28/22 08:08	11/28/22 18:04	1
PCB-1254	ND		0.50	0.25	ug/L		11/28/22 08:08	11/28/22 18:04	1
PCB-1260	ND		0.50	0.25	ug/L		11/28/22 08:08	11/28/22 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*94*		*39 - 121*	*11/28/22 08:08*	*11/28/22 18:04*	*1*

Client Sample ID: MW-2022-3
Date Collected: 11/17/22 14:35
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-4
Matrix: Water

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*39 - 121*	*11/28/22 08:08*	*11/28/22 18:04*	*1*
DCB Decachlorobiphenyl	*58*		*19 - 120*	*11/28/22 08:08*	*11/28/22 18:04*	*1*
DCB Decachlorobiphenyl	*55*		*19 - 120*	*11/28/22 08:08*	*11/28/22 18:04*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		11/23/22 13:03	11/28/22 22:53	1
2,4-D	ND	*1 UJ	0.48	0.16	ug/L		11/23/22 13:03	11/28/22 22:53	1
Silvex (2,4,5-TP)	ND	* UJ	0.48	0.048	ug/L		11/23/22 13:03	11/28/22 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*48 - 132*	*11/23/22 13:03*	*11/28/22 22:53*	*1*

Method: SW846 8151A - Herbicides (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	H	0.48	0.065	ug/L		11/30/22 09:26	12/01/22 17:45	1
2,4-D	ND	H	0.48	0.16	ug/L		11/30/22 09:26	12/01/22 17:45	1
Silvex (2,4,5-TP)	ND	H	0.48	0.048	ug/L		11/30/22 09:26	12/01/22 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*83*		*48 - 132*	*11/30/22 09:26*	*12/01/22 17:45*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	0.94	0.25	ug/L		11/30/22 03:00	12/05/22 14:00	1
Disulfoton	ND		0.94	0.38	ug/L		11/30/22 03:00	12/05/22 14:00	1
Famphur	ND		0.94	0.30	ug/L		11/30/22 03:00	12/05/22 14:00	1
Methyl parathion	ND		0.94	0.32	ug/L		11/30/22 03:00	12/05/22 14:00	1
Ethyl Parathion	ND		0.94	0.34	ug/L		11/30/22 03:00	12/05/22 14:00	1
Phorate	ND		0.94	0.36	ug/L		11/30/22 03:00	12/05/22 14:00	1
Sulfotepp	ND		0.94	0.38	ug/L		11/30/22 03:00	12/05/22 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*66*		*25 - 127*	*11/30/22 03:00*	*12/05/22 14:00*	*1*
Tributyl phosphate	*60*		*25 - 127*	*11/30/22 03:00*	*12/05/22 14:00*	*1*
Triphenylphosphate	*76*		*70 - 155*	*11/30/22 03:00*	*12/05/22 14:00*	*1*
Triphenylphosphate	*81*		*70 - 155*	*11/30/22 03:00*	*12/05/22 14:00*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.64	ng/L		11/30/22 08:00	11/30/22 20:19	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		11/30/22 08:00	11/30/22 20:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.3	ng/L		11/30/22 08:00	11/30/22 20:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.52	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorobutanoic acid (PFBA)	ND		4.2	1.0	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.33	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.38	ng/L		11/30/22 08:00	11/30/22 20:19	1

Client Sample ID: MW-2022-3
Date Collected: 11/17/22 14:35
Date Received: 11/23/22 11:00

Lab Sample ID: 480-204125-4
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.34	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.45	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.46	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.54	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.41	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.77	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.71	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.63	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.57	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.40	ng/L		11/30/22 08:00	11/30/22 20:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		11/30/22 08:00	11/30/22 20:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*100*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C2 PFDoA	*85*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C2 PFHxA	*109*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C2 PFUnA	*95*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C3 PFBS	*105*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C4 PFBA	*96*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C4 PFHpA	*101*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C4 PFOA	*102*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C4 PFOS	*99*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C5 PFNA	*100*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C5 PFPeA	*105*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
13C8 FOSA	*102*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
18O2 PFHxS	*101*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
d3-NMeFOSAA	*88*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
M2-6:2 FTS	*114*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*
M2-8:2 FTS	*101*		*50 - 150*	*11/30/22 08:00*	*11/30/22 20:19*	*1*

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24	0.40	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,4,6,7,8-HpCDF	**0.48**	**J I B** 24 U	24	0.031	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,4,7,8,9-HpCDF	ND		24	0.050	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,4,7,8-HxCDD	ND		24	0.050	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,4,7,8-HxCDF	ND		24	0.14	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,6,7,8-HxCDD	ND		24	0.049	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,6,7,8-HxCDF	ND		24	0.14	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,7,8,9-HxCDD	**0.80**	**J I B** 24 U	24	0.059	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,7,8,9-HxCDF	**0.88**	**J B** 24 U	24	0.22	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,7,8-PeCDD	**0.51**	**J I** JNX	24	0.094	pg/L		12/14/22 08:58	12/15/22 03:37	1
1,2,3,7,8-PeCDF	**0.69**	**J B** 24 U	24	0.16	pg/L		12/14/22 08:58	12/15/22 03:37	1
2,3,4,6,7,8-HxCDF	**0.90**	**J B** 24 U	24	0.16	pg/L		12/14/22 08:58	12/15/22 03:37	1
2,3,4,7,8-PeCDF	**0.72**	**J**	24	0.14	pg/L		12/14/22 08:58	12/15/22 03:37	1
2,3,7,8-TCDD	ND		4.8	0.13	pg/L		12/14/22 08:58	12/15/22 03:37	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-204125-4

Date Collected: 11/17/22 14:35
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.21	J B 4.8 U	4.8	0.083	pg/L		12/14/22 08:58	12/15/22 03:37	1
OCDD	2.0	J I B 110 U	110	0.20	pg/L		12/14/22 08:58	12/15/22 03:37	1
OCDF	1.5	J B 48 U	48	0.13	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total HpCDD	ND		24	0.40	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total HpCDF	0.48	J I B 24 U	24	0.040	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total HxCDD	0.80	J I B 24 U	24	0.053	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total HxCDF	1.8	J I B 24 U	24	0.17	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total PeCDD	0.51	J I JNX	24	0.094	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total PeCDF	1.4	J I B 24 U	24	0.15	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total TCDD	ND		4.8	0.13	pg/L		12/14/22 08:58	12/15/22 03:37	1
Total TCDF	0.21	J B 4.8 U	4.8	0.083	pg/L		12/14/22 08:58	12/15/22 03:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*53*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*55*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,4,7,8-HxCDD	*51*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,6,7,8-HxCDD	*56*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,6,7,8-HxCDF	*58*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,7,8,9-HxCDD	*48*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,7,8,9-HxCDF	*46*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-1,2,3,7,8-PeCDF	*58*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-2,3,4,6,7,8-HxCDF	*44*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-2,3,4,7,8-PeCDF	*49*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-2,3,7,8-TCDD	*51*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-2,3,7,8-TCDF	*40*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-OCDD	*56*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*
13C-OCDF	*58*		*40 - 135*	*12/14/22 08:58*	*12/15/22 03:37*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/28/22 09:53	12/06/22 23:13	1
Arsenic	ND		0.015	0.0056	mg/L		11/28/22 09:53	12/06/22 23:13	1
Barium	0.012		0.0020	0.00070	mg/L		11/28/22 09:53	12/06/22 23:13	1
Beryllium	ND		0.0020	0.00030	mg/L		11/28/22 09:53	12/06/22 23:13	1
Cadmium	ND		0.0020	0.00050	mg/L		11/28/22 09:53	12/06/22 23:13	1
Chromium	ND		0.0040	0.0010	mg/L		11/28/22 09:53	12/06/22 23:13	1
Cobalt	ND		0.0040	0.00063	mg/L		11/28/22 09:53	12/06/22 23:13	1
Copper	ND		0.010	0.0016	mg/L		11/28/22 09:53	12/06/22 23:13	1
Lead	ND		0.010	0.0030	mg/L		11/28/22 09:53	12/06/22 23:13	1
Nickel	ND		0.010	0.0013	mg/L		11/28/22 09:53	12/06/22 23:13	1
Selenium	ND		0.025	0.0087	mg/L		11/28/22 09:53	12/06/22 23:13	1
Silver	ND		0.0060	0.0017	mg/L		11/28/22 09:53	12/06/22 23:13	1
Thallium	ND		0.020	0.010	mg/L		11/28/22 09:53	12/06/22 23:13	1
Tin	ND		0.010	0.0051	mg/L		11/28/22 09:53	12/06/22 23:13	1
Vanadium	ND		0.0050	0.0015	mg/L		11/28/22 09:53	12/06/22 23:13	1
Zinc	ND		0.010	0.0015	mg/L		11/28/22 09:53	12/06/22 23:13	1

Client Sample Results

Client: ARCADIS U.S. Inc
Job ID: 480-204125-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: MW-2022-3
Lab Sample ID: 480-204125-4

Date Collected: 11/17/22 14:35
Matrix: Water
Date Received: 11/23/22 11:00

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/02/22 10:30	12/02/22 14:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND	H UJ	0.010	0.0041	mg/L			12/09/22 11:39	1
Sulfide (SM 4500 S2 F)	ND	^+	1.0	0.67	mg/L			11/23/22 14:00	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-204931-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50612R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Calibration 10
3.2.1 Continuing Calibration 10
3.3 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 11
3.4 System Performance and Overall Assessment 12
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 Blank Contamination 14
5.3 System Performance and Overall Assessment 14
5.4 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 15
6.2 Blank Contamination 15
6.3 Compound Identification 17
6.4 System Performance and Overall Assessment 17
6.5 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 18
7.1 Holding Times 18
7.2 System Performance and Overall Assessment 18

7.3 Data Validation Checklist 18
8 Metals Analyses 19
8.1 Holding Times 19
8.2 Blank Contamination 19
8.3 System Performance and Overall Assessment 20
8.4 Data Validation Checklist 20
9 General Chemistry Analyses 20
9.1 Holding Times 20
9.2 Blank Contamination 21
9.3 System Performance and Overall Assessment 21
9.4 Data Validation Checklist for General Chemistry 21
10 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Compounds Outside Specified Calibration Control Limits 10
Table 7. Continuing Calibration Evaluation Criteria and Qualifications 10
Table 8. Samples with Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries Outside Control Limits 11
Table 9. Laboratory Control Sample and Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 11
Table 10. Holding Time for Method SW-846 8082A 12
Table 11. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 12. Summary of Blank Contamination Qualifications 14
Table 13. Holding Time for Method SW-846 8290A 15
Table 14. Summary of Blank Contamination Qualifications 16
Table 15. Holding Time for Method 537 18
Table 16. Holding Time for Method SW-846 6010C/7470A 19
Table 17. Summary of Blank Contamination Qualifications 19

Table 18. Specified Holding Times **20**

Table 19. Overall Summary of Data Usability **22**

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-204931-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-9	480-204931-1	Water	12/15/2022		X	X	X	X	X	X	X
MW-2022-6	480-204931-2	Water	12/15/2022		X	X	X	X	X	X	X
TRIP BLANK 121522	480-204931-3	Water	12/15/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	2	0	1	0	0	0	3
SVOCs	2	0	0	0	0	0	2
PCBs	2	0	0	0	0	0	2
PEST	2	0	0	0	0	0	2
HERB	2	0	0	0	0	0	2
OPC	2	0	0	0	0	0	2
PCDD/PCDF	2	0	0	0	0	0	2
PFAS	2	0	0	0	0	0	2
Metals	2	0	0	0	0	0	2
MISC	2	0	0	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

Note: The case narrative documented that the batch- 654156 associated samples were re-prepared and/or re-analyzed beyond the holding time due to laboratory control sample/laboratory control sample duplicate (LCS/LCSD) exhibited recoveries outside the control limits for some of the compounds. The initial results used for the documentation purposes and the affected results were qualified due to LCS/LCSD recoveries exceedances. Refer to Section 3.3 for details.

3.2 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.2.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 6. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-9 MW-2022-6	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0051

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 7. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	

Note:

Continuing Calibration	Criteria	Sample Result	Qualification

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.3 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 8. Samples with Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-9 MW-2022-6	Prep Batch: 654156	a,a-Dimethylphenethylamine	<10%	<10%
		Benzidine		
		Kepone		
		p-Phenylene diamine		

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample and Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Method	Matrix	Holding Time	Preservation
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 12. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2022-9	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 13. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 14. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-9 MW-2022-6	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,6,7,8-HxCDF (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8-PeCDF (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,4,7,8-PeCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-6	1,2,3,4,7,8-HxCDD (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDD (MB) Total PeCDD (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank

RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 17. Summary of Blank Contamination Qualifications

Sample ID	Analyte	Sample Result	Qualification
MW-2022-9 MW-2022-6	Zinc (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 654363 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 19. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	97.2%	3
SVOCs	96.0%	10
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 31, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 1, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-9	12/15/22	12:40	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-6	12/15/22	14:45	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 121522	12/15/22	---	G	Water									X							2	

TAT 12-19-2022

480-204931 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Penny T. Rabasco IV	12-19-22 0900		Tim Schove	12-19-22	EETN
2	Tim Schove	12-19-22 1700	EETN		12-20-22 1000	TAB
3						

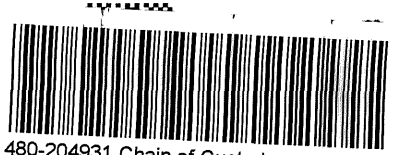
Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.1 2.3 2.2 ICE

1/30/2023 2:43 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record



Eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus.com	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP - New York; State - Massachusetts	480-204931-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 1/4/2023		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site.	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-9 (480-204931-1)	12/15/22	12:40 Eastern		Water			X	2	
MW-2022-6 (480-204931-2)	12/15/22	14 45 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	12-20-22 1800	TAB		12-21-22 1500	EUFH NE
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No :	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/30/2023 2:43 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-204931 Chain of Custody

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	COC No: 480-77736.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York; State - Massachusetts	Job #: 480-204931-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 1/4/2023		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-9 (480-204931-1)	12/15/22	12.40 Eastern		Water			X	2	
MW-2022-6 (480-204931-2)	12/15/22	14:45 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12-20-22 1800	TAB		12/21/22 1200	ETH Buw1
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/30/2023 2:43 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-77737.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-204931-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 1/4/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-9 (480-204931-1)	12/15/22	12:40 Eastern		Water			X	2	
MW-2022-6 (480-204931-2)	12/15/22	14:45 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12-20-22 1800	JAB			
2						
3						

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
☒ Yes ☐ No		~0.5

MP

Ver: 06/08/2021

1/30/2023 2:43 PM

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-9
Lab Sample ID: 480-204931-1

Date Collected: 12/15/22 12:40
Matrix: Water

Date Received: 12/20/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/21/22 17:02	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/21/22 17:02	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/21/22 17:02	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/21/22 17:02	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/21/22 17:02	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/21/22 17:02	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/21/22 17:02	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/21/22 17:02	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/21/22 17:02	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/21/22 17:02	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			12/21/22 17:02	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			12/21/22 17:02	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			12/21/22 17:02	1	R
2-Hexanone	ND		5.0	1.2	ug/L			12/21/22 17:02	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			12/21/22 17:02	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/21/22 17:02	1	
Acetone	ND		10	3.0	ug/L			12/21/22 17:02	1	
Acetonitrile	ND		15	4.9	ug/L			12/21/22 17:02	1	
Acrolein	ND		20	0.91	ug/L			12/21/22 17:02	1	
Acrylonitrile	ND		5.0	0.83	ug/L			12/21/22 17:02	1	
Benzene	ND		1.0	0.41	ug/L			12/21/22 17:02	1	
Bromoform	ND		1.0	0.26	ug/L			12/21/22 17:02	1	
Bromomethane	ND		1.0	0.69	ug/L			12/21/22 17:02	1	
Carbon disulfide	ND		1.0	0.19	ug/L			12/21/22 17:02	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/21/22 17:02	1	
Chlorobenzene	ND		1.0	0.75	ug/L			12/21/22 17:02	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			12/21/22 17:02	1	
Chloroethane	ND		1.0	0.32	ug/L			12/21/22 17:02	1	
Chloroform	ND		1.0	0.34	ug/L			12/21/22 17:02	1	
Chloromethane	ND		1.0	0.35	ug/L			12/21/22 17:02	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/21/22 17:02	1	
Dibromomethane	ND		1.0	0.41	ug/L			12/21/22 17:02	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			12/21/22 17:02	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			12/21/22 17:02	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			12/21/22 17:02	1	
Ethylbenzene	ND		1.0	0.74	ug/L			12/21/22 17:02	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			12/21/22 17:02	1	
Iodomethane	ND		1.0	0.30	ug/L			12/21/22 17:02	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			12/21/22 17:02	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			12/21/22 17:02	1	
Methylene Chloride	ND		1.0	0.44	ug/L			12/21/22 17:02	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			12/21/22 17:02	1	
o-Xylene	ND		1.0	0.76	ug/L			12/21/22 17:02	1	
Propionitrile	ND		10	5.8	ug/L			12/21/22 17:02	1	
Styrene	ND		1.0	0.73	ug/L			12/21/22 17:02	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			12/21/22 17:02	1	
Toluene	ND		1.0	0.51	ug/L			12/21/22 17:02	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/21/22 17:02	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/21/22 17:02	1	

Client Sample ID: MW-2022-9
Date Collected: 12/15/22 12:40
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/21/22 17:02	1
Trichloroethene	ND		1.0	0.46	ug/L			12/21/22 17:02	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/21/22 17:02	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/21/22 17:02	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/21/22 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*77 - 120*		*12/21/22 17:02*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*12/21/22 17:02*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*12/21/22 17:02*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*12/21/22 17:02*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,4-Dioxane	ND		10	1.1	ug/L		12/21/22 08:33	12/22/22 16:27	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		12/21/22 08:33	12/22/22 16:27	1
1-Naphthylamine	ND	*- *1	10	1.3	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		12/21/22 08:33	12/22/22 16:27	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Chlorophenol	ND		5.0	0.53	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Methylphenol	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Naphthylamine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Nitroaniline	ND		10	0.42	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Nitrophenol	ND		5.0	0.48	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Picoline	ND	*-	80	1.4	ug/L		12/21/22 08:33	12/22/22 16:27	1
2-Toluidine	ND		10	1.5	ug/L		12/21/22 08:33	12/22/22 16:27	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		12/21/22 08:33	12/22/22 16:27	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1
3,3'-Dimethylbenzidine	ND	*-	40	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1
3-Methylcholanthrene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1
3-Methylphenol	ND		10	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1
3-Nitroaniline	ND		10	0.48	ug/L		12/21/22 08:33	12/22/22 16:27	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-204931-1

Date Collected: 12/15/22 12:40
Matrix: Water

Date Received: 12/20/22 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Methylphenol	ND		10	0.36	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Nitroaniline	ND		10	0.25	ug/L		12/21/22 08:33	12/22/22 16:27	1	
4-Nitrophenol	ND		10	1.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
~~4-Nitroquinoline-1-oxide~~	~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~12/21/22 08:33~~	~~12/22/22 16:27~~	~~1~~	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		12/21/22 08:33	12/22/22 16:27	1	
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~12/21/22 08:33~~	~~12/22/22 16:27~~	~~1~~	R
Acenaphthene	ND		5.0	0.41	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Acenaphthylene	ND		5.0	0.38	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Acetophenone	ND		5.0	0.54	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Aniline	ND		10	0.61	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Anthracene	ND		5.0	0.28	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Aramite, Total	ND		20	1.6	ug/L		12/21/22 08:33	12/22/22 16:27	1	
~~Benzidine~~	~~ND~~	~~*- *1~~	~~80~~	~~2.2~~	~~ug/L~~		~~12/21/22 08:33~~	~~12/22/22 16:27~~	~~1~~	R
Benzo[a]anthracene	ND		5.0	0.36	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Benzyl alcohol	ND		20	2.0	ug/L		12/21/22 08:33	12/22/22 16:27	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Chrysene	ND		5.0	0.33	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Diallate	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Dibenzofuran	ND		10	0.51	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Dimethoate	ND		10	0.54	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Dinoseb	ND		10	2.9	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Diphenylamine	ND		10	0.82	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Disulfoton	ND		10	0.42	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Chlorobenzilate	ND		20	0.67	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Famphur	ND		40	1.9	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Fluoranthene	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Fluorene	ND		5.0	0.36	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		12/21/22 08:33	12/22/22 16:27	1	

Client Sample ID: MW-2022-9
Lab Sample ID: 480-204931-1

Date Collected: 12/15/22 12:40
Matrix: Water

Date Received: 12/20/22 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Hexachloroethane	ND		5.0	0.59	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Hexachloropropene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Isodrin	ND		10	0.18	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Isophorone	ND		5.0	0.43	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Isosafrole	ND		10	0.58	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Kepone	ND	*-	50	1.8	ug/L		12/21/22 08:33	12/22/22 16:27	1	R
Methapyrilene	ND	*- *1	50	1.8	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Methyl methanesulfonate	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Naphthalene	ND		5.0	0.76	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Nitrobenzene	ND		5.0	0.29	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitro-o-toluidine	ND		10	0.66	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosodiethylamine	ND		10	0.36	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosodimethylamine	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosomorpholine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosopiperidine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Ethyl Parathion	ND		10	0.64	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Methyl parathion	ND		10	0.37	ug/L		12/21/22 08:33	12/22/22 16:27	1	
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Pentachlorobenzene	ND		10	0.53	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Pentachloronitrobenzene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Pentachlorophenol	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Phenacetin	ND		10	0.61	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Phenanthrene	ND		5.0	0.44	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Phenol	ND		5.0	0.39	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Phorate	ND		10	0.50	ug/L		12/21/22 08:33	12/22/22 16:27	1	
p-Phenylene diamine	ND	*-	800	200	ug/L		12/21/22 08:33	12/22/22 16:27	1	R
Pronamide	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Pyrene	ND		5.0	0.34	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Pyridine	ND		25	0.41	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Safrole	ND		10	0.46	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Sulfotepp	ND		10	0.64	ug/L		12/21/22 08:33	12/22/22 16:27	1	
Thionazin	ND		10	0.38	ug/L		12/21/22 08:33	12/22/22 16:27	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*41 - 120*	*12/21/22 08:33*	*12/22/22 16:27*	*1*
2-Fluorobiphenyl (Surr)	*86*		*48 - 120*	*12/21/22 08:33*	*12/22/22 16:27*	*1*
2-Fluorophenol (Surr)	*50*		*35 - 120*	*12/21/22 08:33*	*12/22/22 16:27*	*1*
Nitrobenzene-d5 (Surr)	*73*		*46 - 120*	*12/21/22 08:33*	*12/22/22 16:27*	*1*
Phenol-d5 (Surr)	*33*		*22 - 120*	*12/21/22 08:33*	*12/22/22 16:27*	*1*
p-Terphenyl-d14 (Surr)	*101*		*60 - 148*	*12/21/22 08:33*	*12/22/22 16:27*	*1*

Client Sample ID: MW-2022-9
Date Collected: 12/15/22 12:40
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	H	5.0	0.58	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,2,4-Trichlorobenzene	ND	H	10	0.44	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,2-Dichlorobenzene	ND	H	10	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,2-Diphenylhydrazine	ND	H	10	0.35	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,3,5-Trinitrobenzene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,3-Dichlorobenzene	ND	H	10	0.48	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,3-Dinitrobenzene	ND	H	20	0.82	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,4-Dioxane	ND	H	10	1.1	ug/L		01/03/23 11:29	01/04/23 15:47	1
1,4-Naphthoquinone	ND	H	10	0.24	ug/L		01/03/23 11:29	01/04/23 15:47	1
1-Naphthylamine	ND	H *- *1	10	1.3	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,3,4,6-Tetrachlorophenol	ND	H	5.0	0.32	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,4,5-Trichlorophenol	ND	H	5.0	0.48	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,4,6-Trichlorophenol	ND	H	5.0	0.61	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,4-Dichlorophenol	ND	H	5.0	0.51	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,4-Dimethylphenol	ND	H	5.0	0.50	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,4-Dinitrophenol	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,4-Dinitrotoluene	ND	H	5.0	0.45	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,6-Dichlorophenol	ND	H	10	0.46	ug/L		01/03/23 11:29	01/04/23 15:47	1
2,6-Dinitrotoluene	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Acetylaminofluorene	ND	H	10	2.3	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Chloronaphthalene	ND	H	5.0	0.46	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Chlorophenol	ND	H	5.0	0.53	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Methylnaphthalene	ND	H	5.0	0.60	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Methylphenol	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Naphthylamine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Nitroaniline	ND	H	10	0.42	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Nitrophenol	ND	H	5.0	0.48	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Picoline	ND	H *-	80	1.4	ug/L		01/03/23 11:29	01/04/23 15:47	1
2-Toluidine	ND	H *1	10	1.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
3 & 4 Methylphenol	ND	H	10	0.36	ug/L		01/03/23 11:29	01/04/23 15:47	1
3,3'-Dichlorobenzidine	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
3,3'-Dimethylbenzidine	ND	H *-	40	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
3-Methylcholanthrene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
3-Methylphenol	ND	H	10	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
3-Nitroaniline	ND	H	10	0.48	ug/L		01/03/23 11:29	01/04/23 15:47	1
4,6-Dinitro-2-methylphenol	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Aminobiphenyl	ND	H *-	10	0.81	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Bromophenyl phenyl ether	ND	H	5.0	0.45	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Chloro-3-methylphenol	ND	H	5.0	0.45	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Chloroaniline	ND	H	5.0	0.59	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Chlorophenyl phenyl ether	ND	H	5.0	0.35	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Methylphenol	ND	H	10	0.36	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Nitroaniline	ND	H	10	0.25	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Nitrophenol	ND	H	10	1.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
4-Nitroquinoline-1-oxide	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
7,12-Dimethylbenz(a)anthracene	ND	H	10	0.62	ug/L		01/03/23 11:29	01/04/23 15:47	1
a,a-Dimethylphenethylamine	ND	H *-	100	40	ug/L		01/03/23 11:29	01/04/23 15:47	1
Acenaphthene	ND	H	5.0	0.41	ug/L		01/03/23 11:29	01/04/23 15:47	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-204931-1
Date Collected: 12/15/22 12:40
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	H	5.0	0.38	ug/L		01/03/23 11:29	01/04/23 15:47	1
Acetophenone	ND	H	5.0	0.54	ug/L		01/03/23 11:29	01/04/23 15:47	1
Aniline	ND	H	10	0.61	ug/L		01/03/23 11:29	01/04/23 15:47	1
Anthracene	ND	H	5.0	0.28	ug/L		01/03/23 11:29	01/04/23 15:47	1
Aramite, Total	ND	H	20	1.6	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzidine	ND	H *- *1	80	2.2	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzo[a]anthracene	ND	H	5.0	0.36	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzo[a]pyrene	ND	H	5.0	0.47	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzo[b]fluoranthene	ND	H	5.0	0.34	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzo[g,h,i]perylene	ND	H	5.0	0.35	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzo[k]fluoranthene	ND	H	5.0	0.73	ug/L		01/03/23 11:29	01/04/23 15:47	1
Benzyl alcohol	ND	H	20	2.0	ug/L		01/03/23 11:29	01/04/23 15:47	1
bis (2-chloroisopropyl) ether	ND	H	5.0	0.52	ug/L		01/03/23 11:29	01/04/23 15:47	1
Bis(2-chloroethoxy)methane	ND	H	5.0	0.35	ug/L		01/03/23 11:29	01/04/23 15:47	1
Bis(2-chloroethyl)ether	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L		01/03/23 11:29	01/04/23 15:47	1
Butyl benzyl phthalate	ND	H	5.0	1.0	ug/L		01/03/23 11:29	01/04/23 15:47	1
Chrysene	ND	H	5.0	0.33	ug/L		01/03/23 11:29	01/04/23 15:47	1
Diallate	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
Dibenz(a,h)anthracene	ND	H	5.0	0.42	ug/L		01/03/23 11:29	01/04/23 15:47	1
Dibenzofuran	ND	H	10	0.51	ug/L		01/03/23 11:29	01/04/23 15:47	1
Diethyl phthalate	ND	H	5.0	0.22	ug/L		01/03/23 11:29	01/04/23 15:47	1
Dimethoate	ND	H	10	0.54	ug/L		01/03/23 11:29	01/04/23 15:47	1
Dimethyl phthalate	ND	H	5.0	0.36	ug/L		01/03/23 11:29	01/04/23 15:47	1
Di-n-butyl phthalate	ND	H	5.0	0.31	ug/L		01/03/23 11:29	01/04/23 15:47	1
Di-n-octyl phthalate	ND	H	5.0	0.47	ug/L		01/03/23 11:29	01/04/23 15:47	1
Dinoseb	ND	H	10	2.9	ug/L		01/03/23 11:29	01/04/23 15:47	1
Diphenylamine	ND	H	10	0.82	ug/L		01/03/23 11:29	01/04/23 15:47	1
Disulfoton	ND	H	10	0.42	ug/L		01/03/23 11:29	01/04/23 15:47	1
Chlorobenzilate	ND	H	20	0.67	ug/L		01/03/23 11:29	01/04/23 15:47	1
Ethyl methanesulfonate	ND	H	10	0.39	ug/L		01/03/23 11:29	01/04/23 15:47	1
Famphur	ND	H	40	1.9	ug/L		01/03/23 11:29	01/04/23 15:47	1
Fluoranthene	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 15:47	1
Fluorene	ND	H	5.0	0.36	ug/L		01/03/23 11:29	01/04/23 15:47	1
Hexachlorobenzene	ND	H	5.0	0.51	ug/L		01/03/23 11:29	01/04/23 15:47	1
Hexachlorobutadiene	ND	H	5.0	0.68	ug/L		01/03/23 11:29	01/04/23 15:47	1
Hexachlorocyclopentadiene	ND	H	5.0	0.59	ug/L		01/03/23 11:29	01/04/23 15:47	1
Hexachloroethane	ND	H	5.0	0.59	ug/L		01/03/23 11:29	01/04/23 15:47	1
Hexachloropropene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
Indeno[1,2,3-cd]pyrene	ND	H	5.0	0.47	ug/L		01/03/23 11:29	01/04/23 15:47	1
Isodrin	ND	H	10	0.18	ug/L		01/03/23 11:29	01/04/23 15:47	1
Isophorone	ND	H	5.0	0.43	ug/L		01/03/23 11:29	01/04/23 15:47	1
Isosafrole	ND	H	10	0.58	ug/L		01/03/23 11:29	01/04/23 15:47	1
Kepone	ND	H *-	50	1.8	ug/L		01/03/23 11:29	01/04/23 15:47	1
Methapyrilene	ND	H *-	50	1.8	ug/L		01/03/23 11:29	01/04/23 15:47	1
Methyl methanesulfonate	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
Naphthalene	ND	H	5.0	0.76	ug/L		01/03/23 11:29	01/04/23 15:47	1
Nitrobenzene	ND	H	5.0	0.29	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitro-o-toluidine	ND	H	10	0.66	ug/L		01/03/23 11:29	01/04/23 15:47	1

Client Sample ID: MW-2022-9
Date Collected: 12/15/22 12:40
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND	H	10	0.36	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosodimethylamine	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosodi-n-butylamine	ND	H	10	0.60	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosodi-n-propylamine	ND	H	5.0	0.54	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosodiphenylamine	ND	H	5.0	0.51	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosomethylethylamine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosomorpholine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosopiperidine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
N-Nitrosopyrrolidine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
o,o',o''-Triethylphosphorothioate	ND	H	10	0.43	ug/L		01/03/23 11:29	01/04/23 15:47	1
Ethyl Parathion	ND	H	10	0.64	ug/L		01/03/23 11:29	01/04/23 15:47	1
Methyl parathion	ND	H	10	0.37	ug/L		01/03/23 11:29	01/04/23 15:47	1
p-Dimethylamino azobenzene	ND	H	10	0.75	ug/L		01/03/23 11:29	01/04/23 15:47	1
Pentachlorobenzene	ND	H	10	0.53	ug/L		01/03/23 11:29	01/04/23 15:47	1
Pentachloronitrobenzene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
Pentachlorophenol	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 15:47	1
Phenacetin	ND	H	10	0.61	ug/L		01/03/23 11:29	01/04/23 15:47	1
Phenanthrene	ND	H	5.0	0.44	ug/L		01/03/23 11:29	01/04/23 15:47	1
Phenol	ND	H	5.0	0.39	ug/L		01/03/23 11:29	01/04/23 15:47	1
Phorate	ND	H	10	0.50	ug/L		01/03/23 11:29	01/04/23 15:47	1
p-Phenylene diamine	ND	H *-	800	200	ug/L		01/03/23 11:29	01/04/23 15:47	1
Pronamide	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 15:47	1
Pyrene	ND	H	5.0	0.34	ug/L		01/03/23 11:29	01/04/23 15:47	1
Pyridine	ND	H	25	0.41	ug/L		01/03/23 11:29	01/04/23 15:47	1
Safrole	ND	H	10	0.46	ug/L		01/03/23 11:29	01/04/23 15:47	1
Sulfotepp	ND	H	10	0.64	ug/L		01/03/23 11:29	01/04/23 15:47	1
Thionazin	ND	H	10	0.38	ug/L		01/03/23 11:29	01/04/23 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*107*		*41 - 120*	*01/03/23 11:29*	*01/04/23 15:47*	*1*
2-Fluorobiphenyl (Surr)	*103*		*48 - 120*	*01/03/23 11:29*	*01/04/23 15:47*	*1*
2-Fluorophenol (Surr)	*61*		*35 - 120*	*01/03/23 11:29*	*01/04/23 15:47*	*1*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*	*01/03/23 11:29*	*01/04/23 15:47*	*1*
Phenol-d5 (Surr)	*48*		*22 - 120*	*01/03/23 11:29*	*01/04/23 15:47*	*1*
p-Terphenyl-d14 (Surr)	*98*		*60 - 148*	*01/03/23 11:29*	*01/04/23 15:47*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		12/21/22 08:27	12/21/22 14:54	1
4,4'-DDE	ND		0.050	0.012	ug/L		12/21/22 08:27	12/21/22 14:54	1
4,4'-DDT	~~0.014~~ ~~J B~~ 0.050 U		0.050	0.011	ug/L		12/21/22 08:27	12/21/22 14:54	1
Aldrin	ND		0.050	0.0081	ug/L		12/21/22 08:27	12/21/22 14:54	1
alpha-BHC	ND		0.050	0.0077	ug/L		12/21/22 08:27	12/21/22 14:54	1
beta-BHC	ND		0.050	0.025	ug/L		12/21/22 08:27	12/21/22 14:54	1
Chlordane (technical)	ND		0.50	0.29	ug/L		12/21/22 08:27	12/21/22 14:54	1
Chlorobenzilate	ND		5.0	0.090	ug/L		12/21/22 08:27	12/21/22 14:54	1
cis-Chlordane	ND		0.050	0.015	ug/L		12/21/22 08:27	12/21/22 14:54	1
delta-BHC	ND		0.050	0.010	ug/L		12/21/22 08:27	12/21/22 14:54	1
Dieldrin	ND		0.050	0.0098	ug/L		12/21/22 08:27	12/21/22 14:54	1
Endosulfan I	ND		0.050	0.011	ug/L		12/21/22 08:27	12/21/22 14:54	1

Client Sample ID: MW-2022-9
Date Collected: 12/15/22 12:40
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan II	ND		0.050	0.012	ug/L		12/21/22 08:27	12/21/22 14:54	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		12/21/22 08:27	12/21/22 14:54	1
Endrin	ND		0.050	0.014	ug/L		12/21/22 08:27	12/21/22 14:54	1
Endrin aldehyde	ND		0.050	0.016	ug/L		12/21/22 08:27	12/21/22 14:54	1
Endrin ketone	ND		0.050	0.012	ug/L		12/21/22 08:27	12/21/22 14:54	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		12/21/22 08:27	12/21/22 14:54	1
Heptachlor	ND		0.050	0.0085	ug/L		12/21/22 08:27	12/21/22 14:54	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		12/21/22 08:27	12/21/22 14:54	1
Methoxychlor	ND		0.050	0.014	ug/L		12/21/22 08:27	12/21/22 14:54	1
Toxaphene	ND		0.50	0.12	ug/L		12/21/22 08:27	12/21/22 14:54	1
trans-Chlordane	ND		0.050	0.011	ug/L		12/21/22 08:27	12/21/22 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*78*		*20 - 120*	*12/21/22 08:27*	*12/21/22 14:54*	*1*
DCB Decachlorobiphenyl	*76*		*20 - 120*	*12/21/22 08:27*	*12/21/22 14:54*	*1*
Tetrachloro-m-xylene	*75*		*44 - 120*	*12/21/22 08:27*	*12/21/22 14:54*	*1*
Tetrachloro-m-xylene	*67*		*44 - 120*	*12/21/22 08:27*	*12/21/22 14:54*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 17:55	1
PCB-1221	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 17:55	1
PCB-1232	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 17:55	1
PCB-1242	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 17:55	1
PCB-1248	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 17:55	1
PCB-1254	ND		0.50	0.25	ug/L		12/20/22 16:30	12/21/22 17:55	1
PCB-1260	ND		0.50	0.25	ug/L		12/20/22 16:30	12/21/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*39 - 121*	*12/20/22 16:30*	*12/21/22 17:55*	*1*
Tetrachloro-m-xylene	*82*		*39 - 121*	*12/20/22 16:30*	*12/21/22 17:55*	*1*
DCB Decachlorobiphenyl	*62*		*19 - 120*	*12/20/22 16:30*	*12/21/22 17:55*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*12/20/22 16:30*	*12/21/22 17:55*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		12/21/22 09:05	12/22/22 12:00	1
2,4-D	ND		0.48	0.16	ug/L		12/21/22 09:05	12/22/22 12:00	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		12/21/22 09:05	12/22/22 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*104*		*48 - 132*	*12/21/22 09:05*	*12/22/22 12:00*	*1*
2,4-Dichlorophenylacetic acid	*100*		*48 - 132*	*12/21/22 09:05*	*12/22/22 12:00*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		12/22/22 02:30	12/28/22 22:12	1
Disulfoton	ND		0.94	0.38	ug/L		12/22/22 02:30	12/28/22 22:12	1
Famphur	ND		0.94	0.30	ug/L		12/22/22 02:30	12/28/22 22:12	1
Methyl parathion	ND		0.94	0.32	ug/L		12/22/22 02:30	12/28/22 22:12	1
Ethyl Parathion	ND		0.94	0.34	ug/L		12/22/22 02:30	12/28/22 22:12	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-204931-1

Date Collected: 12/15/22 12:40
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	ND		0.94	0.36	ug/L		12/22/22 02:30	12/28/22 22:12	1
Sulfotepp	ND		0.94	0.38	ug/L		12/22/22 02:30	12/28/22 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*77*		*25 - 127*	*12/22/22 02:30*	*12/28/22 22:12*	*1*
Tributyl phosphate	*70*		*25 - 127*	*12/22/22 02:30*	*12/28/22 22:12*	*1*
Triphenylphosphate	*93*		*70 - 155*	*12/22/22 02:30*	*12/28/22 22:12*	*1*
Triphenylphosphate	*94*		*70 - 155*	*12/22/22 02:30*	*12/28/22 22:12*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.62	ng/L		12/21/22 18:12	12/22/22 18:57	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	1.0	ng/L		12/21/22 18:12	12/22/22 18:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.3	ng/L		12/21/22 18:12	12/22/22 18:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.5	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorobutanesulfonic acid (PFBS)	**8.4**		1.6	0.50	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorobutanoic acid (PFBA)	**35**		4.0	0.96	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.39	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluoroheptanoic acid (PFHpA)	**190**		1.6	0.43	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorohexanesulfonic acid (PFHxS)	**1.8**		1.6	0.44	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorohexanoic acid (PFHxA)	**69**		1.6	0.52	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.74	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.68	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorooctanoic acid (PFOA)	**11**		1.6	0.61	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluoropentanoic acid (PFPeA)	**54**		1.6	0.54	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.51	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.38	ng/L		12/21/22 18:12	12/22/22 18:57	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.44	ng/L		12/21/22 18:12	12/22/22 18:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*98*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C2 PFDoA	*93*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C2 PFHxA	*96*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C2 PFUnA	*103*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C3 PFBS	*93*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C4 PFBA	*88*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C4 PFHpA	*92*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C4 PFOA	*98*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*
13C4 PFOS	*95*		*50 - 150*	*12/21/22 18:12*	*12/22/22 18:57*	*1*

Client Sample ID: MW-2022-9
Date Collected: 12/15/22 12:40
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-1
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	103		50 - 150	12/21/22 18:12	12/22/22 18:57	1
13C5 PFPeA	87		50 - 150	12/21/22 18:12	12/22/22 18:57	1
13C8 FOSA	95		50 - 150	12/21/22 18:12	12/22/22 18:57	1
18O2 PFHxS	98		50 - 150	12/21/22 18:12	12/22/22 18:57	1
d3-NMeFOSAA	84		50 - 150	12/21/22 18:12	12/22/22 18:57	1
d5-NEtFOSAA	84		50 - 150	12/21/22 18:12	12/22/22 18:57	1
M2-6:2 FTS	114		50 - 150	12/21/22 18:12	12/22/22 18:57	1
M2-8:2 FTS	107		50 - 150	12/21/22 18:12	12/22/22 18:57	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.67	J I B 24 U	24	0.12	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,4,6,7,8-HpCDF	0.18	J B	24	0.027	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,4,7,8,9-HpCDF	0.12	J I B	24	0.034	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,4,7,8-HxCDD	ND		24	0.026	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,4,7,8-HxCDF	0.21	J I B 24 U	24	0.044	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,6,7,8-HxCDD	0.20	J I B	24	0.028	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,6,7,8-HxCDF	0.20	J I B	24	0.039	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,7,8,9-HxCDD	0.20	J I B	24	0.025	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,7,8,9-HxCDF	ND		24	0.044	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,7,8-PeCDD	ND		24	0.066	pg/L		01/18/23 12:08	01/19/23 11:35	1
1,2,3,7,8-PeCDF	0.50	J I B 24 U	24	0.11	pg/L		01/18/23 12:08	01/19/23 11:35	1
2,3,4,6,7,8-HxCDF	0.22	J I B	24	0.040	pg/L		01/18/23 12:08	01/19/23 11:35	1
2,3,4,7,8-PeCDF	0.15	J I B	24	0.089	pg/L		01/18/23 12:08	01/19/23 11:35	1
2,3,7,8-TCDD	0.099	J I JNX	4.8	0.043	pg/L		01/18/23 12:08	01/19/23 11:35	1
2,3,7,8-TCDF	ND		4.8	0.029	pg/L		01/18/23 12:08	01/19/23 11:35	1
OCDD	1.1	J B 110 U	100	0.13	pg/L		01/18/23 12:08	01/19/23 11:35	1
OCDF	0.47	J I B 48 U	48	0.094	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total HpCDD	0.67	J I B 24 U	24	0.12	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total HpCDF	0.30	J I B	24	0.030	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total HxCDD	0.40	J I B	24	0.026	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total HxCDF	0.63	J I B	24	0.042	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total PeCDD	ND		24	0.066	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total PeCDF	0.65	J I B 24 U	24	0.099	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total TCDD	0.099	J I JNX	4.8	0.043	pg/L		01/18/23 12:08	01/19/23 11:35	1
Total TCDF	ND		4.8	0.029	pg/L		01/18/23 12:08	01/19/23 11:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	72		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,4,6,7,8-HpCDF	66		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,4,7,8,9-HpCDF	65		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,4,7,8-HxCDD	68		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,4,7,8-HxCDF	64		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,6,7,8-HxCDD	70		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,6,7,8-HxCDF	67		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,7,8,9-HxCDD	71		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,7,8,9-HxCDF	68		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,7,8-PeCDD	71		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-1,2,3,7,8-PeCDF	76		40 - 135	01/18/23 12:08	01/19/23 11:35	1
13C-2,3,4,6,7,8-HxCDF	65		40 - 135	01/18/23 12:08	01/19/23 11:35	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-204931-1
Date Collected: 12/15/22 12:40
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,4,7,8-PeCDF	*76*		*40 - 135*	*01/18/23 12:08*	*01/19/23 11:35*	*1*
13C-2,3,7,8-TCDD	*68*		*40 - 135*	*01/18/23 12:08*	*01/19/23 11:35*	*1*
13C-2,3,7,8-TCDF	*66*		*40 - 135*	*01/18/23 12:08*	*01/19/23 11:35*	*1*
13C-OCDD	*72*		*40 - 135*	*01/18/23 12:08*	*01/19/23 11:35*	*1*
13C-OCDF	*68*		*40 - 135*	*01/18/23 12:08*	*01/19/23 11:35*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		12/21/22 09:11	12/28/22 00:06	1
Arsenic	ND		0.015	0.0056	mg/L		12/21/22 09:11	12/28/22 00:06	1
Barium	**0.018**		0.0020	0.00070	mg/L		12/21/22 09:11	12/28/22 00:06	1
Beryllium	ND		0.0020	0.00030	mg/L		12/21/22 09:11	12/28/22 00:06	1
Cadmium	ND		0.0020	0.00050	mg/L		12/21/22 09:11	12/28/22 00:06	1
Chromium	ND		0.0040	0.0010	mg/L		12/21/22 09:11	12/28/22 00:06	1
Cobalt	ND		0.0040	0.00063	mg/L		12/21/22 09:11	12/28/22 00:06	1
Copper	ND		0.010	0.0016	mg/L		12/21/22 09:11	12/28/22 00:06	1
Lead	ND		0.010	0.0030	mg/L		12/21/22 09:11	12/28/22 00:06	1
Nickel	ND		0.010	0.0013	mg/L		12/21/22 09:11	12/28/22 00:06	1
Selenium	ND		0.025	0.0087	mg/L		12/21/22 09:11	12/28/22 00:06	1
Silver	ND		0.0060	0.0017	mg/L		12/21/22 09:11	12/28/22 00:06	1
Thallium	ND		0.020	0.010	mg/L		12/21/22 09:11	12/28/22 00:06	1
Tin	ND		0.010	0.0051	mg/L		12/21/22 09:11	12/28/22 00:06	1
Vanadium	ND		0.0050	0.0015	mg/L		12/21/22 09:11	12/28/22 00:06	1
Zinc	~~0.0092~~ ~~J B~~ 0.010 U		0.010	0.0015	mg/L		12/21/22 09:11	12/29/22 19:21	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/28/22 10:21	12/28/22 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			12/22/22 08:19	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			12/22/22 08:50	1

Client Sample ID: MW-2022-6
Lab Sample ID: 480-204931-2
Date Collected: 12/15/22 14:45
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/21/22 17:26	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/21/22 17:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/21/22 17:26	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/21/22 17:26	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/21/22 17:26	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/21/22 17:26	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/21/22 17:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/21/22 17:26	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/21/22 17:26	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/21/22 17:26	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/21/22 17:26	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			12/21/22 17:26	1	
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~12/21/22 17:26~~	~~1~~	R
2-Hexanone	ND		5.0	1.2	ug/L			12/21/22 17:26	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			12/21/22 17:26	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/21/22 17:26	1	
Acetone	ND		10	3.0	ug/L			12/21/22 17:26	1	
Acetonitrile	ND		15	4.9	ug/L			12/21/22 17:26	1	
Acrolein	ND		20	0.91	ug/L			12/21/22 17:26	1	
Acrylonitrile	ND		5.0	0.83	ug/L			12/21/22 17:26	1	
Benzene	ND		1.0	0.41	ug/L			12/21/22 17:26	1	
Bromoform	ND		1.0	0.26	ug/L			12/21/22 17:26	1	
Bromomethane	ND		1.0	0.69	ug/L			12/21/22 17:26	1	
Carbon disulfide	ND		1.0	0.19	ug/L			12/21/22 17:26	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/21/22 17:26	1	
Chlorobenzene	ND		1.0	0.75	ug/L			12/21/22 17:26	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			12/21/22 17:26	1	
Chloroethane	ND		1.0	0.32	ug/L			12/21/22 17:26	1	
Chloroform	ND		1.0	0.34	ug/L			12/21/22 17:26	1	
Chloromethane	ND		1.0	0.35	ug/L			12/21/22 17:26	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/21/22 17:26	1	
Dibromomethane	ND		1.0	0.41	ug/L			12/21/22 17:26	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			12/21/22 17:26	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			12/21/22 17:26	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			12/21/22 17:26	1	
Ethylbenzene	ND		1.0	0.74	ug/L			12/21/22 17:26	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			12/21/22 17:26	1	
Iodomethane	ND		1.0	0.30	ug/L			12/21/22 17:26	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			12/21/22 17:26	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			12/21/22 17:26	1	
Methylene Chloride	ND		1.0	0.44	ug/L			12/21/22 17:26	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			12/21/22 17:26	1	
o-Xylene	ND		1.0	0.76	ug/L			12/21/22 17:26	1	
Propionitrile	ND		10	5.8	ug/L			12/21/22 17:26	1	
Styrene	ND		1.0	0.73	ug/L			12/21/22 17:26	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			12/21/22 17:26	1	
Toluene	ND		1.0	0.51	ug/L			12/21/22 17:26	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/21/22 17:26	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/21/22 17:26	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/21/22 17:26	1	
Trichloroethene	ND		1.0	0.46	ug/L			12/21/22 17:26	1	
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/21/22 17:26	1	
Vinyl acetate	ND		5.0	0.85	ug/L			12/21/22 17:26	1	
Vinyl chloride	ND		1.0	0.90	ug/L			12/21/22 17:26	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*77 - 120*		*12/21/22 17:26*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*12/21/22 17:26*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*12/21/22 17:26*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/21/22 17:26*	*1*

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,2-Dichlorobenzene	ND		10	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,3-Dichlorobenzene	ND		10	0.48	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,3-Dinitrobenzene	ND		20	0.82	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,4-Dioxane	ND		10	1.1	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1,4-Naphthoquinone	ND		10	0.24	ug/L		12/21/22 08:33	12/22/22 16:55	1	
1-Naphthylamine	ND	*- *1	10	1.3	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,4-Dinitrophenol	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,6-Dichlorophenol	ND		10	0.46	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Acetylaminofluorene	ND		10	2.3	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Chloronaphthalene	ND		5.0	0.46	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Chlorophenol	ND		5.0	0.53	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Methylnaphthalene	ND		5.0	0.60	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Methylphenol	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Naphthylamine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Nitroaniline	ND		10	0.42	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Nitrophenol	ND		5.0	0.48	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Picoline	ND	*-	80	1.4	ug/L		12/21/22 08:33	12/22/22 16:55	1	
2-Toluidine	ND		10	1.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
3 & 4 Methylphenol	ND		10	0.36	ug/L		12/21/22 08:33	12/22/22 16:55	1	
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
3,3'-Dimethylbenzidine	ND	*-	40	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
3-Methylcholanthrene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
3-Methylphenol	ND		10	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
3-Nitroaniline	ND		10	0.48	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Methylphenol	ND		10	0.36	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Nitroaniline	ND		10	0.25	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Nitrophenol	ND		10	1.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		12/21/22 08:33	12/22/22 16:55	1	
a,a-Dimethylphenethylamine	ND	*-	100	40	ug/L		12/21/22 08:33	12/22/22 16:55	1	R
Acenaphthene	ND		5.0	0.41	ug/L		12/21/22 08:33	12/22/22 16:55	1	

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Acenaphthylene	ND		5.0	0.38	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Acetophenone	ND		5.0	0.54	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Aniline	ND		10	0.61	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Anthracene	ND		5.0	0.28	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Aramite, Total	ND		20	1.6	ug/L		12/21/22 08:33	12/22/22 16:55	1	
~~Benzidine~~	~~ND~~	~~*- *1~~	~~80~~	~~2.2~~	~~ug/L~~		~~12/21/22 08:33~~	~~12/22/22 16:55~~	~~1~~	R
Benzo[a]anthracene	ND		5.0	0.36	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Benzyl alcohol	ND		20	2.0	ug/L		12/21/22 08:33	12/22/22 16:55	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Chrysene	ND		5.0	0.33	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Diallate	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Dibenzofuran	ND		10	0.51	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Dimethoate	ND		10	0.54	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Dinoseb	ND		10	2.9	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Diphenylamine	ND		10	0.82	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Disulfoton	ND		10	0.42	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Chlorobenzilate	ND		20	0.67	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Famphur	ND		40	1.9	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Fluoranthene	ND		5.0	0.40	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Fluorene	ND		5.0	0.36	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Hexachloroethane	ND		5.0	0.59	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Hexachloropropene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Isodrin	ND		10	0.18	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Isophorone	ND		5.0	0.43	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Isosafrole	ND		10	0.58	ug/L		12/21/22 08:33	12/22/22 16:55	1	
~~Kepone~~	~~ND~~	~~*-~~	~~50~~	~~1.8~~	~~ug/L~~		~~12/21/22 08:33~~	~~12/22/22 16:55~~	~~1~~	R
Methapyrilene	ND	*- *1	50	1.8	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Methyl methanesulfonate	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Naphthalene	ND		5.0	0.76	ug/L		12/21/22 08:33	12/22/22 16:55	1	
Nitrobenzene	ND		5.0	0.29	ug/L		12/21/22 08:33	12/22/22 16:55	1	
N-Nitro-o-toluidine	ND		10	0.66	ug/L		12/21/22 08:33	12/22/22 16:55	1	

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiethylamine	ND		10	0.36	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		12/21/22 08:33	12/22/22 16:55	1
Ethyl Parathion	ND		10	0.64	ug/L		12/21/22 08:33	12/22/22 16:55	1
Methyl parathion	ND		10	0.37	ug/L		12/21/22 08:33	12/22/22 16:55	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		12/21/22 08:33	12/22/22 16:55	1
Pentachlorobenzene	ND		10	0.53	ug/L		12/21/22 08:33	12/22/22 16:55	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1
Pentachlorophenol	ND		10	2.2	ug/L		12/21/22 08:33	12/22/22 16:55	1
Phenacetin	ND		10	0.61	ug/L		12/21/22 08:33	12/22/22 16:55	1
Phenanthrene	ND		5.0	0.44	ug/L		12/21/22 08:33	12/22/22 16:55	1
Phenol	ND		5.0	0.39	ug/L		12/21/22 08:33	12/22/22 16:55	1
Phorate	ND		10	0.50	ug/L		12/21/22 08:33	12/22/22 16:55	1
p-Phenylene diamine	ND	*-	800	200	ug/L		12/21/22 08:33	12/22/22 16:55	1
Pronamide	ND		10	2.5	ug/L		12/21/22 08:33	12/22/22 16:55	1
Pyrene	ND		5.0	0.34	ug/L		12/21/22 08:33	12/22/22 16:55	1
Pyridine	ND		25	0.41	ug/L		12/21/22 08:33	12/22/22 16:55	1
Safrole	ND		10	0.46	ug/L		12/21/22 08:33	12/22/22 16:55	1
Sulfotepp	ND		10	0.64	ug/L		12/21/22 08:33	12/22/22 16:55	1
Thionazin	ND		10	0.38	ug/L		12/21/22 08:33	12/22/22 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*41 - 120*	*12/21/22 08:33*	*12/22/22 16:55*	*1*
2-Fluorobiphenyl (Surr)	*109*		*48 - 120*	*12/21/22 08:33*	*12/22/22 16:55*	*1*
2-Fluorophenol (Surr)	*73*		*35 - 120*	*12/21/22 08:33*	*12/22/22 16:55*	*1*
Nitrobenzene-d5 (Surr)	*99*		*46 - 120*	*12/21/22 08:33*	*12/22/22 16:55*	*1*
Phenol-d5 (Surr)	*49*		*22 - 120*	*12/21/22 08:33*	*12/22/22 16:55*	*1*
p-Terphenyl-d14 (Surr)	*93*		*60 - 148*	*12/21/22 08:33*	*12/22/22 16:55*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND	H	5.0	0.58	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,2,4-Trichlorobenzene	ND	H	10	0.44	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,2-Dichlorobenzene	ND	H	10	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,2-Diphenylhydrazine	ND	H	10	0.35	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,3,5-Trinitrobenzene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,3-Dichlorobenzene	ND	H	10	0.48	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,3-Dinitrobenzene	ND	H	20	0.82	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,4-Dioxane	ND	H	10	1.1	ug/L		01/03/23 11:29	01/04/23 16:16	1
1,4-Naphthoquinone	ND	H	10	0.24	ug/L		01/03/23 11:29	01/04/23 16:16	1
1-Naphthylamine	ND	H *- *1	10	1.3	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,3,4,6-Tetrachlorophenol	ND	H	5.0	0.32	ug/L		01/03/23 11:29	01/04/23 16:16	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND	H	5.0	0.48	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,4,6-Trichlorophenol	ND	H	5.0	0.61	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,4-Dichlorophenol	ND	H	5.0	0.51	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,4-Dimethylphenol	ND	H	5.0	0.50	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,4-Dinitrophenol	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,4-Dinitrotoluene	ND	H	5.0	0.45	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,6-Dichlorophenol	ND	H	10	0.46	ug/L		01/03/23 11:29	01/04/23 16:16	1
2,6-Dinitrotoluene	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Acetylaminofluorene	ND	H	10	2.3	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Chloronaphthalene	ND	H	5.0	0.46	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Chlorophenol	ND	H	5.0	0.53	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Methylnaphthalene	ND	H	5.0	0.60	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Methylphenol	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Naphthylamine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Nitroaniline	ND	H	10	0.42	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Nitrophenol	ND	H	5.0	0.48	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Picoline	ND	H *-	80	1.4	ug/L		01/03/23 11:29	01/04/23 16:16	1
2-Toluidine	ND	H *1	10	1.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
3 & 4 Methylphenol	ND	H	10	0.36	ug/L		01/03/23 11:29	01/04/23 16:16	1
3,3'-Dichlorobenzidine	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
3,3'-Dimethylbenzidine	ND	H *-	40	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
3-Methylcholanthrene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
3-Methylphenol	ND	H	10	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
3-Nitroaniline	ND	H	10	0.48	ug/L		01/03/23 11:29	01/04/23 16:16	1
4,6-Dinitro-2-methylphenol	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Aminobiphenyl	ND	H *-	10	0.81	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Bromophenyl phenyl ether	ND	H	5.0	0.45	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Chloro-3-methylphenol	ND	H	5.0	0.45	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Chloroaniline	ND	H	5.0	0.59	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Chlorophenyl phenyl ether	ND	H	5.0	0.35	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Methylphenol	ND	H	10	0.36	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Nitroaniline	ND	H	10	0.25	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Nitrophenol	ND	H	10	1.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
4-Nitroquinoline-1-oxide	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
7,12-Dimethylbenz(a)anthracene	ND	H	10	0.62	ug/L		01/03/23 11:29	01/04/23 16:16	1
a,a-Dimethylphenethylamine	ND	H *-	100	40	ug/L		01/03/23 11:29	01/04/23 16:16	1
Acenaphthene	ND	H	5.0	0.41	ug/L		01/03/23 11:29	01/04/23 16:16	1
Acenaphthylene	ND	H	5.0	0.38	ug/L		01/03/23 11:29	01/04/23 16:16	1
Acetophenone	ND	H	5.0	0.54	ug/L		01/03/23 11:29	01/04/23 16:16	1
Aniline	ND	H	10	0.61	ug/L		01/03/23 11:29	01/04/23 16:16	1
Anthracene	ND	H	5.0	0.28	ug/L		01/03/23 11:29	01/04/23 16:16	1
Aramite, Total	ND	H	20	1.6	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzidine	ND	H *- *1	80	2.2	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzo[a]anthracene	ND	H	5.0	0.36	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzo[a]pyrene	ND	H	5.0	0.47	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzo[b]fluoranthene	ND	H	5.0	0.34	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzo[g,h,i]perylene	ND	H	5.0	0.35	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzo[k]fluoranthene	ND	H	5.0	0.73	ug/L		01/03/23 11:29	01/04/23 16:16	1
Benzyl alcohol	ND	H	20	2.0	ug/L		01/03/23 11:29	01/04/23 16:16	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
bis (2-chloroisopropyl) ether	ND	H	5.0	0.52	ug/L		01/03/23 11:29	01/04/23 16:16	1
Bis(2-chloroethoxy)methane	ND	H	5.0	0.35	ug/L		01/03/23 11:29	01/04/23 16:16	1
Bis(2-chloroethyl)ether	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L		01/03/23 11:29	01/04/23 16:16	1
Butyl benzyl phthalate	ND	H	5.0	1.0	ug/L		01/03/23 11:29	01/04/23 16:16	1
Chrysene	ND	H	5.0	0.33	ug/L		01/03/23 11:29	01/04/23 16:16	1
Diallate	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
Dibenz(a,h)anthracene	ND	H	5.0	0.42	ug/L		01/03/23 11:29	01/04/23 16:16	1
Dibenzofuran	ND	H	10	0.51	ug/L		01/03/23 11:29	01/04/23 16:16	1
Diethyl phthalate	ND	H	5.0	0.22	ug/L		01/03/23 11:29	01/04/23 16:16	1
Dimethoate	ND	H	10	0.54	ug/L		01/03/23 11:29	01/04/23 16:16	1
Dimethyl phthalate	ND	H	5.0	0.36	ug/L		01/03/23 11:29	01/04/23 16:16	1
Di-n-butyl phthalate	ND	H	5.0	0.31	ug/L		01/03/23 11:29	01/04/23 16:16	1
Di-n-octyl phthalate	ND	H	5.0	0.47	ug/L		01/03/23 11:29	01/04/23 16:16	1
Dinoseb	ND	H	10	2.9	ug/L		01/03/23 11:29	01/04/23 16:16	1
Diphenylamine	ND	H	10	0.82	ug/L		01/03/23 11:29	01/04/23 16:16	1
Disulfoton	ND	H	10	0.42	ug/L		01/03/23 11:29	01/04/23 16:16	1
Chlorobenzilate	ND	H	20	0.67	ug/L		01/03/23 11:29	01/04/23 16:16	1
Ethyl methanesulfonate	ND	H	10	0.39	ug/L		01/03/23 11:29	01/04/23 16:16	1
Famphur	ND	H	40	1.9	ug/L		01/03/23 11:29	01/04/23 16:16	1
Fluoranthene	ND	H	5.0	0.40	ug/L		01/03/23 11:29	01/04/23 16:16	1
Fluorene	ND	H	5.0	0.36	ug/L		01/03/23 11:29	01/04/23 16:16	1
Hexachlorobenzene	ND	H	5.0	0.51	ug/L		01/03/23 11:29	01/04/23 16:16	1
Hexachlorobutadiene	ND	H	5.0	0.68	ug/L		01/03/23 11:29	01/04/23 16:16	1
Hexachlorocyclopentadiene	ND	H	5.0	0.59	ug/L		01/03/23 11:29	01/04/23 16:16	1
Hexachloroethane	ND	H	5.0	0.59	ug/L		01/03/23 11:29	01/04/23 16:16	1
Hexachloropropene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
Indeno[1,2,3-cd]pyrene	ND	H	5.0	0.47	ug/L		01/03/23 11:29	01/04/23 16:16	1
Isodrin	ND	H	10	0.18	ug/L		01/03/23 11:29	01/04/23 16:16	1
Isophorone	ND	H	5.0	0.43	ug/L		01/03/23 11:29	01/04/23 16:16	1
Isosafrole	ND	H	10	0.58	ug/L		01/03/23 11:29	01/04/23 16:16	1
Kepone	ND	H *-	50	1.8	ug/L		01/03/23 11:29	01/04/23 16:16	1
Methapyrilene	ND	H *-	50	1.8	ug/L		01/03/23 11:29	01/04/23 16:16	1
Methyl methanesulfonate	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
Naphthalene	ND	H	5.0	0.76	ug/L		01/03/23 11:29	01/04/23 16:16	1
Nitrobenzene	ND	H	5.0	0.29	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitro-o-toluidine	ND	H	10	0.66	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosodiethylamine	ND	H	10	0.36	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosodimethylamine	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosodi-n-butylamine	ND	H	10	0.60	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosodi-n-propylamine	ND	H	5.0	0.54	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosodiphenylamine	ND	H	5.0	0.51	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosomethylethylamine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosomorpholine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosopiperidine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
N-Nitrosopyrrolidine	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
o,o',o''-Triethylphosphorothioate	ND	H	10	0.43	ug/L		01/03/23 11:29	01/04/23 16:16	1
Ethyl Parathion	ND	H	10	0.64	ug/L		01/03/23 11:29	01/04/23 16:16	1
Methyl parathion	ND	H	10	0.37	ug/L		01/03/23 11:29	01/04/23 16:16	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Dimethylamino azobenzene	ND	H	10	0.75	ug/L		01/03/23 11:29	01/04/23 16:16	1
Pentachlorobenzene	ND	H	10	0.53	ug/L		01/03/23 11:29	01/04/23 16:16	1
Pentachloronitrobenzene	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
Pentachlorophenol	ND	H	10	2.2	ug/L		01/03/23 11:29	01/04/23 16:16	1
Phenacetin	ND	H	10	0.61	ug/L		01/03/23 11:29	01/04/23 16:16	1
Phenanthrene	ND	H	5.0	0.44	ug/L		01/03/23 11:29	01/04/23 16:16	1
Phenol	ND	H	5.0	0.39	ug/L		01/03/23 11:29	01/04/23 16:16	1
Phorate	ND	H	10	0.50	ug/L		01/03/23 11:29	01/04/23 16:16	1
p-Phenylene diamine	ND	H *-	800	200	ug/L		01/03/23 11:29	01/04/23 16:16	1
Pronamide	ND	H	10	2.5	ug/L		01/03/23 11:29	01/04/23 16:16	1
Pyrene	ND	H	5.0	0.34	ug/L		01/03/23 11:29	01/04/23 16:16	1
Pyridine	ND	H	25	0.41	ug/L		01/03/23 11:29	01/04/23 16:16	1
Safrole	ND	H	10	0.46	ug/L		01/03/23 11:29	01/04/23 16:16	1
Sulfotepp	ND	H	10	0.64	ug/L		01/03/23 11:29	01/04/23 16:16	1
Thionazin	ND	H	10	0.38	ug/L		01/03/23 11:29	01/04/23 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*41 - 120*	*01/03/23 11:29*	*01/04/23 16:16*	*1*
2-Fluorobiphenyl (Surr)	*101*		*48 - 120*	*01/03/23 11:29*	*01/04/23 16:16*	*1*
2-Fluorophenol (Surr)	*63*		*35 - 120*	*01/03/23 11:29*	*01/04/23 16:16*	*1*
Nitrobenzene-d5 (Surr)	*76*		*46 - 120*	*01/03/23 11:29*	*01/04/23 16:16*	*1*
Phenol-d5 (Surr)	*47*		*22 - 120*	*01/03/23 11:29*	*01/04/23 16:16*	*1*
p-Terphenyl-d14 (Surr)	*99*		*60 - 148*	*01/03/23 11:29*	*01/04/23 16:16*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		12/21/22 08:27	12/21/22 15:13	1
4,4'-DDE	ND		0.050	0.012	ug/L		12/21/22 08:27	12/21/22 15:13	1
4,4'-DDT	ND		0.050	0.011	ug/L		12/21/22 08:27	12/21/22 15:13	1
Aldrin	ND		0.050	0.0081	ug/L		12/21/22 08:27	12/21/22 15:13	1
alpha-BHC	ND		0.050	0.0077	ug/L		12/21/22 08:27	12/21/22 15:13	1
beta-BHC	ND		0.050	0.025	ug/L		12/21/22 08:27	12/21/22 15:13	1
Chlordane (technical)	ND		0.50	0.29	ug/L		12/21/22 08:27	12/21/22 15:13	1
Chlorobenzilate	ND		5.0	0.090	ug/L		12/21/22 08:27	12/21/22 15:13	1
cis-Chlordane	ND		0.050	0.015	ug/L		12/21/22 08:27	12/21/22 15:13	1
delta-BHC	ND		0.050	0.010	ug/L		12/21/22 08:27	12/21/22 15:13	1
Dieldrin	ND		0.050	0.0098	ug/L		12/21/22 08:27	12/21/22 15:13	1
Endosulfan I	ND		0.050	0.011	ug/L		12/21/22 08:27	12/21/22 15:13	1
Endosulfan II	ND		0.050	0.012	ug/L		12/21/22 08:27	12/21/22 15:13	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		12/21/22 08:27	12/21/22 15:13	1
Endrin	ND		0.050	0.014	ug/L		12/21/22 08:27	12/21/22 15:13	1
Endrin aldehyde	ND		0.050	0.016	ug/L		12/21/22 08:27	12/21/22 15:13	1
Endrin ketone	ND		0.050	0.012	ug/L		12/21/22 08:27	12/21/22 15:13	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		12/21/22 08:27	12/21/22 15:13	1
Heptachlor	ND		0.050	0.0085	ug/L		12/21/22 08:27	12/21/22 15:13	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		12/21/22 08:27	12/21/22 15:13	1
Methoxychlor	ND		0.050	0.014	ug/L		12/21/22 08:27	12/21/22 15:13	1
Toxaphene	ND		0.50	0.12	ug/L		12/21/22 08:27	12/21/22 15:13	1
trans-Chlordane	ND		0.050	0.011	ug/L		12/21/22 08:27	12/21/22 15:13	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*		*20 - 120*	*12/21/22 08:27*	*12/21/22 15:13*	*1*
DCB Decachlorobiphenyl	*88*		*20 - 120*	*12/21/22 08:27*	*12/21/22 15:13*	*1*
Tetrachloro-m-xylene	*85*		*44 - 120*	*12/21/22 08:27*	*12/21/22 15:13*	*1*
Tetrachloro-m-xylene	*77*		*44 - 120*	*12/21/22 08:27*	*12/21/22 15:13*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 18:09	1
PCB-1221	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 18:09	1
PCB-1232	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 18:09	1
PCB-1242	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 18:09	1
PCB-1248	ND		0.50	0.18	ug/L		12/20/22 16:30	12/21/22 18:09	1
PCB-1254	ND		0.50	0.25	ug/L		12/20/22 16:30	12/21/22 18:09	1
PCB-1260	ND		0.50	0.25	ug/L		12/20/22 16:30	12/21/22 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*39 - 121*	*12/20/22 16:30*	*12/21/22 18:09*	*1*
Tetrachloro-m-xylene	*84*		*39 - 121*	*12/20/22 16:30*	*12/21/22 18:09*	*1*
DCB Decachlorobiphenyl	*51*		*19 - 120*	*12/20/22 16:30*	*12/21/22 18:09*	*1*
DCB Decachlorobiphenyl	*41*		*19 - 120*	*12/20/22 16:30*	*12/21/22 18:09*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		12/21/22 09:05	12/22/22 12:19	1
2,4-D	ND		0.48	0.16	ug/L		12/21/22 09:05	12/22/22 12:19	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		12/21/22 09:05	12/22/22 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*117*		*48 - 132*	*12/21/22 09:05*	*12/22/22 12:19*	*1*
2,4-Dichlorophenylacetic acid	*113*		*48 - 132*	*12/21/22 09:05*	*12/22/22 12:19*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		12/22/22 02:30	12/28/22 22:43	1
Disulfoton	ND		0.94	0.38	ug/L		12/22/22 02:30	12/28/22 22:43	1
Famphur	ND		0.94	0.30	ug/L		12/22/22 02:30	12/28/22 22:43	1
Methyl parathion	ND		0.94	0.32	ug/L		12/22/22 02:30	12/28/22 22:43	1
Ethyl Parathion	ND		0.94	0.34	ug/L		12/22/22 02:30	12/28/22 22:43	1
Phorate	ND		0.94	0.36	ug/L		12/22/22 02:30	12/28/22 22:43	1
Sulfotepp	ND		0.94	0.38	ug/L		12/22/22 02:30	12/28/22 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*79*		*25 - 127*	*12/22/22 02:30*	*12/28/22 22:43*	*1*
Tributyl phosphate	*71*		*25 - 127*	*12/22/22 02:30*	*12/28/22 22:43*	*1*
Triphenylphosphate	*94*		*70 - 155*	*12/22/22 02:30*	*12/28/22 22:43*	*1*
Triphenylphosphate	*95*		*70 - 155*	*12/22/22 02:30*	*12/28/22 22:43*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		12/21/22 18:12	12/22/22 19:05	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		12/21/22 18:12	12/22/22 19:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		12/21/22 18:12	12/22/22 19:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.5	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorobutanesulfonic acid (PFBS)	**2.8**		1.6	0.50	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorobutanoic acid (PFBA)	**10**		4.1	0.97	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.32	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluoroheptanoic acid (PFHpA)	**11**		1.6	0.44	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorohexanesulfonic acid (PFHxS)	**0.57**	**J**	1.6	0.45	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorohexanoic acid (PFHxA)	**19**		1.6	0.53	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorooctanoic acid (PFOA)	**1.0**	**J**	1.6	0.62	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluoropentanoic acid (PFPeA)	**11**		1.6	0.55	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		12/21/22 18:12	12/22/22 19:05	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		12/21/22 18:12	12/22/22 19:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*97*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C2 PFDoA	*92*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C2 PFHxA	*95*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C2 PFTeDA	*99*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C2 PFUnA	*101*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C3 PFBS	*87*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C4 PFBA	*86*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C4 PFHpA	*95*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C4 PFOA	*94*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C4 PFOS	*91*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C5 PFNA	*96*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C5 PFPeA	*85*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
13C8 FOSA	*93*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
18O2 PFHxS	*93*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
d3-NMeFOSAA	*79*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
d5-NEtFOSAA	*83*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
M2-6:2 FTS	*111*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*
M2-8:2 FTS	*104*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:05*	*1*

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**0.68**	**J I B** 24 U	24	0.048	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,4,6,7,8-HpCDF	**0.23**	**J B**	24	0.045	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,4,7,8,9-HpCDF	**0.21**	**J I B**	24	0.061	pg/L		01/23/23 20:54	01/24/23 20:59	1

Client Sample ID: MW-2022-6
Date Collected: 12/15/22 14:45
Date Received: 12/20/22 10:00

Lab Sample ID: 480-204931-2
Matrix: Water

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	0.19	J I B	24	0.024	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,4,7,8-HxCDF	0.33	J I B	24	0.050	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,6,7,8-HxCDD	0.29	J I B	24	0.025	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,6,7,8-HxCDF	0.29	J I B	24	0.045	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,7,8,9-HxCDD	0.40	J I B	24	0.023	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,7,8,9-HxCDF	0.54	J B	24	0.053	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,7,8-PeCDD	0.27	J I B	24	0.11	pg/L		01/23/23 20:54	01/24/23 20:59	1
1,2,3,7,8-PeCDF	0.37	J B	24	0.063	pg/L		01/23/23 20:54	01/24/23 20:59	1
2,3,4,6,7,8-HxCDF	0.23	J B	24	0.046	pg/L		01/23/23 20:54	01/24/23 20:59	1
2,3,4,7,8-PeCDF	0.26	J I B	24	0.050	pg/L		01/23/23 20:54	01/24/23 20:59	1
2,3,7,8-TCDD	ND		4.8	0.062	pg/L		01/23/23 20:54	01/24/23 20:59	1
2,3,7,8-TCDF	ND		4.8	0.038	pg/L		01/23/23 20:54	01/24/23 20:59	1
OCDD	1.6	J B	110	0.11	pg/L		01/23/23 20:54	01/24/23 20:59	1
OCDF	0.72	J I B	48	0.039	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total HpCDD	0.68	J I B	24	0.048	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total HpCDF	0.44	J I B	24	0.053	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total HxCDD	0.88	J I B	24	0.024	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total HxCDF	1.4	J I B	24	0.048	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total PeCDD	0.27	J I B	24	0.11	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total PeCDF	0.63	J I B	24	0.057	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total TCDD	ND		4.8	0.062	pg/L		01/23/23 20:54	01/24/23 20:59	1
Total TCDF	ND		4.8	0.038	pg/L		01/23/23 20:54	01/24/23 20:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*77*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,7,8,9-HxCDD	*76*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,7,8,9-HxCDF	*78*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-2,3,7,8-TCDF	*65*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-OCDD	*79*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*
13C-OCDF	*77*		*40 - 135*	*01/23/23 20:54*	*01/24/23 20:59*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		12/21/22 09:11	12/28/22 00:10	1
Arsenic	ND		0.015	0.0056	mg/L		12/21/22 09:11	12/28/22 00:10	1
Barium	0.018		0.0020	0.00070	mg/L		12/21/22 09:11	12/28/22 00:10	1
Beryllium	ND		0.0020	0.00030	mg/L		12/21/22 09:11	12/28/22 00:10	1
Cadmium	ND		0.0020	0.00050	mg/L		12/21/22 09:11	12/28/22 00:10	1
Chromium	ND		0.0040	0.0010	mg/L		12/21/22 09:11	12/28/22 00:10	1

Client Sample ID: MW-2022-6
Lab Sample ID: 480-204931-2
Date Collected: 12/15/22 14:45
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.0040	0.00063	mg/L		12/21/22 09:11	12/28/22 00:10	1
Copper	ND		0.010	0.0016	mg/L		12/21/22 09:11	12/28/22 00:10	1
Lead	ND		0.010	0.0030	mg/L		12/21/22 09:11	12/28/22 00:10	1
Nickel	ND		0.010	0.0013	mg/L		12/21/22 09:11	12/28/22 00:10	1
Selenium	ND		0.025	0.0087	mg/L		12/21/22 09:11	12/28/22 00:10	1
Silver	ND		0.0060	0.0017	mg/L		12/21/22 09:11	12/28/22 00:10	1
Thallium	ND		0.020	0.010	mg/L		12/21/22 09:11	12/28/22 00:10	1
Tin	ND		0.010	0.0051	mg/L		12/21/22 09:11	12/28/22 00:10	1
Vanadium	ND		0.0050	0.0015	mg/L		12/21/22 09:11	12/28/22 00:10	1
Zinc	~~0.0042~~ ~~J B~~ 0.010 U		0.010	0.0015	mg/L		12/21/22 09:11	12/29/22 19:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/28/22 10:21	12/28/22 15:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			12/22/22 08:25	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			12/22/22 08:50	1

Client Sample ID: TRIP BLANK 121522
Lab Sample ID: 480-204931-3
Date Collected: 12/15/22 00:00
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/21/22 17:50	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/21/22 17:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/21/22 17:50	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/21/22 17:50	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/21/22 17:50	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/21/22 17:50	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/21/22 17:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/21/22 17:50	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/21/22 17:50	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/21/22 17:50	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/21/22 17:50	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			12/21/22 17:50	1
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~12/21/22 17:50~~	~~1~~ R
2-Hexanone	ND		5.0	1.2	ug/L			12/21/22 17:50	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			12/21/22 17:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/21/22 17:50	1
Acetone	ND		10	3.0	ug/L			12/21/22 17:50	1
Acetonitrile	ND		15	4.9	ug/L			12/21/22 17:50	1
Acrolein	ND		20	0.91	ug/L			12/21/22 17:50	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/21/22 17:50	1
Benzene	ND		1.0	0.41	ug/L			12/21/22 17:50	1
Bromoform	ND		1.0	0.26	ug/L			12/21/22 17:50	1
Bromomethane	ND		1.0	0.69	ug/L			12/21/22 17:50	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/21/22 17:50	1

Client Sample ID: TRIP BLANK 121522
Lab Sample ID: 480-204931-3

Date Collected: 12/15/22 00:00
Matrix: Water
Date Received: 12/20/22 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/21/22 17:50	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/21/22 17:50	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			12/21/22 17:50	1
Chloroethane	ND		1.0	0.32	ug/L			12/21/22 17:50	1
Chloroform	ND		1.0	0.34	ug/L			12/21/22 17:50	1
Chloromethane	ND		1.0	0.35	ug/L			12/21/22 17:50	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/21/22 17:50	1
Dibromomethane	ND		1.0	0.41	ug/L			12/21/22 17:50	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			12/21/22 17:50	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			12/21/22 17:50	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			12/21/22 17:50	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/21/22 17:50	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			12/21/22 17:50	1
Iodomethane	ND		1.0	0.30	ug/L			12/21/22 17:50	1
Methacrylonitrile	ND		5.0	0.69	ug/L			12/21/22 17:50	1
Methyl methacrylate	ND		1.0	0.61	ug/L			12/21/22 17:50	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/21/22 17:50	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			12/21/22 17:50	1
o-Xylene	ND		1.0	0.76	ug/L			12/21/22 17:50	1
Propionitrile	ND		10	5.8	ug/L			12/21/22 17:50	1
Styrene	ND		1.0	0.73	ug/L			12/21/22 17:50	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/21/22 17:50	1
Toluene	ND		1.0	0.51	ug/L			12/21/22 17:50	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/21/22 17:50	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/21/22 17:50	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/21/22 17:50	1
Trichloroethene	ND		1.0	0.46	ug/L			12/21/22 17:50	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/21/22 17:50	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/21/22 17:50	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/21/22 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*77 - 120*		*12/21/22 17:50*	*1*
4-Bromofluorobenzene (Surr)	*113*		*73 - 120*		*12/21/22 17:50*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*12/21/22 17:50*	*1*
Toluene-d8 (Surr)	*109*		*80 - 120*		*12/21/22 17:50*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-204949-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50544R
Review Level: Tier I/II
Project: 30181915 Task 0003

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 7
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 11
2.4.2 Continuing Calibration 11
2.5 Surrogates/System Monitoring Compounds 12
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
2.8 Laboratory Control Sample Analysis 13
2.9 Field Duplicate Analysis 14
2.10 Compound Identification 14
2.11 System Performance and Overall Assessment 14
2.12 Data Validation Checklist 15
3 Semi-volatile Organic Compound Analyses 16
3.1 Holding Times 16
3.2 Blank Contamination 16
3.3 Mass Spectrometer Tuning 17
3.4 Calibration 17
3.4.1 Initial Calibration 17
3.4.2 Continuing Calibration 17
3.5 Surrogates/System Monitoring Compounds 18
3.6 Internal Standard Performance 18
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 19
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 19
3.9 Field Duplicate Analysis 20
3.10 Compound Identification 20
3.11 System Performance and Overall Assessment 20

3.12 Data Validation Checklist 21
4 Polychlorinated Biphenyl Analyses 22
4.1 Holding Times 22
4.2 Blank Contamination 22
4.3 System Performance 23
4.4 Calibration 23
4.4.1 Initial Calibration 23
4.4.2 Continuing Calibration 23
4.5 Surrogates/System Monitoring Compounds 23
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 24
4.7 Laboratory Control Sample Analysis 24
4.8 Field Duplicate Analysis 24
4.9 Compound Identification 24
4.10 System Performance and Overall Assessment 24
4.11 Data Validation Checklist 25
5 Pesticide/Herbicide Analyses 26
5.1 Holding Times 26
5.2 Blank Contamination 26
5.3 System Performance 27
5.4 Calibration 27
5.4.1 Initial Calibration 27
5.4.2 Continuing Calibration 27
5.5 Surrogates/System Monitoring Compounds 27
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 27
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 28
5.8 Field Duplicate Analysis 28
5.9 Compound Identification 28
5.10 System Performance and Overall Assessment 29
5.11 Data Validation Checklist 29
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 30
6.1 Holding Times 30
6.2 Blank Contamination 31
6.3 Mass Spectrometer Tuning 32

6.4 Calibration 32
6.4.1 Initial Calibration 32
6.4.2 Continuing Calibration 32
6.5 Labeled Standard Performance 32
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 33
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 33
6.8 Field Duplicate Analysis 33
6.9 Compound Identification 33
6.10 System Performance and Overall Assessment 34
6.11 Data Validation Checklist 34
7 Perfluoroalkyl Substances Analyses 35
7.1 Holding Times 35
7.2 Blank Contamination 36
7.3 Mass Calibration 36
7.4 Calibration 36
7.4.1 Initial Calibration 36
7.4.2 Continuing Calibration 36
7.5 Isotopically Labelled Standards 36
7.5.1 Extracted Internal Standard 36
7.5.2 Injection Internal Standards 37
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 37
7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 37
7.8 Field Duplicate Analysis 37
7.9 Compound Identification 37
7.10 System Performance and Overall Assessment 38
7.11 Data Validation Checklist 38
8 Metals Analyses 39
8.1 Holding Times 39
8.2 Blank Contamination 40
8.3 Calibration 40
8.3.1 Initial Calibration and Continuing Calibration 40
8.3.2 Lower Limit of Quantitation Check Standard 41
8.3.3 ICP Interference Control Sample 41

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 41
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 41
8.4.2 Laboratory Duplicate Analysis 41
8.5 Field Duplicate Analysis 41
8.6 Laboratory Control Sample Analysis 42
8.7 Serial Dilution 42
8.8 System Performance and Overall Assessment 42
8.9 Data Validation Checklist 42
9 General Chemistry Analyses 43
9.1 Holding Times 43
9.2 Blank Contamination 44
9.3 Calibration 44
9.3.1 Initial Calibration and Continuing Calibration 44
9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 44
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 44
9.4.2 Laboratory Duplicate Analysis 45
9.5 Field Duplicate Analysis 45
9.6 Laboratory Control Sample (LCS) Analysis 45
9.7 System Performance and Overall Assessment 45
9.8 Data Validation Checklist for General Chemistry 45
10 Overall Data Usability 46

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 10
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 6. Continuing Calibration Evaluation Criteria and Qualifications 12
Table 8. Holding Time for Method SW-846 8270D 16
Table 9. Summary of Compounds Outside Specified Calibration Control Limits 17
Table 10. Continuing Calibration Evaluation Criteria and Qualifications 18
Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits 19

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications 19
Table 14. Holding Time for Method SW-846 8082A 22
Table 16. Holding Time for Method SW-846 8081B/8141B/8151A 26
Table 23. Holding Time for Method SW-846 8290A 30
Table 24. Summary of Blank Contamination Qualifications 31
Table 26. Holding Time for Method 537 35
Table 32. Holding Time for Method SW-846 6010C/7470A/7471B 39
Table 36. Specified Holding Times 43
Table 40. Overall Summary of Data Usability 47

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-204949-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-8	480-204949-1	Water	12/19/2022		X	X	X	X	X	X	X
MW-2022-7	480-204949-2	Water	12/19/2022		X	X	X	X	X	X	X
TRIPBLANK 121922	480-204949-3	Water	12/19/2022		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	2	0	1	3
SVOCs	0	0	0	2	0	0	2
PCBs	0	0	0	2	0	0	2
PEST	0	0	0	2	0	0	2
HERB	0	0	0	2	0	0	2
OPC	0	0	0	2	0	0	2
PCDD/PCDF	0	0	0	2	0	0	2
PFAS	0	0	0	2	0	0	2
Metals	0	0	0	2	0	0	2
MISC	0	0	0	2	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-8 MW-2022-7 TRIPBLANK 121922	CCV %D	4-Methyl-2-pentanone (MIBK)	-26.5%
		Ethyl methacrylate	-30.2%
		2-Hexanone	-28.9%
		Acetonitrile	+41.3%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial/Continuing Calibration Verification (ICV/CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-8 MW-2022-7 TRIPBLANK 121922	Batch: 654142	Bromoform	>UL

Note:
AC Acceptable

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preparation		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 8. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 9. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-8 MW-2022-7	CCV %D	Pyridine	-27.1%
		bis (2-chloroisopropyl) ether	-34.7%
		Benzidine	-41.9%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 10. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The 3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-8 MW-2022-7	Prep Batch: 668661	p-Phenylene diamine	<10%	<10%
		3,3'-Dimethylbenzidine	<LL but >10%	<LL but >10%
		a,a-Dimethylphenethylamine	<10%	<10%
		Kepone	<10%	<10%
		Famphur	<LL but >10%	<LL but >10%

Note:
AC Acceptable

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J

Control Limit	Sample Result	Qualification
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Sample locations associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
MW-2022-8	Dibenz(a,h)anthracene
MW-2022-7	Famphur

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The continuing calibration %D were within the specified control limits.

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate analysis was not performed on sample associated with this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

The continuing calibration %D were within the specified control limits.

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on sample associated with this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Sample locations associated with %D analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	%D
MW-2022-8	Aldrin	35.1%

The criteria used to evaluate the %D are presented in the following table. In the case of a %D deviation, the sample results are qualified as documented in the table below.

Control Limit (%D)	Qualification
>25% to 70%	J

Control Limit (%D)	Qualification
>70% to 100%	JN
>100% [1]	R
>100% to 200% (Interference detected)[2]	J or JN
>50% (pesticide) sample results less than the RL)	U

When the pesticide sample results are less than the RL and the %D greater than 50% the sample result are raised to the RL and reported as non-detect.

Notes:

1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the pesticide cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X	X		
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 23. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 24. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-8	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,6,7,8-HxCDF (MB) OCDD (MB) OCDF (MB) Total HpCDF (MB) Total HxCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-7	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,7,8,9-HxCDF (MB) 1,2,3,7,8-PeCDF (MB) OCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDF (MB) Total PeCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

The continuing calibration %D were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on sample associated with this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio ≥ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 26. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of ten times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. Extracted Internal Standard (EIS) recoveries must be within the limits of 50% to150% (25% to 150% for poor responding analytes FBA, PFPeA, fluorotelomer sulfonates).

All EIS recoveries were within the specified control limits.

7.5.2 Injection Internal Standards

Injection internal standards are added to the aliquot of sample dilutions, QC samples, and standards just prior to analysis. Peak areas must be within 50-150% of the area measured in the ICAL midpoint standard. On days when ICAL is not performed, the peak areas must be within 50-150% of the peak area measured in daily initial CCV.

Samples associated with internal standards exhibited responses within the control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate analysis was not performed on sample associated with this SDG.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Field blanks	X				X
C. Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)	X				X
Extracted Internal Standards (EIS) %R		X		X	
Injection Internal Standard %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier III Validation					

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
Instrument sensitivity check		X		X	
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT windows		X		X	
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 32. Holding Time for Method SW-846 6010C/7470A/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.

Method	Matrix	Holding Time	Preservation
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
MW-2022-7	Nickel (MB)	Detected sample results >RL and <BAL	"U" at the detected concentration
MW-2022-8	Nickel (MB)	Detected sample results <RL and <BAL	"U" at the RL

Note:
RL = reporting limit
MB = Method blank

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

The laboratory duplicate analysis was not performed on sample associated with this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less

than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits.

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample.

The serial dilution was not performed on sample associated with this SDG.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X	X		

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
%D Percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 36. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.

Method	Matrix	Holding Time	Preservation
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 669722 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the

MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS analysis performed on sample MW-2022-7 for cyanide exhibited recovery within control limits.

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis for cyanide exhibited RPD within control limits.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 40. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.1%	3
SVOCs	97.6%	6
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: August 3, 2023

PEER REVIEW: Joseph C. Houser

DATE: August 4, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

480-204949 Chain of Custody

Preservation Codes:
K - EDTA
L - EDA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-8	12/19/22	12:25	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-7	12/19/22	16:05	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 121922	12/19/22	---	G	Water									X							2	

Note: 8141B samples shipped directly to Eurofins Pittsburgh, PA;
PFAs samples shipped directly to Eurofins South Burlington, VT; and
8290A samples shipped directly to Euofins Lancaster, PA.

TDK

12-20-2022

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Penny Rabasco	12/20/22 0900		Tim Kubler	12-20-22 0900	EETN
2	Tim Kubler	12-20-2022 1500	EETN	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/21/22 1100	Company DMD

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.4 BL ICE

Ver: 01/16/2019

1/23/2023 2:01 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

480-204949 Chain of Custody

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R
Client Contact: Mr. David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com
Company: ARCADIS U.S. Inc	PWSID:	
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:	
City: Syracuse	TAT Requested (days): Standard	
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No	
Phone: 315-671-9374(Tel)	PO #: 30150026.3000	
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-	
Project Name: GE Woods Pond Parcel	Project #: 48024970	
Site: Upland Disposal Facility	SSOW#:	

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS		Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N			
MW-2022-8	12/19/22	12:25	G	Water			X	X	X	X	X	X	X	X	X	X	X		20	
MW-2022-7	12/19/22	16:05	G	Water			X	X	X	X	X	X	X	X	X	X	X		20	
TripBlank 121922	12/19/22	---	G	Water									X						2	

Note: 8141B samples shipped directly to Eurofins Pittsburgh, PA;
PFAs samples shipped directly to Eurofins South Burlington, VT; and
8290A samples shipped directly to Euofins Lancaster, PA.

MK
12-20-2022

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	12/20/22 0900		Tim Kubler	12-20-22 0900	EETN
2	Tim Kubler	12-20-2022 1500	EETN	[signature]	12-21-22 9:45	CCNE
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

480-204949 Chain of Custody

eurofins

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	COC No: 480-174956-37668.1
Client Contact: Mr David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:		Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:		
City: Syracuse	TAT Requested (days): Standard		
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No		
Phone: 315-671-9374(Tel)	PO #: 30150026.3000		
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site: Upland Disposal Facility	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-8	12/19/22	12:25	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-7	12/19/22	16:05	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 121922	12/19/22	---	G	Water									X							2	

Note: 8141B samples shipped directly to Eurofins Pittsburgh, PA;
PFAs samples shipped directly to Eurofins South Burlington, VT, and
8290A samples shipped directly to Euofins Lancaster, PA.

TNTC

12-20-2022

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Penny Rabasco	12/20/22 0900		Tim Kudlen	12-20-22 0900	EETN
2	Tim Kudlen	12-20-2022 1500	EETN		12/21/22 1000	ETA BKL
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No..

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins Environment Testing America

Client Information	Sampler: Penny Rabasco	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 413-464-2158	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site: Upland Disposal Facility	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify); Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS			Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N	N	D	A	N	CB	B	N				
MW-2022-8	12/19/22	12:25	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
MW-2022-7	12/19/22	16:05	G	Water			X	X	X	X	X	X	X	X	X	X	X			20	
TripBlank 121922	12/19/22	---	G	Water									X							2	

Note: 8141B samples shipped directly to Eurofins Pittsburgh, PA;
PFAs samples shipped directly to Eurofins South Burlington, VT; and
8290A samples shipped directly to Eurofins Lancaster, PA.

MK
12-20-2022

480-204949 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/20/22 0900		Tim Kuller	12-20-22 0900	EETN
2	Tim Kuller	12-20-2022 1500	EETN			
3				[signature]	12/21/22 1140	

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.1/0.7

Ver: 01/16/2019

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-8
Date Collected: 12/19/22 12:25
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/21/22 14:42	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/21/22 14:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/21/22 14:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/21/22 14:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/21/22 14:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/21/22 14:42	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/21/22 14:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/21/22 14:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/21/22 14:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/21/22 14:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/21/22 14:42	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			12/21/22 14:42	1
2-Chloroethyl vinyl ether	R ND		5.0	0.96	ug/L			12/21/22 14:42	1
2-Hexanone	ND	UJ	5.0	1.2	ug/L			12/21/22 14:42	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			12/21/22 14:42	1
4-Methyl-2-pentanone (MIBK)	ND	UJ	5.0	2.1	ug/L			12/21/22 14:42	1
Acetone	ND		10	3.0	ug/L			12/21/22 14:42	1
Acetonitrile	ND	UJ	15	4.9	ug/L			12/21/22 14:42	1
Acrolein	ND		20	0.91	ug/L			12/21/22 14:42	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/21/22 14:42	1
Benzene	ND		1.0	0.41	ug/L			12/21/22 14:42	1
Bromoform	ND		1.0	0.26	ug/L			12/21/22 14:42	1
Bromomethane	ND		1.0	0.69	ug/L			12/21/22 14:42	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/21/22 14:42	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/21/22 14:42	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/21/22 14:42	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			12/21/22 14:42	1
Chloroethane	ND		1.0	0.32	ug/L			12/21/22 14:42	1
Chloroform	ND		1.0	0.34	ug/L			12/21/22 14:42	1
Chloromethane	ND		1.0	0.35	ug/L			12/21/22 14:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/21/22 14:42	1
Dibromomethane	ND		1.0	0.41	ug/L			12/21/22 14:42	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			12/21/22 14:42	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			12/21/22 14:42	1
Ethyl methacrylate	ND	UJ	1.0	0.59	ug/L			12/21/22 14:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/21/22 14:42	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			12/21/22 14:42	1
Iodomethane	ND		1.0	0.30	ug/L			12/21/22 14:42	1
Methacrylonitrile	ND		5.0	0.69	ug/L			12/21/22 14:42	1
Methyl methacrylate	ND		1.0	0.61	ug/L			12/21/22 14:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/21/22 14:42	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			12/21/22 14:42	1
o-Xylene	ND		1.0	0.76	ug/L			12/21/22 14:42	1
Propionitrile	ND		10	5.8	ug/L			12/21/22 14:42	1
Styrene	ND		1.0	0.73	ug/L			12/21/22 14:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/21/22 14:42	1
Toluene	ND		1.0	0.51	ug/L			12/21/22 14:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/21/22 14:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/21/22 14:42	1

Client Sample ID: MW-2022-8
Date Collected: 12/19/22 12:25
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/21/22 14:42	1
Trichloroethene	ND		1.0	0.46	ug/L			12/21/22 14:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/21/22 14:42	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/21/22 14:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/21/22 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*12/21/22 14:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*12/21/22 14:42*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*12/21/22 14:42*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/21/22 14:42*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,4-Dioxane	ND		10	1.1	ug/L		12/22/22 09:17	12/28/22 00:32	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		12/22/22 09:17	12/28/22 00:32	1
1-Naphthylamine	ND		10	1.3	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		12/22/22 09:17	12/28/22 00:32	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Chlorophenol	ND		5.0	0.53	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Methylphenol	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Naphthylamine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Nitroaniline	ND		10	0.42	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Nitrophenol	ND		5.0	0.48	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Picoline	ND		80	1.4	ug/L		12/22/22 09:17	12/28/22 00:32	1
2-Toluidine	ND		10	1.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		12/22/22 09:17	12/28/22 00:32	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
3,3'-Dimethylbenzidine	ND	UJ	40	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
3-Methylcholanthrene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
3-Methylphenol	ND		10	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
3-Nitroaniline	ND		10	0.48	ug/L		12/22/22 09:17	12/28/22 00:32	1

Client Sample ID: MW-2022-8
Lab Sample ID: 480-204949-1

Date Collected: 12/19/22 12:25
Matrix: Water

Date Received: 12/21/22 11:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Aminobiphenyl	ND		10	0.81	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Chloroaniline	ND		5.0	0.59	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Methylphenol	ND		10	0.36	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Nitroaniline	ND		10	0.25	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Nitrophenol	ND		10	1.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		12/22/22 09:17	12/28/22 00:32	1
a,a-Dimethylphenethylamine	R ~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~12/22/22 09:17~~	~~12/28/22 00:32~~	1
Acenaphthene	ND		5.0	0.41	ug/L		12/22/22 09:17	12/28/22 00:32	1
Acenaphthylene	ND		5.0	0.38	ug/L		12/22/22 09:17	12/28/22 00:32	1
Acetophenone	ND		5.0	0.54	ug/L		12/22/22 09:17	12/28/22 00:32	1
Aniline	ND		10	0.61	ug/L		12/22/22 09:17	12/28/22 00:32	1
Anthracene	ND		5.0	0.28	ug/L		12/22/22 09:17	12/28/22 00:32	1
Aramite, Total	ND		20	1.6	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzidine	ND	UJ	80	2.2	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		12/22/22 09:17	12/28/22 00:32	1
Benzyl alcohol	ND		20	2.0	ug/L		12/22/22 09:17	12/28/22 00:32	1
bis (2-chloroisopropyl) ether	ND	UJ	5.0	0.52	ug/L		12/22/22 09:17	12/28/22 00:32	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		12/22/22 09:17	12/28/22 00:32	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/22/22 09:17	12/28/22 00:32	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		12/22/22 09:17	12/28/22 00:32	1
Chrysene	ND		5.0	0.33	ug/L		12/22/22 09:17	12/28/22 00:32	1
Diallate	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
Dibenz(a,h)anthracene	ND	~~*1~~ UJ	5.0	0.42	ug/L		12/22/22 09:17	12/28/22 00:32	1
Dibenzofuran	ND		10	0.51	ug/L		12/22/22 09:17	12/28/22 00:32	1
Diethyl phthalate	ND		5.0	0.22	ug/L		12/22/22 09:17	12/28/22 00:32	1
Dimethoate	ND		10	0.54	ug/L		12/22/22 09:17	12/28/22 00:32	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		12/22/22 09:17	12/28/22 00:32	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		12/22/22 09:17	12/28/22 00:32	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		12/22/22 09:17	12/28/22 00:32	1
Dinoseb	ND		10	2.9	ug/L		12/22/22 09:17	12/28/22 00:32	1
Diphenylamine	ND		10	0.82	ug/L		12/22/22 09:17	12/28/22 00:32	1
Disulfoton	ND		10	0.42	ug/L		12/22/22 09:17	12/28/22 00:32	1
Chlorobenzilate	ND		20	0.67	ug/L		12/22/22 09:17	12/28/22 00:32	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		12/22/22 09:17	12/28/22 00:32	1
Famphur	ND	~~*-~~ ~~*1~~ UJ	40	1.9	ug/L		12/22/22 09:17	12/28/22 00:32	1
Fluoranthene	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:32	1
Fluorene	ND		5.0	0.36	ug/L		12/22/22 09:17	12/28/22 00:32	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		12/22/22 09:17	12/28/22 00:32	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		12/22/22 09:17	12/28/22 00:32	1

Client Sample ID: MW-2022-8
Date Collected: 12/19/22 12:25
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		12/22/22 09:17	12/28/22 00:32	1
Hexachloroethane	ND		5.0	0.59	ug/L		12/22/22 09:17	12/28/22 00:32	1
Hexachloropropene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		12/22/22 09:17	12/28/22 00:32	1
Isodrin	ND		10	0.18	ug/L		12/22/22 09:17	12/28/22 00:32	1
Isophorone	ND		5.0	0.43	ug/L		12/22/22 09:17	12/28/22 00:32	1
Isosafrole	ND		10	0.58	ug/L		12/22/22 09:17	12/28/22 00:32	1
Kepone	R ND	*-	50	1.8	ug/L		12/22/22 09:17	12/28/22 00:32	1
Methapyrilene	ND		50	1.8	ug/L		12/22/22 09:17	12/28/22 00:32	1
Methyl methanesulfonate	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
Naphthalene	ND		5.0	0.76	ug/L		12/22/22 09:17	12/28/22 00:32	1
Nitrobenzene	ND		5.0	0.29	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		12/22/22 09:17	12/28/22 00:32	1
Ethyl Parathion	ND		10	0.64	ug/L		12/22/22 09:17	12/28/22 00:32	1
Methyl parathion	ND		10	0.37	ug/L		12/22/22 09:17	12/28/22 00:32	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		12/22/22 09:17	12/28/22 00:32	1
Pentachlorobenzene	ND		10	0.53	ug/L		12/22/22 09:17	12/28/22 00:32	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
Pentachlorophenol	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:32	1
Phenacetin	ND		10	0.61	ug/L		12/22/22 09:17	12/28/22 00:32	1
Phenanthrene	ND		5.0	0.44	ug/L		12/22/22 09:17	12/28/22 00:32	1
Phenol	ND		5.0	0.39	ug/L		12/22/22 09:17	12/28/22 00:32	1
Phorate	ND		10	0.50	ug/L		12/22/22 09:17	12/28/22 00:32	1
p-Phenylene diamine	R ND	*-	800	200	ug/L		12/22/22 09:17	12/28/22 00:32	1
Pronamide	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:32	1
Pyrene	ND		5.0	0.34	ug/L		12/22/22 09:17	12/28/22 00:32	1
Pyridine	ND	UJ	25	0.41	ug/L		12/22/22 09:17	12/28/22 00:32	1
Safrole	ND		10	0.46	ug/L		12/22/22 09:17	12/28/22 00:32	1
Sulfotepp	ND		10	0.64	ug/L		12/22/22 09:17	12/28/22 00:32	1
Thionazin	ND		10	0.38	ug/L		12/22/22 09:17	12/28/22 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*103*		*41 - 120*	*12/22/22 09:17*	*12/28/22 00:32*	*1*
2-Fluorobiphenyl (Surr)	*113*		*48 - 120*	*12/22/22 09:17*	*12/28/22 00:32*	*1*
2-Fluorophenol (Surr)	*68*		*35 - 120*	*12/22/22 09:17*	*12/28/22 00:32*	*1*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*	*12/22/22 09:17*	*12/28/22 00:32*	*1*
Phenol-d5 (Surr)	*52*		*22 - 120*	*12/22/22 09:17*	*12/28/22 00:32*	*1*
p-Terphenyl-d14 (Surr)	*97*		*60 - 148*	*12/22/22 09:17*	*12/28/22 00:32*	*1*

Client Sample ID: MW-2022-8
Date Collected: 12/19/22 12:25
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		12/22/22 09:20	12/22/22 14:46	1
4,4'-DDE	ND		0.050	0.012	ug/L		12/22/22 09:20	12/22/22 14:46	1
4,4'-DDT	**0.014**	**J**	0.050	0.011	ug/L		12/22/22 09:20	12/22/22 14:46	1
Aldrin	**0.0084**	**J**	0.050	0.0081	ug/L		12/22/22 09:20	12/22/22 14:46	1
alpha-BHC	ND		0.050	0.0077	ug/L		12/22/22 09:20	12/22/22 14:46	1
beta-BHC	ND		0.050	0.025	ug/L		12/22/22 09:20	12/22/22 14:46	1
Chlordane (technical)	ND		0.50	0.29	ug/L		12/22/22 09:20	12/22/22 14:46	1
Chlorobenzilate	ND		5.0	0.090	ug/L		12/22/22 09:20	12/22/22 14:46	1
cis-Chlordane	ND		0.050	0.015	ug/L		12/22/22 09:20	12/22/22 14:46	1
delta-BHC	ND		0.050	0.010	ug/L		12/22/22 09:20	12/22/22 14:46	1
Dieldrin	ND		0.050	0.0098	ug/L		12/22/22 09:20	12/22/22 14:46	1
Endosulfan I	ND		0.050	0.011	ug/L		12/22/22 09:20	12/22/22 14:46	1
Endosulfan II	ND		0.050	0.012	ug/L		12/22/22 09:20	12/22/22 14:46	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		12/22/22 09:20	12/22/22 14:46	1
Endrin	ND		0.050	0.014	ug/L		12/22/22 09:20	12/22/22 14:46	1
Endrin aldehyde	ND		0.050	0.016	ug/L		12/22/22 09:20	12/22/22 14:46	1
Endrin ketone	ND		0.050	0.012	ug/L		12/22/22 09:20	12/22/22 14:46	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		12/22/22 09:20	12/22/22 14:46	1
Heptachlor	ND		0.050	0.0085	ug/L		12/22/22 09:20	12/22/22 14:46	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		12/22/22 09:20	12/22/22 14:46	1
Methoxychlor	ND		0.050	0.014	ug/L		12/22/22 09:20	12/22/22 14:46	1
Toxaphene	ND		0.50	0.12	ug/L		12/22/22 09:20	12/22/22 14:46	1
trans-Chlordane	ND		0.050	0.011	ug/L		12/22/22 09:20	12/22/22 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*62*		*20 - 120*	*12/22/22 09:20*	*12/22/22 14:46*	*1*
DCB Decachlorobiphenyl	*55*		*20 - 120*	*12/22/22 09:20*	*12/22/22 14:46*	*1*
Tetrachloro-m-xylene	*68*		*44 - 120*	*12/22/22 09:20*	*12/22/22 14:46*	*1*
Tetrachloro-m-xylene	*62*		*44 - 120*	*12/22/22 09:20*	*12/22/22 14:46*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.16	ug/L		01/04/23 15:05	01/05/23 14:51	1
PCB-1221	ND		0.46	0.16	ug/L		01/04/23 15:05	01/05/23 14:51	1
PCB-1232	ND		0.46	0.16	ug/L		01/04/23 15:05	01/05/23 14:51	1
PCB-1242	ND		0.46	0.16	ug/L		01/04/23 15:05	01/05/23 14:51	1
PCB-1248	ND		0.46	0.16	ug/L		01/04/23 15:05	01/05/23 14:51	1
PCB-1254	ND		0.46	0.23	ug/L		01/04/23 15:05	01/05/23 14:51	1
PCB-1260	ND		0.46	0.23	ug/L		01/04/23 15:05	01/05/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*78*		*39 - 121*	*01/04/23 15:05*	*01/05/23 14:51*	*1*
Tetrachloro-m-xylene	*83*		*39 - 121*	*01/04/23 15:05*	*01/05/23 14:51*	*1*
DCB Decachlorobiphenyl	*77*		*19 - 120*	*01/04/23 15:05*	*01/05/23 14:51*	*1*
DCB Decachlorobiphenyl	*71*		*19 - 120*	*01/04/23 15:05*	*01/05/23 14:51*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		12/21/22 12:41	12/22/22 12:37	1
2,4-D	ND		0.48	0.16	ug/L		12/21/22 12:41	12/22/22 12:37	1

Client Sample ID: MW-2022-8
Date Collected: 12/19/22 12:25
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		12/21/22 12:41	12/22/22 12:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*120*		*48 - 132*	*12/21/22 12:41*	*12/22/22 12:37*	*1*
2,4-Dichlorophenylacetic acid	*105*		*48 - 132*	*12/21/22 12:41*	*12/22/22 12:37*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.95	0.25	ug/L		12/22/22 02:30	12/28/22 23:15	1
Disulfoton	ND		0.95	0.39	ug/L		12/22/22 02:30	12/28/22 23:15	1
Famphur	ND		0.95	0.31	ug/L		12/22/22 02:30	12/28/22 23:15	1
Methyl parathion	ND		0.95	0.33	ug/L		12/22/22 02:30	12/28/22 23:15	1
Ethyl Parathion	ND		0.95	0.35	ug/L		12/22/22 02:30	12/28/22 23:15	1
Phorate	ND		0.95	0.36	ug/L		12/22/22 02:30	12/28/22 23:15	1
Sulfotepp	ND		0.95	0.38	ug/L		12/22/22 02:30	12/28/22 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*76*		*25 - 127*	*12/22/22 02:30*	*12/28/22 23:15*	*1*
Tributyl phosphate	*69*		*25 - 127*	*12/22/22 02:30*	*12/28/22 23:15*	*1*
Triphenylphosphate	*90*		*70 - 155*	*12/22/22 02:30*	*12/28/22 23:15*	*1*
Triphenylphosphate	*93*		*70 - 155*	*12/22/22 02:30*	*12/28/22 23:15*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		12/21/22 18:12	12/22/22 19:13	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		12/21/22 18:12	12/22/22 19:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		12/21/22 18:12	12/22/22 19:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.5	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.50	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.1	0.98	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.37	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.62	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.55	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		12/21/22 18:12	12/22/22 19:13	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		12/21/22 18:12	12/22/22 19:13	1

Client Sample ID: MW-2022-8
Date Collected: 12/19/22 12:25
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	94		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C2 PFDoA	67		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C2 PFHxA	102		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C2 PFTeDA	67		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C2 PFUnA	83		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C3 PFBS	92		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C4 PFBA	88		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C4 PFHpA	96		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C4 PFOA	102		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C4 PFOS	91		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C5 PFNA	102		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C5 PFPeA	87		50 - 150	12/21/22 18:12	12/22/22 19:13	1
13C8 FOSA	92		50 - 150	12/21/22 18:12	12/22/22 19:13	1
18O2 PFHxS	96		50 - 150	12/21/22 18:12	12/22/22 19:13	1
d3-NMeFOSAA	66		50 - 150	12/21/22 18:12	12/22/22 19:13	1
d5-NEtFOSAA	64		50 - 150	12/21/22 18:12	12/22/22 19:13	1
M2-6:2 FTS	115		50 - 150	12/21/22 18:12	12/22/22 19:13	1
M2-8:2 FTS	98		50 - 150	12/21/22 18:12	12/22/22 19:13	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24	0.16	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,4,6,7,8-HpCDF	24 ~~0.19~~ J I B	U	24	0.058	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,4,7,8,9-HpCDF	24 ~~0.26~~ J I B	U	24	0.079	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,4,7,8-HxCDD	ND		24	0.069	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,4,7,8-HxCDF	ND		24	0.060	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,6,7,8-HxCDD	ND		24	0.065	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,6,7,8-HxCDF	24 ~~0.26~~ J I B	U	24	0.059	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,7,8,9-HxCDD	ND		24	0.067	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,7,8,9-HxCDF	ND		24	0.064	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,7,8-PeCDD	ND		24	0.20	pg/L		01/18/23 12:08	01/19/23 13:15	1
1,2,3,7,8-PeCDF	ND		24	0.11	pg/L		01/18/23 12:08	01/19/23 13:15	1
2,3,4,6,7,8-HxCDF	ND		24	0.057	pg/L		01/18/23 12:08	01/19/23 13:15	1
2,3,4,7,8-PeCDF	ND		24	0.086	pg/L		01/18/23 12:08	01/19/23 13:15	1
2,3,7,8-TCDD	ND		4.8	0.083	pg/L		01/18/23 12:08	01/19/23 13:15	1
2,3,7,8-TCDF	ND		4.8	0.039	pg/L		01/18/23 12:08	01/19/23 13:15	1
OCDD	110 ~~1.6~~ J I B	U	110	0.23	pg/L		01/18/23 12:08	01/19/23 13:15	1
OCDF	48 ~~0.57~~ J I B	U	48	0.38	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total HpCDD	ND		24	0.16	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total HpCDF	24 ~~0.45~~ J I B	U	24	0.068	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total HxCDD	ND		24	0.067	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total HxCDF	24 ~~0.26~~ J I B	U	24	0.060	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total PeCDD	ND		24	0.20	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total PeCDF	ND		24	0.11	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total TCDD	ND		4.8	0.083	pg/L		01/18/23 12:08	01/19/23 13:15	1
Total TCDF	ND		4.8	0.039	pg/L		01/18/23 12:08	01/19/23 13:15	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	56		40 - 135	01/18/23 12:08	01/19/23 13:15	1
13C-1,2,3,4,6,7,8-HpCDF	53		40 - 135	01/18/23 12:08	01/19/23 13:15	1
13C-1,2,3,4,7,8,9-HpCDF	51		40 - 135	01/18/23 12:08	01/19/23 13:15	1

Client Sample ID: MW-2022-8
Lab Sample ID: 480-204949-1

Date Collected: 12/19/22 12:25
Matrix: Water
Date Received: 12/21/22 11:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*56*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*53*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*58*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*56*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,7,8,9-HxCDD	*58*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,7,8,9-HxCDF	*55*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*54*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-2,3,4,7,8-PeCDF	*59*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-2,3,7,8-TCDD	*55*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-2,3,7,8-TCDF	*54*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-OCDD	*56*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*
13C-OCDF	*52*		*40 - 135*	*01/18/23 12:08*	*01/19/23 13:15*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		12/28/22 08:42	12/29/22 03:15	1
Arsenic	ND		0.015	0.0056	mg/L		12/28/22 08:42	12/29/22 03:15	1
Barium	**0.017**		0.0020	0.00070	mg/L		12/28/22 08:42	12/29/22 03:15	1
Beryllium	ND		0.0020	0.00030	mg/L		12/28/22 08:42	12/29/22 03:15	1
Cadmium	ND		0.0020	0.00050	mg/L		12/28/22 08:42	12/29/22 03:15	1
Chromium	**0.0014**	**J**	0.0040	0.0010	mg/L		12/28/22 08:42	12/29/22 03:15	1
Cobalt	ND		0.0040	0.00063	mg/L		12/28/22 08:42	12/29/22 03:15	1
Copper	ND		0.010	0.0016	mg/L		12/28/22 08:42	12/29/22 03:15	1
Lead	ND		0.010	0.0030	mg/L		12/28/22 08:42	12/29/22 03:15	1
Nickel	0.010 ~~**0.0018**~~	~~**J B**~~ U	0.010	0.0013	mg/L		12/28/22 08:42	12/29/22 03:15	1
Selenium	ND		0.025	0.0087	mg/L		12/28/22 08:42	12/29/22 03:15	1
Silver	ND		0.0060	0.0017	mg/L		12/28/22 08:42	12/29/22 03:15	1
Thallium	ND		0.020	0.010	mg/L		12/28/22 08:42	12/29/22 03:15	1
Tin	ND		0.010	0.0051	mg/L		12/28/22 08:42	12/29/22 03:15	1
Vanadium	ND		0.0050	0.0015	mg/L		12/28/22 08:42	12/29/22 03:15	1
Zinc	**0.0019**	**J**	0.010	0.0015	mg/L		12/28/22 08:42	12/29/22 03:15	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/28/22 10:21	12/28/22 15:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			12/22/22 08:27	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			12/22/22 08:50	1

Client Sample ID: MW-2022-7
Lab Sample ID: 480-204949-2

Date Collected: 12/19/22 16:05
Matrix: Water
Date Received: 12/21/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/21/22 15:06	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/21/22 15:06	1

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/21/22 15:06	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/21/22 15:06	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/21/22 15:06	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/21/22 15:06	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/21/22 15:06	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/21/22 15:06	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/21/22 15:06	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/21/22 15:06	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/21/22 15:06	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			12/21/22 15:06	1
2-Chloroethyl vinyl ether	R ~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~12/21/22 15:06~~	1
2-Hexanone	ND	UJ	5.0	1.2	ug/L			12/21/22 15:06	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			12/21/22 15:06	1
4-Methyl-2-pentanone (MIBK)	ND	UJ	5.0	2.1	ug/L			12/21/22 15:06	1
Acetone	ND		10	3.0	ug/L			12/21/22 15:06	1
Acetonitrile	ND	UJ	15	4.9	ug/L			12/21/22 15:06	1
Acrolein	ND		20	0.91	ug/L			12/21/22 15:06	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/21/22 15:06	1
Benzene	ND		1.0	0.41	ug/L			12/21/22 15:06	1
Bromoform	ND		1.0	0.26	ug/L			12/21/22 15:06	1
Bromomethane	ND		1.0	0.69	ug/L			12/21/22 15:06	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/21/22 15:06	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/21/22 15:06	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/21/22 15:06	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			12/21/22 15:06	1
Chloroethane	ND		1.0	0.32	ug/L			12/21/22 15:06	1
Chloroform	ND		1.0	0.34	ug/L			12/21/22 15:06	1
Chloromethane	ND		1.0	0.35	ug/L			12/21/22 15:06	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/21/22 15:06	1
Dibromomethane	ND		1.0	0.41	ug/L			12/21/22 15:06	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			12/21/22 15:06	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			12/21/22 15:06	1
Ethyl methacrylate	ND	UJ	1.0	0.59	ug/L			12/21/22 15:06	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/21/22 15:06	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			12/21/22 15:06	1
Iodomethane	ND		1.0	0.30	ug/L			12/21/22 15:06	1
Methacrylonitrile	ND		5.0	0.69	ug/L			12/21/22 15:06	1
Methyl methacrylate	ND		1.0	0.61	ug/L			12/21/22 15:06	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/21/22 15:06	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			12/21/22 15:06	1
o-Xylene	ND		1.0	0.76	ug/L			12/21/22 15:06	1
Propionitrile	ND		10	5.8	ug/L			12/21/22 15:06	1
Styrene	ND		1.0	0.73	ug/L			12/21/22 15:06	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/21/22 15:06	1
Toluene	ND		1.0	0.51	ug/L			12/21/22 15:06	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/21/22 15:06	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/21/22 15:06	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/21/22 15:06	1
Trichloroethene	ND		1.0	0.46	ug/L			12/21/22 15:06	1

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/21/22 15:06	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/21/22 15:06	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/21/22 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*12/21/22 15:06*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*12/21/22 15:06*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*12/21/22 15:06*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/21/22 15:06*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,4-Dioxane	ND		10	1.1	ug/L		12/22/22 09:17	12/28/22 00:59	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		12/22/22 09:17	12/28/22 00:59	1
1-Naphthylamine	ND		10	1.3	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		12/22/22 09:17	12/28/22 00:59	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Chlorophenol	ND		5.0	0.53	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Methylphenol	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Naphthylamine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Nitroaniline	ND		10	0.42	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Nitrophenol	ND		5.0	0.48	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Picoline	ND		80	1.4	ug/L		12/22/22 09:17	12/28/22 00:59	1
2-Toluidine	ND		10	1.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		12/22/22 09:17	12/28/22 00:59	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
3,3'-Dimethylbenzidine	ND	UJ	40	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
3-Methylcholanthrene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
3-Methylphenol	ND		10	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
3-Nitroaniline	ND		10	0.48	ug/L		12/22/22 09:17	12/28/22 00:59	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Aminobiphenyl	ND		10	0.81	ug/L		12/22/22 09:17	12/28/22 00:59	1

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Chloroaniline	ND		5.0	0.59	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Methylphenol	ND		10	0.36	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Nitroaniline	ND		10	0.25	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Nitrophenol	ND		10	1.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		12/22/22 09:17	12/28/22 00:59	1
a,a-Dimethylphenethylamine	R ~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~12/22/22 09:17~~	~~12/28/22 00:59~~	1
Acenaphthene	ND		5.0	0.41	ug/L		12/22/22 09:17	12/28/22 00:59	1
Acenaphthylene	ND		5.0	0.38	ug/L		12/22/22 09:17	12/28/22 00:59	1
Acetophenone	ND		5.0	0.54	ug/L		12/22/22 09:17	12/28/22 00:59	1
Aniline	ND		10	0.61	ug/L		12/22/22 09:17	12/28/22 00:59	1
Anthracene	ND		5.0	0.28	ug/L		12/22/22 09:17	12/28/22 00:59	1
Aramite, Total	ND		20	1.6	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzidine	ND	UJ	80	2.2	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		12/22/22 09:17	12/28/22 00:59	1
Benzyl alcohol	ND		20	2.0	ug/L		12/22/22 09:17	12/28/22 00:59	1
bis (2-chloroisopropyl) ether	ND	UJ	5.0	0.52	ug/L		12/22/22 09:17	12/28/22 00:59	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		12/22/22 09:17	12/28/22 00:59	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/22/22 09:17	12/28/22 00:59	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		12/22/22 09:17	12/28/22 00:59	1
Chrysene	ND		5.0	0.33	ug/L		12/22/22 09:17	12/28/22 00:59	1
Diallate	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
Dibenz(a,h)anthracene	ND	~~*1~~ UJ	5.0	0.42	ug/L		12/22/22 09:17	12/28/22 00:59	1
Dibenzofuran	ND		10	0.51	ug/L		12/22/22 09:17	12/28/22 00:59	1
Diethyl phthalate	ND		5.0	0.22	ug/L		12/22/22 09:17	12/28/22 00:59	1
Dimethoate	ND		10	0.54	ug/L		12/22/22 09:17	12/28/22 00:59	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		12/22/22 09:17	12/28/22 00:59	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		12/22/22 09:17	12/28/22 00:59	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		12/22/22 09:17	12/28/22 00:59	1
Dinoseb	ND		10	2.9	ug/L		12/22/22 09:17	12/28/22 00:59	1
Diphenylamine	ND		10	0.82	ug/L		12/22/22 09:17	12/28/22 00:59	1
Disulfoton	ND		10	0.42	ug/L		12/22/22 09:17	12/28/22 00:59	1
Chlorobenzilate	ND		20	0.67	ug/L		12/22/22 09:17	12/28/22 00:59	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		12/22/22 09:17	12/28/22 00:59	1
Famphur	ND	~~*-*1~~ UJ	40	1.9	ug/L		12/22/22 09:17	12/28/22 00:59	1
Fluoranthene	ND		5.0	0.40	ug/L		12/22/22 09:17	12/28/22 00:59	1
Fluorene	ND		5.0	0.36	ug/L		12/22/22 09:17	12/28/22 00:59	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		12/22/22 09:17	12/28/22 00:59	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		12/22/22 09:17	12/28/22 00:59	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		12/22/22 09:17	12/28/22 00:59	1
Hexachloroethane	ND		5.0	0.59	ug/L		12/22/22 09:17	12/28/22 00:59	1

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		12/22/22 09:17	12/28/22 00:59	1
Isodrin	ND		10	0.18	ug/L		12/22/22 09:17	12/28/22 00:59	1
Isophorone	ND		5.0	0.43	ug/L		12/22/22 09:17	12/28/22 00:59	1
Isosafrole	ND		10	0.58	ug/L		12/22/22 09:17	12/28/22 00:59	1
Kepone	R ND	*-	50	1.8	ug/L		12/22/22 09:17	12/28/22 00:59	1
Methapyrilene	ND		50	1.8	ug/L		12/22/22 09:17	12/28/22 00:59	1
Methyl methanesulfonate	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
Naphthalene	ND		5.0	0.76	ug/L		12/22/22 09:17	12/28/22 00:59	1
Nitrobenzene	ND		5.0	0.29	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		12/22/22 09:17	12/28/22 00:59	1
Ethyl Parathion	ND		10	0.64	ug/L		12/22/22 09:17	12/28/22 00:59	1
Methyl parathion	ND		10	0.37	ug/L		12/22/22 09:17	12/28/22 00:59	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		12/22/22 09:17	12/28/22 00:59	1
Pentachlorobenzene	ND		10	0.53	ug/L		12/22/22 09:17	12/28/22 00:59	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
Pentachlorophenol	ND		10	2.2	ug/L		12/22/22 09:17	12/28/22 00:59	1
Phenacetin	ND		10	0.61	ug/L		12/22/22 09:17	12/28/22 00:59	1
Phenanthrene	ND		5.0	0.44	ug/L		12/22/22 09:17	12/28/22 00:59	1
Phenol	ND		5.0	0.39	ug/L		12/22/22 09:17	12/28/22 00:59	1
Phorate	ND		10	0.50	ug/L		12/22/22 09:17	12/28/22 00:59	1
p-Phenylene diamine	R ND	*-	800	200	ug/L		12/22/22 09:17	12/28/22 00:59	1
Pronamide	ND		10	2.5	ug/L		12/22/22 09:17	12/28/22 00:59	1
Pyrene	ND		5.0	0.34	ug/L		12/22/22 09:17	12/28/22 00:59	1
Pyridine	ND		25	0.41	ug/L		12/22/22 09:17	12/28/22 00:59	1
Safrole	ND		10	0.46	ug/L		12/22/22 09:17	12/28/22 00:59	1
Sulfotepp	ND		10	0.64	ug/L		12/22/22 09:17	12/28/22 00:59	1
Thionazin	ND		10	0.38	ug/L		12/22/22 09:17	12/28/22 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*41 - 120*	*12/22/22 09:17*	*12/28/22 00:59*	*1*
2-Fluorobiphenyl (Surr)	*115*		*48 - 120*	*12/22/22 09:17*	*12/28/22 00:59*	*1*
2-Fluorophenol (Surr)	*62*		*35 - 120*	*12/22/22 09:17*	*12/28/22 00:59*	*1*
Nitrobenzene-d5 (Surr)	*82*		*46 - 120*	*12/22/22 09:17*	*12/28/22 00:59*	*1*
Phenol-d5 (Surr)	*48*		*22 - 120*	*12/22/22 09:17*	*12/28/22 00:59*	*1*
p-Terphenyl-d14 (Surr)	*85*		*60 - 148*	*12/22/22 09:17*	*12/28/22 00:59*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		12/22/22 09:20	12/22/22 15:05	1

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.050	0.012	ug/L		12/22/22 09:20	12/22/22 15:05	1
4,4'-DDT	**0.014**	**J**	0.050	0.011	ug/L		12/22/22 09:20	12/22/22 15:05	1
Aldrin	ND		0.050	0.0081	ug/L		12/22/22 09:20	12/22/22 15:05	1
alpha-BHC	ND		0.050	0.0077	ug/L		12/22/22 09:20	12/22/22 15:05	1
beta-BHC	ND		0.050	0.025	ug/L		12/22/22 09:20	12/22/22 15:05	1
Chlordane (technical)	ND		0.50	0.29	ug/L		12/22/22 09:20	12/22/22 15:05	1
Chlorobenzilate	ND		5.0	0.090	ug/L		12/22/22 09:20	12/22/22 15:05	1
cis-Chlordane	ND		0.050	0.015	ug/L		12/22/22 09:20	12/22/22 15:05	1
delta-BHC	ND		0.050	0.010	ug/L		12/22/22 09:20	12/22/22 15:05	1
Dieldrin	ND		0.050	0.0098	ug/L		12/22/22 09:20	12/22/22 15:05	1
Endosulfan I	ND		0.050	0.011	ug/L		12/22/22 09:20	12/22/22 15:05	1
Endosulfan II	**0.021**	**J**	0.050	0.012	ug/L		12/22/22 09:20	12/22/22 15:05	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		12/22/22 09:20	12/22/22 15:05	1
Endrin	ND		0.050	0.014	ug/L		12/22/22 09:20	12/22/22 15:05	1
Endrin aldehyde	ND		0.050	0.016	ug/L		12/22/22 09:20	12/22/22 15:05	1
Endrin ketone	**0.019**	**J**	0.050	0.012	ug/L		12/22/22 09:20	12/22/22 15:05	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		12/22/22 09:20	12/22/22 15:05	1
Heptachlor	ND		0.050	0.0085	ug/L		12/22/22 09:20	12/22/22 15:05	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		12/22/22 09:20	12/22/22 15:05	1
Methoxychlor	ND		0.050	0.014	ug/L		12/22/22 09:20	12/22/22 15:05	1
Toxaphene	ND		0.50	0.12	ug/L		12/22/22 09:20	12/22/22 15:05	1
trans-Chlordane	ND		0.050	0.011	ug/L		12/22/22 09:20	12/22/22 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*57*		*20 - 120*	*12/22/22 09:20*	*12/22/22 15:05*	*1*
DCB Decachlorobiphenyl	*49*		*20 - 120*	*12/22/22 09:20*	*12/22/22 15:05*	*1*
Tetrachloro-m-xylene	*83*		*44 - 120*	*12/22/22 09:20*	*12/22/22 15:05*	*1*
Tetrachloro-m-xylene	*94*		*44 - 120*	*12/22/22 09:20*	*12/22/22 15:05*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		01/04/23 15:05	01/05/23 15:05	1
PCB-1221	ND		0.50	0.18	ug/L		01/04/23 15:05	01/05/23 15:05	1
PCB-1232	ND		0.50	0.18	ug/L		01/04/23 15:05	01/05/23 15:05	1
PCB-1242	ND		0.50	0.18	ug/L		01/04/23 15:05	01/05/23 15:05	1
PCB-1248	ND		0.50	0.18	ug/L		01/04/23 15:05	01/05/23 15:05	1
PCB-1254	ND		0.50	0.25	ug/L		01/04/23 15:05	01/05/23 15:05	1
PCB-1260	ND		0.50	0.25	ug/L		01/04/23 15:05	01/05/23 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*39 - 121*	*01/04/23 15:05*	*01/05/23 15:05*	*1*
Tetrachloro-m-xylene	*84*		*39 - 121*	*01/04/23 15:05*	*01/05/23 15:05*	*1*
DCB Decachlorobiphenyl	*53*		*19 - 120*	*01/04/23 15:05*	*01/05/23 15:05*	*1*
DCB Decachlorobiphenyl	*45*		*19 - 120*	*01/04/23 15:05*	*01/05/23 15:05*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		12/21/22 12:41	12/22/22 12:56	1
2,4-D	ND		0.48	0.16	ug/L		12/21/22 12:41	12/22/22 12:56	1
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		12/21/22 12:41	12/22/22 12:56	1

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*116*		*48 - 132*	*12/21/22 12:41*	*12/22/22 12:56*	*1*
2,4-Dichlorophenylacetic acid	*99*		*48 - 132*	*12/21/22 12:41*	*12/22/22 12:56*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.98	0.26	ug/L		12/22/22 02:30	12/28/22 23:46	1
Disulfoton	ND		0.98	0.40	ug/L		12/22/22 02:30	12/28/22 23:46	1
Famphur	ND		0.98	0.32	ug/L		12/22/22 02:30	12/28/22 23:46	1
Methyl parathion	ND		0.98	0.34	ug/L		12/22/22 02:30	12/28/22 23:46	1
Ethyl Parathion	ND		0.98	0.36	ug/L		12/22/22 02:30	12/28/22 23:46	1
Phorate	ND		0.98	0.37	ug/L		12/22/22 02:30	12/28/22 23:46	1
Sulfotepp	ND		0.98	0.40	ug/L		12/22/22 02:30	12/28/22 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*25 - 127*	*12/22/22 02:30*	*12/28/22 23:46*	*1*
Tributyl phosphate	*71*		*25 - 127*	*12/22/22 02:30*	*12/28/22 23:46*	*1*
Triphenylphosphate	*95*		*70 - 155*	*12/22/22 02:30*	*12/28/22 23:46*	*1*
Triphenylphosphate	*98*		*70 - 155*	*12/22/22 02:30*	*12/28/22 23:46*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.66	ng/L		12/21/22 18:12	12/22/22 19:22	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.3	1.1	ng/L		12/21/22 18:12	12/22/22 19:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.4	ng/L		12/21/22 18:12	12/22/22 19:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.6	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.53	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorobutanoic acid (PFBA)	ND		4.3	1.0	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.40	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.42	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.35	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.46	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.47	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.56	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.79	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.73	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.65	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.58	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.41	ng/L		12/21/22 18:12	12/22/22 19:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.47	ng/L		12/21/22 18:12	12/22/22 19:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*97*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:22*	*1*
13C2 PFDoA	*90*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:22*	*1*
13C2 PFHxA	*96*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:22*	*1*
13C2 PFTeDA	*90*		*50 - 150*	*12/21/22 18:12*	*12/22/22 19:22*	*1*

Client Sample ID: MW-2022-7
Date Collected: 12/19/22 16:05
Date Received: 12/21/22 11:00

Lab Sample ID: 480-204949-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	98		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C3 PFBS	92		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C4 PFBA	88		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C4 PFHpA	99		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C4 PFOA	101		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C4 PFOS	91		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C5 PFNA	98		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C5 PFPeA	89		50 - 150	12/21/22 18:12	12/22/22 19:22	1
13C8 FOSA	94		50 - 150	12/21/22 18:12	12/22/22 19:22	1
18O2 PFHxS	97		50 - 150	12/21/22 18:12	12/22/22 19:22	1
d3-NMeFOSAA	82		50 - 150	12/21/22 18:12	12/22/22 19:22	1
d5-NEtFOSAA	84		50 - 150	12/21/22 18:12	12/22/22 19:22	1
M2-6:2 FTS	116		50 - 150	12/21/22 18:12	12/22/22 19:22	1
M2-8:2 FTS	104		50 - 150	12/21/22 18:12	12/22/22 19:22	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	24	~~0.51 J I B~~ U	24	0.063	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,4,6,7,8-HpCDF	24	~~0.10 J I B~~ U	24	0.010	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,4,7,8,9-HpCDF	24	~~0.11 J I B~~ U	24	0.013	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,4,7,8-HxCDD	ND		24	0.034	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,4,7,8-HxCDF	ND		24	0.030	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,6,7,8-HxCDD	ND		24	0.034	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,6,7,8-HxCDF	ND		24	0.030	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,7,8,9-HxCDD	ND		24	0.034	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,7,8,9-HxCDF	24	~~0.27 J I B~~ U	24	0.031	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,7,8-PeCDD	ND		24	0.023	pg/L		01/18/23 12:08	01/19/23 14:06	1
1,2,3,7,8-PeCDF	24	~~0.36 J I B~~ U	24	0.038	pg/L		01/18/23 12:08	01/19/23 14:06	1
2,3,4,6,7,8-HxCDF	ND		24	0.030	pg/L		01/18/23 12:08	01/19/23 14:06	1
2,3,4,7,8-PeCDF	ND		24	0.032	pg/L		01/18/23 12:08	01/19/23 14:06	1
2,3,7,8-TCDD	ND		4.8	0.030	pg/L		01/18/23 12:08	01/19/23 14:06	1
2,3,7,8-TCDF	ND		4.8	0.028	pg/L		01/18/23 12:08	01/19/23 14:06	1
OCDD	110	~~0.87 J B~~ U	110	0.13	pg/L		01/18/23 12:08	01/19/23 14:06	1
OCDF	48	~~0.37 J I B~~ U	48	0.018	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total HpCDD	24	~~0.51 J I B~~ U	24	0.063	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total HpCDF	24	~~0.21 J I B~~ U	24	0.011	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total HxCDD	ND		24	0.034	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total HxCDF	24	~~0.27 J I B~~ U	24	0.030	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total PeCDD	ND		24	0.023	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total PeCDF	24	~~0.36 J I B~~ U	24	0.035	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total TCDD	ND		4.8	0.030	pg/L		01/18/23 12:08	01/19/23 14:06	1
Total TCDF	ND		4.8	0.028	pg/L		01/18/23 12:08	01/19/23 14:06	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	80		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,4,6,7,8-HpCDF	75		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,4,7,8,9-HpCDF	74		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,4,7,8-HxCDD	78		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,4,7,8-HxCDF	74		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,6,7,8-HxCDD	79		40 - 135	01/18/23 12:08	01/19/23 14:06	1

Client Sample ID: MW-2022-7
Lab Sample ID: 480-204949-2
Date Collected: 12/19/22 16:05
Matrix: Water
Date Received: 12/21/22 11:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	76		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,7,8,9-HxCDD	80		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,7,8,9-HxCDF	79		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,7,8-PeCDD	78		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-1,2,3,7,8-PeCDF	84		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-2,3,4,6,7,8-HxCDF	72		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-2,3,4,7,8-PeCDF	81		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-2,3,7,8-TCDD	78		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-2,3,7,8-TCDF	76		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-OCDD	80		40 - 135	01/18/23 12:08	01/19/23 14:06	1
13C-OCDF	76		40 - 135	01/18/23 12:08	01/19/23 14:06	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		12/28/22 08:42	12/29/22 03:19	1
Arsenic	ND		0.015	0.0056	mg/L		12/28/22 08:42	12/29/22 03:19	1
Barium	**0.094**		0.0020	0.00070	mg/L		12/28/22 08:42	12/29/22 03:19	1
Beryllium	ND		0.0020	0.00030	mg/L		12/28/22 08:42	12/29/22 03:19	1
Cadmium	ND		0.0020	0.00050	mg/L		12/28/22 08:42	12/29/22 03:19	1
Chromium	**0.0028**	**J**	0.0040	0.0010	mg/L		12/28/22 08:42	12/29/22 03:19	1
Cobalt	**0.0045**		0.0040	0.00063	mg/L		12/28/22 08:42	12/29/22 03:19	1
Copper	**0.0025**	**J**	0.010	0.0016	mg/L		12/28/22 08:42	12/29/22 03:19	1
Lead	**0.0045**	**J**	0.010	0.0030	mg/L		12/28/22 08:42	12/29/22 03:19	1
Nickel	**0.011**	**B** U	0.010	0.0013	mg/L		12/28/22 08:42	12/29/22 03:19	1
Selenium	ND		0.025	0.0087	mg/L		12/28/22 08:42	12/29/22 03:19	1
Silver	ND		0.0060	0.0017	mg/L		12/28/22 08:42	12/29/22 03:19	1
Thallium	ND		0.020	0.010	mg/L		12/28/22 08:42	12/29/22 03:19	1
Tin	ND		0.010	0.0051	mg/L		12/28/22 08:42	12/29/22 03:19	1
Vanadium	ND		0.0050	0.0015	mg/L		12/28/22 08:42	12/29/22 03:19	1
Zinc	**0.0066**	**J**	0.010	0.0015	mg/L		12/28/22 08:42	12/29/22 03:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		12/28/22 10:21	12/28/22 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND	F1	0.010	0.0041	mg/L			12/22/22 08:42	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			12/22/22 08:50	1

Client Sample ID: TRIPBLANK 121922
Lab Sample ID: 480-204949-3
Date Collected: 12/19/22 00:00
Matrix: Water
Date Received: 12/21/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/21/22 15:29	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/21/22 15:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/21/22 15:29	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/21/22 15:29	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/21/22 15:29	1

Client Sample ID: TRIPBLANK 121922
Lab Sample ID: 480-204949-3

Date Collected: 12/19/22 00:00
Matrix: Water
Date Received: 12/21/22 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/21/22 15:29	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/21/22 15:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/21/22 15:29	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/21/22 15:29	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/21/22 15:29	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/21/22 15:29	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			12/21/22 15:29	1
2-Chloroethyl vinyl ether	R ND		5.0	0.96	ug/L			12/21/22 15:29	1
2-Hexanone	ND	UJ	5.0	1.2	ug/L			12/21/22 15:29	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			12/21/22 15:29	1
4-Methyl-2-pentanone (MIBK)	ND	UJ	5.0	2.1	ug/L			12/21/22 15:29	1
Acetone	ND		10	3.0	ug/L			12/21/22 15:29	1
Acetonitrile	ND	UJ	15	4.9	ug/L			12/21/22 15:29	1
Acrolein	ND		20	0.91	ug/L			12/21/22 15:29	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/21/22 15:29	1
Benzene	ND		1.0	0.41	ug/L			12/21/22 15:29	1
Bromoform	ND	*	1.0	0.26	ug/L			12/21/22 15:29	1
Bromomethane	ND		1.0	0.69	ug/L			12/21/22 15:29	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/21/22 15:29	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/21/22 15:29	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/21/22 15:29	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			12/21/22 15:29	1
Chloroethane	ND		1.0	0.32	ug/L			12/21/22 15:29	1
Chloroform	ND		1.0	0.34	ug/L			12/21/22 15:29	1
Chloromethane	ND		1.0	0.35	ug/L			12/21/22 15:29	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/21/22 15:29	1
Dibromomethane	ND		1.0	0.41	ug/L			12/21/22 15:29	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			12/21/22 15:29	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			12/21/22 15:29	1
Ethyl methacrylate	ND	UJ	1.0	0.59	ug/L			12/21/22 15:29	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/21/22 15:29	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			12/21/22 15:29	1
Iodomethane	ND		1.0	0.30	ug/L			12/21/22 15:29	1
Methacrylonitrile	ND		5.0	0.69	ug/L			12/21/22 15:29	1
Methyl methacrylate	ND		1.0	0.61	ug/L			12/21/22 15:29	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/21/22 15:29	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			12/21/22 15:29	1
o-Xylene	ND		1.0	0.76	ug/L			12/21/22 15:29	1
Propionitrile	ND		10	5.8	ug/L			12/21/22 15:29	1
Styrene	ND		1.0	0.73	ug/L			12/21/22 15:29	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/21/22 15:29	1
Toluene	ND		1.0	0.51	ug/L			12/21/22 15:29	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/21/22 15:29	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/21/22 15:29	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/21/22 15:29	1
Trichloroethene	ND		1.0	0.46	ug/L			12/21/22 15:29	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/21/22 15:29	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/21/22 15:29	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/21/22 15:29	1

Client Sample ID: TRIPBLANK 121922
Lab Sample ID: 480-204949-3

Date Collected: 12/19/22 00:00
Matrix: Water

Date Received: 12/21/22 11:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		12/21/22 15:29	1
4-Bromofluorobenzene (Surr)	94		73 - 120		12/21/22 15:29	1
Dibromofluoromethane (Surr)	98		75 - 123		12/21/22 15:29	1
Toluene-d8 (Surr)	99		80 - 120		12/21/22 15:29	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Event 3 Spring 2023

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-208637-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50546R
Review Level: Tier I/II
Project: 30181915 Task 0003

Contents

1 Summary 7
1.1 Analytical Data Package Documentation 7
1.2 Data Validation Procedures 8
2 Volatile Organic Compound Analyses 10
2.1 Holding Times 10
2.2 Blank Contamination 11
2.3 Mass Spectrometer Tuning 11
2.4 Calibration 11
2.4.1 Initial Calibration 11
2.4.2 Continuing Calibration 11
2.5 Surrogates/System Monitoring Compounds 12
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
2.8 Laboratory Control Sample Analysis 13
2.9 Field Duplicate Analysis 13
2.10 Compound Identification 13
2.11 System Performance and Overall Assessment 14
2.12 Data Validation Checklist 14
3 Semi-volatile Organic Compound Analyses 15
3.1 Holding Times 15
3.2 Blank Contamination 16
3.3 Mass Spectrometer Tuning 16
3.4 Calibration 16
3.4.1 Initial Calibration 16
3.4.2 Continuing Calibration 17
3.5 Surrogates/System Monitoring Compounds 18
3.6 Internal Standard Performance 18
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 18
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 18
3.9 Field Duplicate Analysis 20
3.10 Compound Identification 20
3.11 System Performance and Overall Assessment 20

3.12 Data Validation Checklist 20
4 Polychlorinated Biphenyl Analyses 22
4.1 Holding Times 22
4.2 Blank Contamination 22
4.3 System Performance 23
4.4 Calibration 23
4.4.1 Initial Calibration 23
4.4.2 Continuing Calibration 23
4.5 Surrogates/System Monitoring Compounds 23
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 23
4.7 Laboratory Control Sample Analysis 24
4.8 Field Duplicate Analysis 24
4.9 Compound Identification 24
4.10 System Performance and Overall Assessment 24
4.11 Data Validation Checklist 24
5 Pesticide/Herbicide Analyses 26
5.1 Holding Times 26
5.2 Blank Contamination 26
5.3 System Performance 26
5.4 Calibration 27
5.4.1 Initial Calibration 27
5.4.2 Continuing Calibration 27
5.5 Surrogates/System Monitoring Compounds 27
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 27
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 28
5.8 Field Duplicate Analysis 28
5.9 Compound Identification 28
5.10 System Performance and Overall Assessment 28
5.11 Data Validation Checklist 28
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 30
6.1 Holding Times 30
6.2 Blank Contamination 30
6.3 Mass Spectrometer Tuning 31

6.4 Calibration 31
6.4.1 Initial Calibration 31
6.4.2 Continuing Calibration 31
6.5 Labeled Standard Performance 31
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 32
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 32
6.8 Field Duplicate Analysis 32
6.9 Compound Identification 32
6.10 System Performance and Overall Assessment 33
6.11 Data Validation Checklist 33
7 Perfluoroalkyl Substances Analyses 34
7.1 Holding Times 34
7.2 Blank Contamination 35
7.3 Mass Calibration 35
7.4 Calibration 35
7.4.1 Initial Calibration 35
7.4.2 Continuing Calibration 35
7.5 Isotopically Labelled Standards 36
7.5.1 Extracted Internal Standard 36
7.5.2 Injection Internal Standards 36
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 36
7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 36
7.8 Field Duplicate Analysis 36
7.9 Compound Identification 37
7.10 System Performance and Overall Assessment 37
7.11 Data Validation Checklist 37
8 Metals Analyses 38
8.1 Holding Times 38
8.2 Blank Contamination 39
8.3 Calibration 39
8.3.1 Initial Calibration and Continuing Calibration 39
8.3.2 Lower Limit of Quantitation Check Standard 40
8.3.3 ICP Interference Control Sample 40

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 40
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 40
8.4.2 Laboratory Duplicate Analysis 40
8.5 Field Duplicate Analysis 40
8.6 Laboratory Control Sample Analysis 41
8.7 Serial Dilution 41
8.8 System Performance and Overall Assessment 41
8.9 Data Validation Checklist 41
9 General Chemistry Analyses 42
9.1 Holding Times 42
9.2 Blank Contamination 43
9.3 Calibration 43
9.3.1 Initial Calibration and Continuing Calibration 43
9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 43
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 44
9.4.2 Laboratory Duplicate Analysis 44
9.5 Field Duplicate Analysis 44
9.6 Laboratory Control Sample (LCS) Analysis 44
9.7 System Performance and Overall Assessment 44
9.8 Data Validation Checklist for General Chemistry 45
10 Overall Data Usability 45

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 7
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 10
Table 4. Holding Time for Method SW-846 8260C 10
Table 5. Summary of Compounds Outside Specified Calibration Control Limits 12
Table 6. Continuing Calibration Evaluation Criteria and Qualifications 12
Table 8. Holding Time for Method SW-846 8270D 16
Table 9. Summary of Compounds Outside Specified Calibration Control Limits 17
Table 10. Continuing Calibration Evaluation Criteria and Qualifications 17
Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits 19

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications 19
Table 14. Holding Time for Method SW-846 8082A 22
Table 16. Holding Time for Method SW-846 8081B/8141B/8151A 26
Table 23. Holding Time for Method SW-846 8290A 30
Table 24. Summary of Blank Contamination Qualifications 30
Table 26. Holding Time for Method 537 34
Table 32. Holding Time for Method SW-846 6010C/7470A/7471B 39
Table 36. Specified Holding Times 43
Table 40. Overall Summary of Data Usability 46

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208637-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-2	480-208637-1	Water	5/4/2023		X	X	X	X	X	X	X
MW-2022-3	480-208637-2	Water	5/4/2023		X	X	X	X	X	X	X
TRIP BLANK-050423	480-208637-3	Water	5/4/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	2	0	1	3
SVOCs	0	0	0	2	0	0	2
PCBs	0	0	0	2	0	0	2
PEST	0	0	0	2	0	0	2
HERB	0	0	0	2	0	0	2
OPC	0	0	0	2	0	0	2
PCDD/PCDF	0	0	0	2	0	0	2
PFAS	0	0	0	2	0	0	2
Metals	0	0	0	2	0	0	2
MISC	0	0	0	2	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 5. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-2 MW-2022-3 TRIP BLANK-050423	CCV %D	Acetone	+32.1%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 6. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preparation		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 8. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 9. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-2 MW-2022-3	CCV %D	Hexachlorocyclopentadiene	-30.1%
		Methapyrilene	+27.6%
	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0090

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 10. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The 3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-2 MW-2022-3	Prep Batch: 668661	1-Naphthylamine	<LL but >10%	<LL but >10%
		2-Picoline	<LL but >10%	AC
		3,3'-Dimethylbenzidine	<10%	<LL but >10%
		4-Aminobiphenyl	<LL but >10%	AC
		a,a-Dimethylphenethylamine	<10%	<10%
		Kepone	<10%	<10%
		Methapyrilene	<LL but >10%	AC
		p-Phenylene diamine	<10%	<10%
		Phorate	AC	>UL
		Famphur	AC	<LL but >10%

Note:
AC Acceptable

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

Sample locations associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
MW-2022-2 MW-2022-3	2-Naphthylamine 2-Picoline 2-Toluidine

Sample Locations	Compound
	3,3'-Dimethylbenzidine
	4-Aminobiphenyl
	4-Chloroaniline
	Aniline
	Benzidine
	Famphur
	Methapyrilene
	Pyridine

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
LCS/LCSD Precision (RPD)		X	X		
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X	X		
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing

concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The continuing calibration %D were within the specified control limits.

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate analysis was not performed on sample associated with this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:

%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

The continuing calibration %D were within the specified control limits.

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on sample associated with this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 23. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 24. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-2 MW-2022-3	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,6,7,8-HxCDF (MB) OCDD (MB) OCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

The continuing calibration %D were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on sample associated with this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio ≥ 10:1		X		X	
Internal standard performance		X		X	
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 26. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of ten times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. Extracted Internal Standard (EIS) recoveries must be within the limits of 50% to150% (25% to 150% for poor responding analytes FBA, PFPeA, fluorotelomer sulfonates).

All EIS recoveries were within the specified control limits.

7.5.2 Injection Internal Standards

Injection internal standards are added to the aliquot of sample dilutions, QC samples, and standards just prior to analysis. Peak areas must be within 50-150% of the area measured in the ICAL midpoint standard. On days when ICAL is not performed, the peak areas must be within 50-150% of the peak area measured in daily initial CCV.

Samples associated with internal standards exhibited responses within the control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate analysis was not performed on sample associated with this SDG.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Field blanks	X				X
C. Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)	X				X
Extracted Internal Standards (EIS) %R		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Injection Internal Standard %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier III Validation					
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration %Ds		X		X	
Instrument sensitivity check		X		X	
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT windows		X		X	
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 32. Holding Time for Method SW-846 6010C/7470A/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
MW-2022-3	Zinc (MB)	Detected sample results <RL and <BAL	“U” at the RL

Note:
RL = reporting limit
MB = Method blank

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument’s continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

The laboratory duplicate analysis was not performed on sample associated with this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical

method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits.

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample.

The serial dilution was not performed on sample associated with this SDG.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
%D Percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 36. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 669722 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip

blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 40. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	3
SVOCs	95.7%	10
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: August 3, 2023

PEER REVIEW: Joseph C. Houser

DATE: August 3, 2023

Appendix A

Chain of Custody

10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Thom McClenahan	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48021970			
Site:	SSOW#: 30150026.3000			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N	N	N	N	D	A	N	CB	B	N		
MW-2022-2	5/4/23	1150	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
MW-2022-3	5/4/23	1455	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
TripBlank 050423	5/4/23	x	G	Water									x					2	

TM 5.4.23

TM 5.4.23

TM 5.4.23

480-208637 Chain of Custody

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are r

☐ Return To Client ☐ Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by:	5-5-23 1010	ARCADIS	Received by:	5-5-23 1010	EETN
Relinquished by:	5-5-23 1700	EETN	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	5/5/23 0800	TMD

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.4 4.1 #1 ICE

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-208637 Chain of Custody

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 480-80469 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York, State - Massachusetts	Job #: 480-208637-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/22/2023		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-2 (480-208637-1)	5/4/23	11.50 Eastern		Water			X	2	
MW-2022-3 (480-208637-2)	5/4/23	14.55 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	5-9-23 1800	THB		5/10/23	ETA Burl
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Page 6066 of 6072

6/9/2023 10:02 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80482.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208637-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/22/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-2 (480-208637-1)	5/4/23	11:50 Eastern		Water			X	2	
MW-2022-3 (480-208637-2)	5/4/23	14:55 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	5-9-23 1600	TAB			
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company	Received by	Date/Time: 5/10/23 09:55	Company: ELLET

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: RAW: 3.8, 0.8 COR: 3.1, 0.1

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-2
Date Collected: 05/04/23 11:50
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/09/23 16:18	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/23 16:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/09/23 16:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/09/23 16:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/09/23 16:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/09/23 16:18	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/09/23 16:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/09/23 16:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/09/23 16:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/09/23 16:18	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/09/23 16:18	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			05/09/23 16:18	1
2-Chloroethyl vinyl ether	R ND		5.0	0.96	ug/L			05/09/23 16:18	1
2-Hexanone	ND		5.0	1.2	ug/L			05/09/23 16:18	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/09/23 16:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/09/23 16:18	1
Acetone	ND	UJ	10	3.0	ug/L			05/09/23 16:18	1
Acetonitrile	ND	UJ	15	4.9	ug/L			05/09/23 16:18	1
Acrolein	ND		20	0.91	ug/L			05/09/23 16:18	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/09/23 16:18	1
Benzene	ND		1.0	0.41	ug/L			05/09/23 16:18	1
Bromoform	ND		1.0	0.26	ug/L			05/09/23 16:18	1
Bromomethane	ND		1.0	0.69	ug/L			05/09/23 16:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/09/23 16:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/09/23 16:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/09/23 16:18	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/09/23 16:18	1
Chloroethane	ND		1.0	0.32	ug/L			05/09/23 16:18	1
Chloroform	ND		1.0	0.34	ug/L			05/09/23 16:18	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/23 16:18	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/09/23 16:18	1
Dibromomethane	ND		1.0	0.41	ug/L			05/09/23 16:18	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/09/23 16:18	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/09/23 16:18	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/09/23 16:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/23 16:18	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/09/23 16:18	1
Iodomethane	ND		1.0	0.30	ug/L			05/09/23 16:18	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			05/09/23 16:18	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			05/09/23 16:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/09/23 16:18	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/23 16:18	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/23 16:18	1
Propionitrile	ND	UJ	10	5.8	ug/L			05/09/23 16:18	1
Styrene	ND		1.0	0.73	ug/L			05/09/23 16:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/23 16:18	1
Toluene	ND		1.0	0.51	ug/L			05/09/23 16:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/23 16:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/09/23 16:18	1

Client Sample ID: MW-2022-2
Date Collected: 05/04/23 11:50
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/09/23 16:18	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/23 16:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/09/23 16:18	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/09/23 16:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/23 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*05/09/23 16:18*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*05/09/23 16:18*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*05/09/23 16:18*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/09/23 16:18*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,4-Dioxane	ND		10	1.1	ug/L		05/08/23 16:03	05/10/23 19:54	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/08/23 16:03	05/10/23 19:54	1
1-Naphthylamine	ND	*1 UJ	10	1.3	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/08/23 16:03	05/10/23 19:54	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Naphthylamine	ND	*1 UJ	10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Nitroaniline	ND		10	0.42	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Picoline	ND	*1 UJ	80	1.4	ug/L		05/08/23 16:03	05/10/23 19:54	1
2-Toluidine	ND	*1 UJ	10	1.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/08/23 16:03	05/10/23 19:54	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
3,3'-Dimethylbenzidine	R ND	*- *1	40	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
3-Methylphenol	ND		10	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
3-Nitroaniline	ND		10	0.48	ug/L		05/08/23 16:03	05/10/23 19:54	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-208637-1

Date Collected: 05/04/23 11:50
Matrix: Water

Date Received: 05/06/23 08:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Aminobiphenyl	ND	*1 * UJ	10	0.81	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Chloroaniline	ND	*1 UJ	5.0	0.59	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Methylphenol	ND		10	0.36	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Nitroaniline	ND		10	0.25	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Nitrophenol	ND		10	1.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
4-Nitroquinoline-1-oxide	R ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/08/23 16:03	05/10/23 19:54	1
a,a-Dimethylphenethylamine	R ND	*	100	40	ug/L		05/08/23 16:03	05/10/23 19:54	1
Acenaphthene	ND		5.0	0.41	ug/L		05/08/23 16:03	05/10/23 19:54	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/08/23 16:03	05/10/23 19:54	1
Acetophenone	ND		5.0	0.54	ug/L		05/08/23 16:03	05/10/23 19:54	1
Aniline	ND	*1 UJ	10	0.61	ug/L		05/08/23 16:03	05/10/23 19:54	1
Anthracene	ND		5.0	0.28	ug/L		05/08/23 16:03	05/10/23 19:54	1
Aramite, Total	ND		20	1.6	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzidine	ND	*1 UJ	80	2.2	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/08/23 16:03	05/10/23 19:54	1
Benzyl alcohol	ND		20	2.0	ug/L		05/08/23 16:03	05/10/23 19:54	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/08/23 16:03	05/10/23 19:54	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/08/23 16:03	05/10/23 19:54	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/08/23 16:03	05/10/23 19:54	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/08/23 16:03	05/10/23 19:54	1
Chrysene	ND		5.0	0.33	ug/L		05/08/23 16:03	05/10/23 19:54	1
Diallate	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/08/23 16:03	05/10/23 19:54	1
Dibenzofuran	ND		10	0.51	ug/L		05/08/23 16:03	05/10/23 19:54	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/08/23 16:03	05/10/23 19:54	1
Dimethoate	ND		10	0.54	ug/L		05/08/23 16:03	05/10/23 19:54	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/08/23 16:03	05/10/23 19:54	1
Di-n-butyl phthalate	**0.49**	**J**	5.0	0.31	ug/L		05/08/23 16:03	05/10/23 19:54	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/08/23 16:03	05/10/23 19:54	1
Dinoseb	ND		10	2.9	ug/L		05/08/23 16:03	05/10/23 19:54	1
Diphenylamine	ND		10	0.82	ug/L		05/08/23 16:03	05/10/23 19:54	1
Disulfoton	ND		10	0.42	ug/L		05/08/23 16:03	05/10/23 19:54	1
Chlorobenzilate	ND		20	0.67	ug/L		05/08/23 16:03	05/10/23 19:54	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/08/23 16:03	05/10/23 19:54	1
Famphur	ND	* *1 UJ	40	1.9	ug/L		05/08/23 16:03	05/10/23 19:54	1
Fluoranthene	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 19:54	1
Fluorene	ND		5.0	0.36	ug/L		05/08/23 16:03	05/10/23 19:54	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/08/23 16:03	05/10/23 19:54	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/08/23 16:03	05/10/23 19:54	1

Client Sample ID: MW-2022-2
Date Collected: 05/04/23 11:50
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND	UJ	5.0	0.59	ug/L		05/08/23 16:03	05/10/23 19:54	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/08/23 16:03	05/10/23 19:54	1
Hexachloropropene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/08/23 16:03	05/10/23 19:54	1
Isodrin	ND		10	0.18	ug/L		05/08/23 16:03	05/10/23 19:54	1
Isophorone	ND		5.0	0.43	ug/L		05/08/23 16:03	05/10/23 19:54	1
Isosafrole	ND		10	0.58	ug/L		05/08/23 16:03	05/10/23 19:54	1
Kepone	R ND	*	50	1.8	ug/L		05/08/23 16:03	05/10/23 19:54	1
Methapyrilene	ND	* UJ	50	1.8	ug/L		05/08/23 16:03	05/10/23 19:54	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
Naphthalene	ND		5.0	0.76	ug/L		05/08/23 16:03	05/10/23 19:54	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/08/23 16:03	05/10/23 19:54	1
Ethyl Parathion	ND		10	0.64	ug/L		05/08/23 16:03	05/10/23 19:54	1
Methyl parathion	ND		10	0.37	ug/L		05/08/23 16:03	05/10/23 19:54	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/08/23 16:03	05/10/23 19:54	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/08/23 16:03	05/10/23 19:54	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
Pentachlorophenol	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 19:54	1
Phenacetin	ND		10	0.61	ug/L		05/08/23 16:03	05/10/23 19:54	1
Phenanthrene	ND		5.0	0.44	ug/L		05/08/23 16:03	05/10/23 19:54	1
Phenol	ND		5.0	0.39	ug/L		05/08/23 16:03	05/10/23 19:54	1
Phorate	ND	*	10	0.50	ug/L		05/08/23 16:03	05/10/23 19:54	1
p-Phenylene diamine	R ND	*	800	200	ug/L		05/08/23 16:03	05/10/23 19:54	1
Pronamide	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 19:54	1
Pyrene	ND		5.0	0.34	ug/L		05/08/23 16:03	05/10/23 19:54	1
Pyridine	ND	* UJ	25	0.41	ug/L		05/08/23 16:03	05/10/23 19:54	1
Safrole	ND		10	0.46	ug/L		05/08/23 16:03	05/10/23 19:54	1
Sulfotepp	ND		10	0.64	ug/L		05/08/23 16:03	05/10/23 19:54	1
Thionazin	ND		10	0.38	ug/L		05/08/23 16:03	05/10/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*70*		*41 - 120*	*05/08/23 16:03*	*05/10/23 19:54*	*1*
2-Fluorobiphenyl (Surr)	*71*		*48 - 120*	*05/08/23 16:03*	*05/10/23 19:54*	*1*
2-Fluorophenol (Surr)	*51*		*35 - 120*	*05/08/23 16:03*	*05/10/23 19:54*	*1*
Nitrobenzene-d5 (Surr)	*67*		*46 - 120*	*05/08/23 16:03*	*05/10/23 19:54*	*1*
Phenol-d5 (Surr)	*38*		*22 - 120*	*05/08/23 16:03*	*05/10/23 19:54*	*1*
p-Terphenyl-d14 (Surr)	*92*		*60 - 148*	*05/08/23 16:03*	*05/10/23 19:54*	*1*

Client Sample ID: MW-2022-2
Date Collected: 05/04/23 11:50
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/09/23 14:57	05/10/23 19:38	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:38	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:38	1
Aldrin	ND		0.050	0.0081	ug/L		05/09/23 14:57	05/10/23 19:38	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/09/23 14:57	05/10/23 19:38	1
beta-BHC	ND		0.050	0.025	ug/L		05/09/23 14:57	05/10/23 19:38	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/09/23 14:57	05/10/23 19:38	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/09/23 14:57	05/10/23 19:38	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/09/23 14:57	05/10/23 19:38	1
delta-BHC	ND		0.050	0.010	ug/L		05/09/23 14:57	05/10/23 19:38	1
Dieldrin	ND		0.050	0.0098	ug/L		05/09/23 14:57	05/10/23 19:38	1
Endosulfan I	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:38	1
Endosulfan II	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:38	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 19:38	1
Endrin	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 19:38	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 19:38	1
Endrin ketone	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:38	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/09/23 14:57	05/10/23 19:38	1
Heptachlor	ND		0.050	0.0085	ug/L		05/09/23 14:57	05/10/23 19:38	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/09/23 14:57	05/10/23 19:38	1
Methoxychlor	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 19:38	1
Toxaphene	ND		0.50	0.12	ug/L		05/09/23 14:57	05/10/23 19:38	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*70*		*20 - 120*	*05/09/23 14:57*	*05/10/23 19:38*	*1*
DCB Decachlorobiphenyl	*79*		*20 - 120*	*05/09/23 14:57*	*05/10/23 19:38*	*1*
Tetrachloro-m-xylene	*95*		*44 - 120*	*05/09/23 14:57*	*05/10/23 19:38*	*1*
Tetrachloro-m-xylene	*83*		*44 - 120*	*05/09/23 14:57*	*05/10/23 19:38*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:02	1
PCB-1221	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:02	1
PCB-1232	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:02	1
PCB-1242	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:02	1
PCB-1248	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:02	1
PCB-1254	ND		0.50	0.25	ug/L		05/08/23 07:36	05/08/23 20:02	1
PCB-1260	ND		0.50	0.25	ug/L		05/08/23 07:36	05/08/23 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*74*		*39 - 121*	*05/08/23 07:36*	*05/08/23 20:02*	*1*
Tetrachloro-m-xylene	*72*		*39 - 121*	*05/08/23 07:36*	*05/08/23 20:02*	*1*
DCB Decachlorobiphenyl	*100*		*19 - 120*	*05/08/23 07:36*	*05/08/23 20:02*	*1*
DCB Decachlorobiphenyl	*95*		*19 - 120*	*05/08/23 07:36*	*05/08/23 20:02*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		05/09/23 09:20	05/11/23 09:44	1
2,4-D	ND		0.48	0.17	ug/L		05/09/23 09:20	05/11/23 09:44	1

Client Sample ID: MW-2022-2
Date Collected: 05/04/23 11:50
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		05/09/23 09:20	05/11/23 09:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*98*		*48 - 132*	*05/09/23 09:20*	*05/11/23 09:44*	*1*
2,4-Dichlorophenylacetic acid	*87*		*48 - 132*	*05/09/23 09:20*	*05/11/23 09:44*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.95	0.25	ug/L		05/11/23 00:30	05/17/23 08:58	1
Disulfoton	ND		0.95	0.39	ug/L		05/11/23 00:30	05/17/23 08:58	1
Famphur	ND		0.95	0.31	ug/L		05/11/23 00:30	05/17/23 08:58	1
Methyl parathion	ND		0.95	0.33	ug/L		05/11/23 00:30	05/17/23 08:58	1
Ethyl Parathion	ND		0.95	0.35	ug/L		05/11/23 00:30	05/17/23 08:58	1
Phorate	ND		0.95	0.36	ug/L		05/11/23 00:30	05/17/23 08:58	1
Sulfotepp	ND		0.95	0.38	ug/L		05/11/23 00:30	05/17/23 08:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*109*		*25 - 127*	*05/11/23 00:30*	*05/17/23 08:58*	*1*
Tributyl phosphate	*101*		*25 - 127*	*05/11/23 00:30*	*05/17/23 08:58*	*1*
Triphenylphosphate	*130*		*70 - 155*	*05/11/23 00:30*	*05/17/23 08:58*	*1*
Triphenylphosphate	*122*		*70 - 155*	*05/11/23 00:30*	*05/17/23 08:58*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.8	0.69	ng/L		05/11/23 09:20	05/11/23 19:55	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.5	1.2	ng/L		05/11/23 09:20	05/11/23 19:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.4	ng/L		05/11/23 09:20	05/11/23 19:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.7	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.56	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorobutanoic acid (PFBA)	ND		4.5	1.1	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.36	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.41	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.37	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.49	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.50	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.59	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.44	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.83	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.77	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.69	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.61	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.58	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.43	ng/L		05/11/23 09:20	05/11/23 19:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.50	ng/L		05/11/23 09:20	05/11/23 19:55	1

Client Sample ID: MW-2022-2
Date Collected: 05/04/23 11:50
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	95		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C2 PFDoA	89		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C2 PFHxA	107		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C2 PFTeDA	85		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C2 PFUnA	95		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C3 PFBS	93		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C4 PFBA	107		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C4 PFHpA	107		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C4 PFOA	105		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C4 PFOS	89		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C5 PFNA	103		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C5 PFPeA	107		50 - 150	05/11/23 09:20	05/11/23 19:55	1
13C8 FOSA	90		50 - 150	05/11/23 09:20	05/11/23 19:55	1
18O2 PFHxS	103		50 - 150	05/11/23 09:20	05/11/23 19:55	1
d3-NMeFOSAA	86		50 - 150	05/11/23 09:20	05/11/23 19:55	1
d5-NEtFOSAA	86		50 - 150	05/11/23 09:20	05/11/23 19:55	1
M2-6:2 FTS	94		50 - 150	05/11/23 09:20	05/11/23 19:55	1
M2-8:2 FTS	84		50 - 150	05/11/23 09:20	05/11/23 19:55	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	26 ~~1.3~~ J I B	U	26	0.15	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,4,6,7,8-HpCDF	26 ~~1.7~~ J I B	U	26	0.072	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,4,7,8,9-HpCDF	1.1 J		26	0.10	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,4,7,8-HxCDD	ND		26	0.074	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,4,7,8-HxCDF	0.98 ~~J I~~	JNX	26	0.14	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,6,7,8-HxCDD	ND		26	0.073	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,6,7,8-HxCDF	26 ~~0.70~~ J I B	U	26	0.14	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,7,8,9-HxCDD	0.20 J		26	0.074	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,7,8,9-HxCDF	ND		26	0.18	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,7,8-PeCDD	ND		26	0.026	pg/L		05/28/23 09:15	06/05/23 16:45	1
1,2,3,7,8-PeCDF	ND		26	0.13	pg/L		05/28/23 09:15	06/05/23 16:45	1
2,3,4,6,7,8-HxCDF	ND		26	0.13	pg/L		05/28/23 09:15	06/05/23 16:45	1
2,3,4,7,8-PeCDF	ND		26	0.095	pg/L		05/28/23 09:15	06/05/23 16:45	1
2,3,7,8-TCDD	ND		5.3	0.027	pg/L		05/28/23 09:15	06/05/23 16:45	1
2,3,7,8-TCDF	ND		5.3	0.046	pg/L		05/28/23 09:15	06/05/23 16:45	1
OCDD	120 ~~1.6~~ J B	U	120	0.093	pg/L		05/28/23 09:15	06/05/23 16:45	1
OCDF	53 ~~5.1~~ J B	U	53	0.059	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total HpCDD	26 ~~1.3~~ J I B	U	26	0.15	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total HpCDF	26 ~~4.3~~ J I B	U	26	0.088	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total HxCDD	26 ~~1.5~~ J I B	U	26	0.074	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total HxCDF	26 ~~1.7~~ J I B	U	26	0.15	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total PeCDD	26 ~~0.54~~ J I B	U	26	0.026	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total PeCDF	26 ~~0.45~~ J I B	U	26	0.11	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total TCDD	0.15 ~~J I~~	JNX	5.3	0.027	pg/L		05/28/23 09:15	06/05/23 16:45	1
Total TCDF	5.3 ~~0.69~~ J I B	U	5.3	0.046	pg/L		05/28/23 09:15	06/05/23 16:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	103		40 - 135	05/28/23 09:15	06/05/23 16:45	1
13C-1,2,3,4,6,7,8-HpCDF	101		40 - 135	05/28/23 09:15	06/05/23 16:45	1
13C-1,2,3,4,7,8,9-HpCDF	99		40 - 135	05/28/23 09:15	06/05/23 16:45	1

Client Sample ID: MW-2022-2
Lab Sample ID: 480-208637-1

Date Collected: 05/04/23 11:50
Matrix: Water
Date Received: 05/06/23 08:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*92*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,4,7,8-HxCDF	*96*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,6,7,8-HxCDD	*99*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,6,7,8-HxCDF	*109*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,7,8,9-HxCDD	*100*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,7,8,9-HxCDF	*98*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,7,8-PeCDD	*96*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-1,2,3,7,8-PeCDF	*99*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-2,3,4,6,7,8-HxCDF	*97*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-2,3,4,7,8-PeCDF	*106*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-2,3,7,8-TCDD	*95*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-2,3,7,8-TCDF	*87*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-OCDD	*118*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*
13C-OCDF	*116*		*40 - 135*	*05/28/23 09:15*	*06/05/23 16:45*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/09/23 08:24	05/09/23 19:51	1
Arsenic	ND		0.015	0.0056	mg/L		05/09/23 08:24	05/09/23 19:51	1
Barium	**0.0065**		0.0020	0.00070	mg/L		05/09/23 08:24	05/09/23 19:51	1
Beryllium	ND		0.0020	0.00030	mg/L		05/09/23 08:24	05/09/23 19:51	1
Cadmium	ND		0.0020	0.00050	mg/L		05/09/23 08:24	05/09/23 19:51	1
Chromium	ND		0.0040	0.0010	mg/L		05/09/23 08:24	05/09/23 19:51	1
Cobalt	ND		0.0040	0.00063	mg/L		05/12/23 08:09	05/12/23 18:33	1
Copper	ND		0.010	0.0016	mg/L		05/09/23 08:24	05/09/23 19:51	1
Lead	ND		0.010	0.0030	mg/L		05/09/23 08:24	05/09/23 19:51	1
Nickel	ND		0.010	0.0013	mg/L		05/09/23 08:24	05/09/23 19:51	1
Selenium	ND		0.025	0.0087	mg/L		05/09/23 08:24	05/09/23 19:51	1
Silver	ND		0.0060	0.0017	mg/L		05/09/23 08:24	05/09/23 19:51	1
Thallium	ND		0.020	0.010	mg/L		05/09/23 08:24	05/09/23 19:51	1
Tin	ND		0.010	0.0051	mg/L		05/09/23 08:24	05/09/23 19:51	1
Vanadium	ND		0.0050	0.0015	mg/L		05/09/23 08:24	05/09/23 19:51	1
Zinc	ND		0.010	0.0015	mg/L		05/09/23 08:24	05/09/23 19:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/08/23 11:24	05/09/23 10:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/16/23 12:43	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/10/23 11:47	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-208637-2

Date Collected: 05/04/23 14:55
Matrix: Water
Date Received: 05/06/23 08:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/09/23 16:42	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/23 16:42	1

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/09/23 16:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/09/23 16:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/09/23 16:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/09/23 16:42	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/09/23 16:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/09/23 16:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/09/23 16:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/09/23 16:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/09/23 16:42	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			05/09/23 16:42	1
2-Chloroethyl vinyl ether	R ~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~05/09/23 16:42~~	1
2-Hexanone	ND		5.0	1.2	ug/L			05/09/23 16:42	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/09/23 16:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/09/23 16:42	1
Acetone	ND	UJ	10	3.0	ug/L			05/09/23 16:42	1
Acetonitrile	ND	UJ	15	4.9	ug/L			05/09/23 16:42	1
Acrolein	ND		20	0.91	ug/L			05/09/23 16:42	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/09/23 16:42	1
Benzene	ND		1.0	0.41	ug/L			05/09/23 16:42	1
Bromoform	ND		1.0	0.26	ug/L			05/09/23 16:42	1
Bromomethane	ND		1.0	0.69	ug/L			05/09/23 16:42	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/09/23 16:42	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/09/23 16:42	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/09/23 16:42	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/09/23 16:42	1
Chloroethane	ND		1.0	0.32	ug/L			05/09/23 16:42	1
Chloroform	ND		1.0	0.34	ug/L			05/09/23 16:42	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/23 16:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/09/23 16:42	1
Dibromomethane	ND		1.0	0.41	ug/L			05/09/23 16:42	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/09/23 16:42	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/09/23 16:42	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/09/23 16:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/23 16:42	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/09/23 16:42	1
Iodomethane	ND		1.0	0.30	ug/L			05/09/23 16:42	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			05/09/23 16:42	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			05/09/23 16:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/09/23 16:42	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/23 16:42	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/23 16:42	1
Propionitrile	ND	UJ	10	5.8	ug/L			05/09/23 16:42	1
Styrene	ND		1.0	0.73	ug/L			05/09/23 16:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/23 16:42	1
Toluene	ND		1.0	0.51	ug/L			05/09/23 16:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/23 16:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/09/23 16:42	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/09/23 16:42	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/23 16:42	1

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/09/23 16:42	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/09/23 16:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/23 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*05/09/23 16:42*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*05/09/23 16:42*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*05/09/23 16:42*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/09/23 16:42*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,4-Dioxane	ND		10	1.1	ug/L		05/08/23 16:03	05/10/23 20:21	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/08/23 16:03	05/10/23 20:21	1
1-Naphthylamine	ND	UJ	10	1.3	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/08/23 16:03	05/10/23 20:21	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Naphthylamine	ND	*1 UJ	10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Nitroaniline	ND		10	0.42	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Picoline	ND	UJ	80	1.4	ug/L		05/08/23 16:03	05/10/23 20:21	1
2-Toluidine	ND	*1 UJ	10	1.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/08/23 16:03	05/10/23 20:21	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
3,3'-Dimethylbenzidine	R ND	*1	40	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
3-Methylphenol	ND		10	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
3-Nitroaniline	ND		10	0.48	ug/L		05/08/23 16:03	05/10/23 20:21	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Aminobiphenyl	ND	*1 UJ	10	0.81	ug/L		05/08/23 16:03	05/10/23 20:21	1

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Chloroaniline	ND	~~*1~~ UJ	5.0	0.59	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Methylphenol	ND		10	0.36	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Nitroaniline	ND		10	0.25	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Nitrophenol	ND		10	1.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
4-Nitroquinoline-1-oxide	R ~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~05/08/23 16:03~~	~~05/10/23 20:21~~	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/08/23 16:03	05/10/23 20:21	1
a,a-Dimethylphenethylamine	R ~~ND~~	~~*-~~	~~100~~	~~40~~	~~ug/L~~		~~05/08/23 16:03~~	~~05/10/23 20:21~~	1
Acenaphthene	ND		5.0	0.41	ug/L		05/08/23 16:03	05/10/23 20:21	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/08/23 16:03	05/10/23 20:21	1
Acetophenone	ND		5.0	0.54	ug/L		05/08/23 16:03	05/10/23 20:21	1
Aniline	ND	~~*1~~ UJ	10	0.61	ug/L		05/08/23 16:03	05/10/23 20:21	1
Anthracene	ND		5.0	0.28	ug/L		05/08/23 16:03	05/10/23 20:21	1
Aramite, Total	ND		20	1.6	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzidine	ND	~~*1~~ UJ	80	2.2	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/08/23 16:03	05/10/23 20:21	1
Benzyl alcohol	ND		20	2.0	ug/L		05/08/23 16:03	05/10/23 20:21	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/08/23 16:03	05/10/23 20:21	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/08/23 16:03	05/10/23 20:21	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/08/23 16:03	05/10/23 20:21	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/08/23 16:03	05/10/23 20:21	1
Chrysene	ND		5.0	0.33	ug/L		05/08/23 16:03	05/10/23 20:21	1
Diallate	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/08/23 16:03	05/10/23 20:21	1
Dibenzofuran	ND		10	0.51	ug/L		05/08/23 16:03	05/10/23 20:21	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/08/23 16:03	05/10/23 20:21	1
Dimethoate	ND		10	0.54	ug/L		05/08/23 16:03	05/10/23 20:21	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/08/23 16:03	05/10/23 20:21	1
Di-n-butyl phthalate	**0.45**	**J**	5.0	0.31	ug/L		05/08/23 16:03	05/10/23 20:21	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/08/23 16:03	05/10/23 20:21	1
Dinoseb	ND		10	2.9	ug/L		05/08/23 16:03	05/10/23 20:21	1
Diphenylamine	ND		10	0.82	ug/L		05/08/23 16:03	05/10/23 20:21	1
Disulfoton	ND		10	0.42	ug/L		05/08/23 16:03	05/10/23 20:21	1
Chlorobenzilate	ND		20	0.67	ug/L		05/08/23 16:03	05/10/23 20:21	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/08/23 16:03	05/10/23 20:21	1
Famphur	ND	~~*-*1~~ UJ	40	1.9	ug/L		05/08/23 16:03	05/10/23 20:21	1
Fluoranthene	ND		5.0	0.40	ug/L		05/08/23 16:03	05/10/23 20:21	1
Fluorene	ND		5.0	0.36	ug/L		05/08/23 16:03	05/10/23 20:21	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/08/23 16:03	05/10/23 20:21	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/08/23 16:03	05/10/23 20:21	1
Hexachlorocyclopentadiene	ND	UJ	5.0	0.59	ug/L		05/08/23 16:03	05/10/23 20:21	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/08/23 16:03	05/10/23 20:21	1

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/08/23 16:03	05/10/23 20:21	1
Isodrin	ND		10	0.18	ug/L		05/08/23 16:03	05/10/23 20:21	1
Isophorone	ND		5.0	0.43	ug/L		05/08/23 16:03	05/10/23 20:21	1
Isosafrole	ND		10	0.58	ug/L		05/08/23 16:03	05/10/23 20:21	1
Kepone	R ~~ND~~	~~*-~~	~~50~~	~~1.8~~	~~ug/L~~		~~05/08/23 16:03~~	~~05/10/23 20:21~~	1
Methapyrilene	ND	~~*1~~ * UJ	50	1.8	ug/L		05/08/23 16:03	05/10/23 20:21	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
Naphthalene	ND		5.0	0.76	ug/L		05/08/23 16:03	05/10/23 20:21	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/08/23 16:03	05/10/23 20:21	1
Ethyl Parathion	ND		10	0.64	ug/L		05/08/23 16:03	05/10/23 20:21	1
Methyl parathion	ND		10	0.37	ug/L		05/08/23 16:03	05/10/23 20:21	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/08/23 16:03	05/10/23 20:21	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/08/23 16:03	05/10/23 20:21	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
Pentachlorophenol	ND		10	2.2	ug/L		05/08/23 16:03	05/10/23 20:21	1
Phenacetin	ND		10	0.61	ug/L		05/08/23 16:03	05/10/23 20:21	1
Phenanthrene	ND		5.0	0.44	ug/L		05/08/23 16:03	05/10/23 20:21	1
Phenol	ND		5.0	0.39	ug/L		05/08/23 16:03	05/10/23 20:21	1
Phorate	ND	~~*1~~	10	0.50	ug/L		05/08/23 16:03	05/10/23 20:21	1
p-Phenylene diamine	R ~~ND~~	~~*-~~	~~800~~	~~200~~	~~ug/L~~		~~05/08/23 16:03~~	~~05/10/23 20:21~~	1
Pronamide	ND		10	2.5	ug/L		05/08/23 16:03	05/10/23 20:21	1
Pyrene	ND		5.0	0.34	ug/L		05/08/23 16:03	05/10/23 20:21	1
Pyridine	ND	~~*1~~ UJ	25	0.41	ug/L		05/08/23 16:03	05/10/23 20:21	1
Safrole	ND		10	0.46	ug/L		05/08/23 16:03	05/10/23 20:21	1
Sulfotepp	ND		10	0.64	ug/L		05/08/23 16:03	05/10/23 20:21	1
Thionazin	ND		10	0.38	ug/L		05/08/23 16:03	05/10/23 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*41 - 120*	*05/08/23 16:03*	*05/10/23 20:21*	*1*
2-Fluorobiphenyl (Surr)	*79*		*48 - 120*	*05/08/23 16:03*	*05/10/23 20:21*	*1*
2-Fluorophenol (Surr)	*59*		*35 - 120*	*05/08/23 16:03*	*05/10/23 20:21*	*1*
Nitrobenzene-d5 (Surr)	*73*		*46 - 120*	*05/08/23 16:03*	*05/10/23 20:21*	*1*
Phenol-d5 (Surr)	*43*		*22 - 120*	*05/08/23 16:03*	*05/10/23 20:21*	*1*
p-Terphenyl-d14 (Surr)	*99*		*60 - 148*	*05/08/23 16:03*	*05/10/23 20:21*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/09/23 14:57	05/10/23 19:57	1

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:57	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:57	1
Aldrin	ND		0.050	0.0081	ug/L		05/09/23 14:57	05/10/23 19:57	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/09/23 14:57	05/10/23 19:57	1
beta-BHC	ND		0.050	0.025	ug/L		05/09/23 14:57	05/10/23 19:57	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/09/23 14:57	05/10/23 19:57	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/09/23 14:57	05/10/23 19:57	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/09/23 14:57	05/10/23 19:57	1
delta-BHC	ND		0.050	0.010	ug/L		05/09/23 14:57	05/10/23 19:57	1
Dieldrin	ND		0.050	0.0098	ug/L		05/09/23 14:57	05/10/23 19:57	1
Endosulfan I	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:57	1
Endosulfan II	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:57	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 19:57	1
Endrin	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 19:57	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 19:57	1
Endrin ketone	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:57	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/09/23 14:57	05/10/23 19:57	1
Heptachlor	ND		0.050	0.0085	ug/L		05/09/23 14:57	05/10/23 19:57	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/09/23 14:57	05/10/23 19:57	1
Methoxychlor	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 19:57	1
Toxaphene	ND		0.50	0.12	ug/L		05/09/23 14:57	05/10/23 19:57	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*20 - 120*	*05/09/23 14:57*	*05/10/23 19:57*	*1*
DCB Decachlorobiphenyl	*69*		*20 - 120*	*05/09/23 14:57*	*05/10/23 19:57*	*1*
Tetrachloro-m-xylene	*100*		*44 - 120*	*05/09/23 14:57*	*05/10/23 19:57*	*1*
Tetrachloro-m-xylene	*87*		*44 - 120*	*05/09/23 14:57*	*05/10/23 19:57*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:16	1
PCB-1221	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:16	1
PCB-1232	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:16	1
PCB-1242	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:16	1
PCB-1248	ND		0.50	0.18	ug/L		05/08/23 07:36	05/08/23 20:16	1
PCB-1254	ND		0.50	0.25	ug/L		05/08/23 07:36	05/08/23 20:16	1
PCB-1260	ND		0.50	0.25	ug/L		05/08/23 07:36	05/08/23 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*39 - 121*	*05/08/23 07:36*	*05/08/23 20:16*	*1*
Tetrachloro-m-xylene	*74*		*39 - 121*	*05/08/23 07:36*	*05/08/23 20:16*	*1*
DCB Decachlorobiphenyl	*69*		*19 - 120*	*05/08/23 07:36*	*05/08/23 20:16*	*1*
DCB Decachlorobiphenyl	*65*		*19 - 120*	*05/08/23 07:36*	*05/08/23 20:16*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.51	0.069	ug/L		05/09/23 09:20	05/11/23 10:00	1
2,4-D	ND		0.51	0.17	ug/L		05/09/23 09:20	05/11/23 10:00	1
Silvex (2,4,5-TP)	ND		0.51	0.051	ug/L		05/09/23 09:20	05/11/23 10:00	1

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*109*		*48 - 132*	*05/09/23 09:20*	*05/11/23 10:00*	*1*
2,4-Dichlorophenylacetic acid	*92*		*48 - 132*	*05/09/23 09:20*	*05/11/23 10:00*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.98	0.26	ug/L		05/11/23 00:30	05/17/23 09:30	1
Disulfoton	ND		0.98	0.40	ug/L		05/11/23 00:30	05/17/23 09:30	1
Famphur	ND		0.98	0.32	ug/L		05/11/23 00:30	05/17/23 09:30	1
Methyl parathion	ND		0.98	0.34	ug/L		05/11/23 00:30	05/17/23 09:30	1
Ethyl Parathion	ND		0.98	0.36	ug/L		05/11/23 00:30	05/17/23 09:30	1
Phorate	ND		0.98	0.37	ug/L		05/11/23 00:30	05/17/23 09:30	1
Sulfotepp	ND		0.98	0.40	ug/L		05/11/23 00:30	05/17/23 09:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*108*		*25 - 127*	*05/11/23 00:30*	*05/17/23 09:30*	*1*
Tributyl phosphate	*98*		*25 - 127*	*05/11/23 00:30*	*05/17/23 09:30*	*1*
Triphenylphosphate	*127*		*70 - 155*	*05/11/23 00:30*	*05/17/23 09:30*	*1*
Triphenylphosphate	*118*		*70 - 155*	*05/11/23 00:30*	*05/17/23 09:30*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.8	0.68	ng/L		05/11/23 09:20	05/11/23 20:03	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.4	1.1	ng/L		05/11/23 09:20	05/11/23 20:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	1.4	ng/L		05/11/23 09:20	05/11/23 20:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	1.7	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.54	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorobutanoic acid (PFBA)	ND		4.4	1.1	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.35	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.40	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.43	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.36	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.47	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.48	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.57	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.43	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.81	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.75	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.67	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.60	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.56	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.42	ng/L		05/11/23 09:20	05/11/23 20:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.48	ng/L		05/11/23 09:20	05/11/23 20:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*98*		*50 - 150*	*05/11/23 09:20*	*05/11/23 20:03*	*1*
13C2 PFDoA	*92*		*50 - 150*	*05/11/23 09:20*	*05/11/23 20:03*	*1*
13C2 PFHxA	*108*		*50 - 150*	*05/11/23 09:20*	*05/11/23 20:03*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*05/11/23 09:20*	*05/11/23 20:03*	*1*

Client Sample ID: MW-2022-3
Date Collected: 05/04/23 14:55
Date Received: 05/06/23 08:00

Lab Sample ID: 480-208637-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	89		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C3 PFBS	96		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C4 PFBA	112		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C4 PFHpA	100		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C4 PFOA	105		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C4 PFOS	93		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C5 PFNA	99		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C5 PFPeA	104		50 - 150	05/11/23 09:20	05/11/23 20:03	1
13C8 FOSA	91		50 - 150	05/11/23 09:20	05/11/23 20:03	1
18O2 PFHxS	101		50 - 150	05/11/23 09:20	05/11/23 20:03	1
d3-NMeFOSAA	86		50 - 150	05/11/23 09:20	05/11/23 20:03	1
d5-NEtFOSAA	84		50 - 150	05/11/23 09:20	05/11/23 20:03	1
M2-6:2 FTS	88		50 - 150	05/11/23 09:20	05/11/23 20:03	1
M2-8:2 FTS	88		50 - 150	05/11/23 09:20	05/11/23 20:03	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	27 ~~1.2~~	~~J I B~~ U	27	0.096	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,4,6,7,8-HpCDF	27 ~~0.68~~	~~J B~~ U	27	0.041	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,4,7,8,9-HpCDF	0.45	~~J I~~ JNX	27	0.059	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,4,7,8-HxCDD	0.15	~~J I~~ JNX	27	0.052	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,4,7,8-HxCDF	0.98	~~J I~~ JNX	27	0.16	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,6,7,8-HxCDD	27 ~~0.27~~	~~J I B~~ U	27	0.053	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,6,7,8-HxCDF	ND		27	0.15	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,7,8,9-HxCDD	ND		27	0.054	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,7,8,9-HxCDF	ND		27	0.18	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,7,8-PeCDD	ND		27	0.10	pg/L		05/28/23 09:15	06/05/23 17:34	1
1,2,3,7,8-PeCDF	0.39	~~J I~~ JNX	27	0.15	pg/L		05/28/23 09:15	06/05/23 17:34	1
2,3,4,6,7,8-HxCDF	ND		27	0.13	pg/L		05/28/23 09:15	06/05/23 17:34	1
2,3,4,7,8-PeCDF	0.56	J	27	0.099	pg/L		05/28/23 09:15	06/05/23 17:34	1
2,3,7,8-TCDD	ND		5.4	0.036	pg/L		05/28/23 09:15	06/05/23 17:34	1
2,3,7,8-TCDF	ND		5.4	0.084	pg/L		05/28/23 09:15	06/05/23 17:34	1
OCDD	120 ~~2.0~~	~~J B~~ U	120	0.085	pg/L		05/28/23 09:15	06/05/23 17:34	1
OCDF	54 ~~2.1~~	~~J I B~~ U	54	0.036	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total HpCDD	27 ~~1.2~~	~~J I B~~ U	27	0.096	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total HpCDF	27 ~~1.7~~	~~J I B~~ U	27	0.050	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total HxCDD	27 ~~2.6~~	~~J I B~~ U	27	0.053	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total HxCDF	27 ~~0.98~~	~~J I B~~ U	27	0.16	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total PeCDD	27 ~~1.4~~	~~J I B~~ U	27	0.10	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total PeCDF	27 ~~1.3~~	~~J I B~~ U	27	0.12	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total TCDD	ND		5.4	0.56	pg/L		05/28/23 09:15	06/05/23 17:34	1
Total TCDF	5.4 ~~0.60~~	~~J I B~~ U	5.4	0.084	pg/L		05/28/23 09:15	06/05/23 17:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	73		40 - 135	05/28/23 09:15	06/05/23 17:34	1
13C-1,2,3,4,6,7,8-HpCDF	71		40 - 135	05/28/23 09:15	06/05/23 17:34	1
13C-1,2,3,4,7,8,9-HpCDF	73		40 - 135	05/28/23 09:15	06/05/23 17:34	1
13C-1,2,3,4,7,8-HxCDD	65		40 - 135	05/28/23 09:15	06/05/23 17:34	1
13C-1,2,3,4,7,8-HxCDF	66		40 - 135	05/28/23 09:15	06/05/23 17:34	1
13C-1,2,3,6,7,8-HxCDD	69		40 - 135	05/28/23 09:15	06/05/23 17:34	1

Client Sample ID: MW-2022-3
Lab Sample ID: 480-208637-2

Date Collected: 05/04/23 14:55
Matrix: Water
Date Received: 05/06/23 08:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDF	*76*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-1,2,3,7,8,9-HxCDD	*72*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-1,2,3,7,8-PeCDF	*58*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-2,3,4,6,7,8-HxCDF	*68*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-2,3,4,7,8-PeCDF	*63*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-2,3,7,8-TCDD	*58*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-2,3,7,8-TCDF	*52*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-OCDD	*83*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*
13C-OCDF	*81*		*40 - 135*	*05/28/23 09:15*	*06/05/23 17:34*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/09/23 08:24	05/09/23 19:48	1
Arsenic	ND		0.015	0.0056	mg/L		05/09/23 08:24	05/09/23 19:48	1
Barium	**0.0065**		0.0020	0.00070	mg/L		05/09/23 08:24	05/09/23 19:48	1
Beryllium	ND		0.0020	0.00030	mg/L		05/09/23 08:24	05/09/23 19:48	1
Cadmium	ND		0.0020	0.00050	mg/L		05/09/23 08:24	05/09/23 19:48	1
Chromium	ND		0.0040	0.0010	mg/L		05/09/23 08:24	05/09/23 19:48	1
Cobalt	ND		0.0040	0.00063	mg/L		05/12/23 08:09	05/12/23 18:36	1
Copper	ND		0.010	0.0016	mg/L		05/09/23 08:24	05/09/23 19:48	1
Lead	ND		0.010	0.0030	mg/L		05/09/23 08:24	05/09/23 19:48	1
Nickel	ND		0.010	0.0013	mg/L		05/09/23 08:24	05/09/23 19:48	1
Selenium	ND		0.025	0.0087	mg/L		05/09/23 08:24	05/09/23 19:48	1
Silver	ND		0.0060	0.0017	mg/L		05/09/23 08:24	05/09/23 19:48	1
Thallium	ND		0.020	0.010	mg/L		05/09/23 08:24	05/09/23 19:48	1
Tin	ND		0.010	0.0051	mg/L		05/09/23 08:24	05/09/23 19:48	1
Vanadium	ND		0.0050	0.0015	mg/L		05/09/23 08:24	05/09/23 19:48	1
Zinc	0.010 ~~0.0030~~ ~~J B~~	U	0.010	0.0015	mg/L		05/09/23 08:24	05/09/23 19:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/08/23 11:24	05/09/23 10:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/16/23 12:46	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/10/23 11:47	1

Client Sample ID: TRIP BLANK-050423
Lab Sample ID: 480-208637-3

Date Collected: 05/04/23 00:00
Matrix: Water
Date Received: 05/06/23 08:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/09/23 17:06	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/23 17:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/09/23 17:06	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/09/23 17:06	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/09/23 17:06	1

Client Sample ID: TRIP BLANK-050423
Lab Sample ID: 480-208637-3

Date Collected: 05/04/23 00:00
Matrix: Water
Date Received: 05/06/23 08:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/09/23 17:06	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/09/23 17:06	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/09/23 17:06	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/09/23 17:06	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/09/23 17:06	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/09/23 17:06	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			05/09/23 17:06	1
2-Chloroethyl vinyl ether	R ND		5.0	0.96	ug/L			05/09/23 17:06	1
2-Hexanone	ND		5.0	1.2	ug/L			05/09/23 17:06	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/09/23 17:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/09/23 17:06	1
Acetone	ND	UJ	10	3.0	ug/L			05/09/23 17:06	1
Acetonitrile	ND	UJ	15	4.9	ug/L			05/09/23 17:06	1
Acrolein	ND		20	0.91	ug/L			05/09/23 17:06	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/09/23 17:06	1
Benzene	ND		1.0	0.41	ug/L			05/09/23 17:06	1
Bromoform	ND		1.0	0.26	ug/L			05/09/23 17:06	1
Bromomethane	ND		1.0	0.69	ug/L			05/09/23 17:06	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/09/23 17:06	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/09/23 17:06	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/09/23 17:06	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/09/23 17:06	1
Chloroethane	ND		1.0	0.32	ug/L			05/09/23 17:06	1
Chloroform	ND		1.0	0.34	ug/L			05/09/23 17:06	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/23 17:06	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/09/23 17:06	1
Dibromomethane	ND		1.0	0.41	ug/L			05/09/23 17:06	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/09/23 17:06	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/09/23 17:06	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/09/23 17:06	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/23 17:06	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/09/23 17:06	1
Iodomethane	ND		1.0	0.30	ug/L			05/09/23 17:06	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			05/09/23 17:06	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			05/09/23 17:06	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/09/23 17:06	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/23 17:06	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/23 17:06	1
Propionitrile	ND	UJ	10	5.8	ug/L			05/09/23 17:06	1
Styrene	ND		1.0	0.73	ug/L			05/09/23 17:06	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/23 17:06	1
Toluene	ND		1.0	0.51	ug/L			05/09/23 17:06	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/23 17:06	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/09/23 17:06	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/09/23 17:06	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/23 17:06	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/09/23 17:06	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/09/23 17:06	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/23 17:06	1

Client: ARCADIS U.S. Inc
Job ID: 480-208637-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK-050423
Lab Sample ID: 480-208637-3
Date Collected: 05/04/23 00:00
Matrix: Water
Date Received: 05/06/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		05/09/23 17:06	1
4-Bromofluorobenzene (Surr)	106		73 - 120		05/09/23 17:06	1
Dibromofluoromethane (Surr)	103		75 - 123		05/09/23 17:06	1
Toluene-d8 (Surr)	98		80 - 120		05/09/23 17:06	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-208391-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50616R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 Field Duplicate Analysis 9
2.3 System Performance and Overall Assessment 9
2.4 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 10
3.3 Field Duplicate Analysis 11
3.4 System Performance and Overall Assessment 12
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 Field Duplicate Analysis 13
4.3 System Performance and Overall Assessment 13
4.4 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 14
5.1 Holding Times 14
5.2 Blank Contamination 14
5.3 Field Duplicate Analysis 15
The results between the parent sample and field duplicate were acceptable. 15
5.4 System Performance and Overall Assessment 15
5.5 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 16
6.1 Holding Times 16
6.2 Blank Contamination 16
6.3 Field Duplicate Analysis 18
6.4 Compound Identification 19
6.5 System Performance and Overall Assessment 19

6.6 Data Validation Checklist 19
7 Perfluoroalkyl Substances Analyses 20
7.1 Holding Times 20
7.2 Field Duplicate Analysis 20
7.3 System Performance and Overall Assessment 21
7.4 Data Validation Checklist 21
8 Metals Analyses 21
8.1 Holding Times 21
8.2 Blank Contamination 22
8.3 Field Duplicate Analysis 22
8.4 System Performance and Overall Assessment 22
8.5 Data Validation Checklist 23
9 General Chemistry Analyses 23
9.1 Holding Times 23
9.2 Blank Contamination 24
9.3 Field Duplicate Analysis 24
9.4 System Performance and Overall Assessment 25
9.5 Data Validation Checklist for General Chemistry 25
10 Overall Data Usability 25

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Field Duplicate Sample Results 9
Table 6. Holding Time for Method SW-846 8270D 10
Table 7. Samples with Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries Outside Control Limits 11
Table 8. Laboratory Control Sample and Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 11
Table 9. Field Duplicate Sample Results 11
Table 10. Holding Time for Method SW-846 8082A 12

Table 11. Field Duplicate Sample Results 13
Table 12. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 13. Summary of Blank Contamination Qualifications 15
Table 14. Field Duplicate Sample Results 15
Table 15. Holding Time for Method SW-846 8290A 16
Table 16. Summary of Blank Contamination Qualifications 17
Table 17. Field Duplicate Sample Results 18
Table 18. Holding Time for Method 537 20
Table 19. Field Duplicate Sample Result 20
Table 20. Holding Time for Method SW-846 6010C/7470A 22
Table 21. Field Duplicate Sample Results 22
Table 22. Specified Holding Times 23
Table 23. Summary of Holding Time Exceedances 24
Table 24. Summary of Holding Time Qualifications 24
Table 25. Field Duplicate Sample Results 24
Table 26. Overall Summary of Data Usability 26

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208391-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-8	480-208391-1	Water	04/26/2023		X	X	X	X	X	X	X
MW-2022-9	480-208391-2	Water	04/27/2023		X	X	X	X	X	X	X
DUP-1	480-208391-3	Water	04/27/2023	MW-2022-9	X	X	X	X	X	X	X
TRIP BLANK 042723	480-208391-4	Water	04/27/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	2	1	1	0	0	0	4
SVOCs	2	1	0	0	0	0	3
PCBs	2	1	0	0	0	0	3
PEST	2	1	0	0	0	0	3
HERB	2	1	0	0	0	0	3
OPC	2	1	0	0	0	0	3
PCDD/PCDF	2	1	0	0	0	0	3
PFAS	2	1	0	0	0	0	3
Metals	2	1	0	0	0	0	3
MISC	2	1	0	0	0	0	3

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 5. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 6. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 7. Samples with Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-8 MW-2022-9 DUP-1	Prep Batch: 667747	a,a-Dimethylphenethylamine	<10%	<10%
		p-Phenylene diamine		

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 8. Laboratory Control Sample and Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

Table 9. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	1,2,4-Trichlorobenzene	0.60 J	10 U	AC
	Di-n-butyl phthalate	0.54 J	0.64 J	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
Dilution Factor		X		X	
Field Duplicate (RPD)		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix. Results for duplicate samples are summarized in the following table.

Table 11. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	All target compounds	U	U	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

4.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.4 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample ID	Method	Compounds	Sample Result	Qualification
MW-2022-8 MW-2022-9 DUP-1	SW-846 8081B	alpha-BHC [MB]	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-8		gamma-BHC (Lindane) [MB]		

Notes:
MB Method blank
RL Reporting limit

5.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 14. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	delta-BHC	0.011 J	0.011 J	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

5.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.5 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the "B" qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 16. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-8	1,2,3,4,6,7,8-HpCDF (MB) OCDD (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL
MW-2022-9	1,2,3,4,6,7,8-HpCDF (MB) OCDD (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL
DUP-1	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) OCDD (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank

RL Reporting limit

6.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 17. Field Duplicate Sample Results

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	1,2,3,4,6,7,8-HpCDD	0.68 J	0.77 J	AC
	1,2,3,4,7,8,9-HpCDF	0.51 J	0.23 J	AC
	1,2,3,4,7,8-HxCDF	27 U	0.54 J	AC
	1,2,3,6,7,8-HxCDF	27 U	0.26 J	AC
	1,2,3,7,8-PeCDD	27 U	0.11 J	AC
	1,2,3,7,8-PeCDF	0.16 J	0.58 J	AC
	2,3,4,6,7,8-HxCDF	27 U	0.32 J	AC
	2,3,4,7,8-PeCDF	27 U	0.13 J	AC
	2,3,7,8-TCDD	5.4 U	0.11 J	AC
	2,3,7,8-TCDF	5.4 U	0.24 J	AC
	OCDF	2.8 J	2.3 J	AC
	Total PeCDD	0.55 J	0.64 J	AC
	Total TCDD	0.32 J	0.24 J	AC
	Total TCDF	0.87 J	0.35 J	AC

Notes:
U non-detect
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

6.4 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.6 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 18. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water. Results for duplicate samples are summarized in the following table.

Table 19. Field Duplicate Sample Result

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	Perfluorobutanesulfonic acid (PFBS)	2.8	2.9	AC
	Perfluorobutanoic acid (PFBA)	9.7	11	AC
	Perfluoroheptanoic acid (PFHpA)	88	97	9.7%
	Perfluorohexanesulfonic acid (PFHxS)	0.61 J	0.64 J	AC
	Perfluorohexanoic acid (PFHxA)	26	24	8.0%
	Perfluorononanoic acid (PFNA)	0.88 J	0.92 J	AC
	Perfluorooctanoic acid (PFOA)	65	64	1.6
	Perfluoropentanoic acid (PFPeA)	15	16	6.5%

Notes:
U non-detect

Sample ID / Duplicate ID	Compounds	Sample Result	Duplicate Result	RPD

AC Acceptable

The results and calculated RPDs between the parent sample and field duplicate were acceptable.

7.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.4 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 20. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Zinc was detected in the associated method blank batch- 667665; however, the associated sample results were non-detect. No qualification of the sample results was required.

8.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 21. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	Barium	0.0087	0.0086	AC

Note:
AC Acceptable

The results between the parent sample and field duplicate were acceptable.

8.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.5 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 22. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

The analyses that exceeded the holding are presented in the following table.

Table 23. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-8	The sample analyzed on 15th day from collection (Cyanide)	14 days from collection to analysis

Sample results associated with sample locations analyzed by analytical method SW-846 9012B were qualified, as specified in the table below. All other holding times were met.

Table 24. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 654363 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

Table 25. Field Duplicate Sample Results

Sample ID / Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD
MW-2022-9 / DUP-1	Cyanide	U	U	AC
	Sulfide	U	U	AC

Sample ID / Duplicate ID	Analytes	Sample Result	Duplicate Result	RPD

Notes:
U non-detect
AC Acceptable
The results between the parent sample and field duplicate were acceptable.

9.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.5 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
Field Duplicate (RPD)		X		X	

Note:
RPD Relative percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 26. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	97.5%	4
SVOCs	98.4%	6
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 31, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 1, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

5141

Chain of Custody Record

480-208391 Chain of Custody

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 0-80246 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eur	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (see note): NELAP - New York; State - Massachusetts	Job #: 480-208391-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/11/2023		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
MW-2022-8 (480-208391-1)	4/26/23	16:10 Eastern		Water			X	1	
MW-2022-9 (480-208391-2)	4/27/23	11:30 Eastern		Water			X	2	
DUP-1 (480-208391-3)	4/27/23	Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 5-1-23 1600	Company: TAL	Received by:	Date/Time: 5-2-23 10:30	Company: EPHAE	
Relinquished by:	Date/Time.	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

5/31/2023 8:06 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Thom McClenahan	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:

Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Syracuse	TAT Requested (days): Standard		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No		
Phone: 315-671-9374(Tel)	PO #: 30150026.3000		
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-		
Project Name: GE Woods Pond Parcel	Project #: 48021970		Other:
Site:	SSOW#: 30150026.3000		

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N		
MW-2022-8	4/26/23	1610	G	Water			x	x	x	x	x	x	x	x	x	x	x	15	
MW-2022-9	4/27/23	1130	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
Dup-1	4/27/23	X	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
TripBlank 042723	4/27/23	X	G	Water									x					2	TM 4.27.23

TM 4.27.23

480-208391 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4-28-23 1000	ARCADIS	[signature]	4-28-23 1000	EETW
2	[signature]	4-28-23 1700	EETW	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 4-29-23 1000	Company TAL

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.8, 2.3, 2.9 #1

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

8141

Chain of Custody Record

480-208391 Chain of Custody

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 0-80246 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eur	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (see note): NELAP - New York; State - Massachusetts	Job #: 480-208391-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/11/2023		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (480-208391-1)	4/26/23	16:10 Eastern		Water			X	1	
MW-2022-9 (480-208391-2)	4/27/23	11:30 Eastern		Water			X	2	
DUP-1 (480-208391-3)	4/27/23	Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	5-1-23 1600			5-2-23 10:30	EPHOE
Relinquished by:	Date/Time.	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

5/31/2023 8:06 PM

Eurofins Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

01677 pw
27BB

Chain of Custody Record

eurofins | Environment Testing

500-233054 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	o: 73410.1
Client Contact: Shipping/Receiving	Phone.	E-Mail: Sandra.Fredrick@et.eurofi	1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (S State Program - Wisconsin	500-233054-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/15/2023		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone. 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email	WO #:		
Project Name: T-3A SLUDGE	Project #: 50014849		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1677/9013A Cyanide, Available	Special Instructions/Note:
			Preservation Code:					
T-3A Sludge (500-233054-1)	4/27/23	13:30 Central		Solid			X	

Note: Since laboratory accreditations are subject to change, Eurofins Chicago places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Chicago laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Chicago attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Chicago.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Shin Scott	5/1/23 0830		L G Baer	5-2-23 10:30	EPHNE

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5/31/2023 8:06 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-208391 Chain of Custody

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 480-80337 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et.eurofinsus.com	State of Origin: Massachusetts
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - New York, State - Massachusetts	Page: Page 1 of 1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/11/2023		Job #: 480-208391-1
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Tnzma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-8 (480-208391-1)	4/26/23	16 10 Eastern		Water			X	2	
MW-2022-9 (480-208391-2)	4/27/23	11 30 Eastern		Water			X	2	
DUP-1 (480-208391-3)	4/27/23	Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time		Method of Shipment:	
Relinquished by:	Date/Time: 5-3-23 1800	Company: TAL	Received by:	Date/Time: 5/4/23 10:50	Company: TAL	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No :
	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

5/31/2023 8:06 PM

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-8
Lab Sample ID: 480-208391-1

Date Collected: 04/26/23 16:10
Matrix: Water

Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/01/23 18:22	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/01/23 18:22	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/01/23 18:22	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/01/23 18:22	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/01/23 18:22	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/01/23 18:22	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/01/23 18:22	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/01/23 18:22	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/01/23 18:22	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/01/23 18:22	1	
2-Butanone (MEK)	ND	*+	10	1.3	ug/L			05/01/23 18:22	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/01/23 18:22	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/01/23 18:22	1	R
2-Hexanone	ND	*+	5.0	1.2	ug/L			05/01/23 18:22	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/01/23 18:22	1	
4-Methyl-2-pentanone (MIBK)	ND	*+	5.0	2.1	ug/L			05/01/23 18:22	1	
Acetone	ND	*+	10	3.0	ug/L			05/01/23 18:22	1	
Acetonitrile	ND		15	4.9	ug/L			05/01/23 18:22	1	
Acrolein	ND		20	0.91	ug/L			05/01/23 18:22	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/01/23 18:22	1	
Benzene	ND		1.0	0.41	ug/L			05/01/23 18:22	1	
Bromoform	ND		1.0	0.26	ug/L			05/01/23 18:22	1	
Bromomethane	ND		1.0	0.69	ug/L			05/01/23 18:22	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/01/23 18:22	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/01/23 18:22	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/01/23 18:22	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/01/23 18:22	1	
Chloroethane	ND		1.0	0.32	ug/L			05/01/23 18:22	1	
Chloroform	ND		1.0	0.34	ug/L			05/01/23 18:22	1	
Chloromethane	ND		1.0	0.35	ug/L			05/01/23 18:22	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/01/23 18:22	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/01/23 18:22	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/01/23 18:22	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/01/23 18:22	1	
Ethyl methacrylate	ND	*+	1.0	0.59	ug/L			05/01/23 18:22	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/01/23 18:22	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/01/23 18:22	1	
Iodomethane	ND		1.0	0.30	ug/L			05/01/23 18:22	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/01/23 18:22	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/01/23 18:22	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/01/23 18:22	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/01/23 18:22	1	
o-Xylene	ND		1.0	0.76	ug/L			05/01/23 18:22	1	
Propionitrile	ND		10	5.8	ug/L			05/01/23 18:22	1	
Styrene	ND		1.0	0.73	ug/L			05/01/23 18:22	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/01/23 18:22	1	
Toluene	ND		1.0	0.51	ug/L			05/01/23 18:22	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/01/23 18:22	1	
trans-1,3-Dichloropropene	ND	*+	1.0	0.37	ug/L			05/01/23 18:22	1	

Client Sample ID: MW-2022-8
Lab Sample ID: 480-208391-1

Date Collected: 04/26/23 16:10
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/01/23 18:22	1
Trichloroethene	ND		1.0	0.46	ug/L			05/01/23 18:22	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/01/23 18:22	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/01/23 18:22	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/01/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*05/01/23 18:22*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*05/01/23 18:22*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*05/01/23 18:22*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/01/23 18:22*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,4-Dioxane	ND		10	1.1	ug/L		05/02/23 09:35	05/03/23 18:02	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/02/23 09:35	05/03/23 18:02	1
1-Naphthylamine	ND		10	1.3	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:02	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Naphthylamine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Nitroaniline	ND		10	0.42	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Picoline	ND		80	1.4	ug/L		05/02/23 09:35	05/03/23 18:02	1
2-Toluidine	ND		10	1.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:02	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
3,3'-Dimethylbenzidine	ND	~~*1 *~~	40	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
3-Methylphenol	ND		10	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
3-Nitroaniline	ND		10	0.48	ug/L		05/02/23 09:35	05/03/23 18:02	1

Client Sample ID: MW-2022-8
Date Collected: 04/26/23 16:10
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Methylphenol	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Nitroaniline	ND		10	0.25	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Nitrophenol	ND		10	1.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/02/23 09:35	05/03/23 18:02	1
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		05/02/23 09:35	05/03/23 18:02	1 R
Acenaphthene	ND		5.0	0.41	ug/L		05/02/23 09:35	05/03/23 18:02	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/02/23 09:35	05/03/23 18:02	1
Acetophenone	ND		5.0	0.54	ug/L		05/02/23 09:35	05/03/23 18:02	1
Aniline	ND		10	0.61	ug/L		05/02/23 09:35	05/03/23 18:02	1
Anthracene	ND		5.0	0.28	ug/L		05/02/23 09:35	05/03/23 18:02	1
Aramite, Total	ND		20	1.6	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzidine	ND	*1	80	2.2	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/02/23 09:35	05/03/23 18:02	1
Benzyl alcohol	ND		20	2.0	ug/L		05/02/23 09:35	05/03/23 18:02	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/02/23 09:35	05/03/23 18:02	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:02	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/02/23 09:35	05/03/23 18:02	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/02/23 09:35	05/03/23 18:02	1
Chrysene	ND		5.0	0.33	ug/L		05/02/23 09:35	05/03/23 18:02	1
Diallate	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/02/23 09:35	05/03/23 18:02	1
Dibenzofuran	ND		10	0.51	ug/L		05/02/23 09:35	05/03/23 18:02	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/02/23 09:35	05/03/23 18:02	1
Dimethoate	ND		10	0.54	ug/L		05/02/23 09:35	05/03/23 18:02	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:02	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/02/23 09:35	05/03/23 18:02	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:02	1
Dinoseb	ND		10	2.9	ug/L		05/02/23 09:35	05/03/23 18:02	1
Diphenylamine	ND		10	0.82	ug/L		05/02/23 09:35	05/03/23 18:02	1
Disulfoton	ND		10	0.42	ug/L		05/02/23 09:35	05/03/23 18:02	1
Chlorobenzilate	ND		20	0.67	ug/L		05/02/23 09:35	05/03/23 18:02	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/02/23 09:35	05/03/23 18:02	1
Famphur	ND	*-*1	40	1.9	ug/L		05/02/23 09:35	05/03/23 18:02	1
Fluoranthene	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:02	1
Fluorene	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:02	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:02	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/02/23 09:35	05/03/23 18:02	1

Client Sample ID: MW-2022-8
Date Collected: 04/26/23 16:10
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:02	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:02	1
Hexachloropropene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:02	1
Isodrin	ND		10	0.18	ug/L		05/02/23 09:35	05/03/23 18:02	1
Isophorone	ND		5.0	0.43	ug/L		05/02/23 09:35	05/03/23 18:02	1
Isosafrole	ND		10	0.58	ug/L		05/02/23 09:35	05/03/23 18:02	1
Kepone	ND		50	1.8	ug/L		05/02/23 09:35	05/03/23 18:02	1
Methapyrilene	ND	*1	50	1.8	ug/L		05/02/23 09:35	05/03/23 18:02	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
Naphthalene	ND		5.0	0.76	ug/L		05/02/23 09:35	05/03/23 18:02	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/02/23 09:35	05/03/23 18:02	1
Ethyl Parathion	ND		10	0.64	ug/L		05/02/23 09:35	05/03/23 18:02	1
Methyl parathion	ND		10	0.37	ug/L		05/02/23 09:35	05/03/23 18:02	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/02/23 09:35	05/03/23 18:02	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/02/23 09:35	05/03/23 18:02	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
Pentachlorophenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:02	1
Phenacetin	ND		10	0.61	ug/L		05/02/23 09:35	05/03/23 18:02	1
Phenanthrene	ND		5.0	0.44	ug/L		05/02/23 09:35	05/03/23 18:02	1
Phenol	ND		5.0	0.39	ug/L		05/02/23 09:35	05/03/23 18:02	1
Phorate	ND		10	0.50	ug/L		05/02/23 09:35	05/03/23 18:02	1
p-Phenylene diamine	ND	*-	800	200	ug/L		05/02/23 09:35	05/03/23 18:02	1 R
Pronamide	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:02	1
Pyrene	ND		5.0	0.34	ug/L		05/02/23 09:35	05/03/23 18:02	1
Pyridine	ND		25	0.41	ug/L		05/02/23 09:35	05/03/23 18:02	1
Safrole	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:02	1
Sulfotepp	ND		10	0.64	ug/L		05/02/23 09:35	05/03/23 18:02	1
Thionazin	ND		10	0.38	ug/L		05/02/23 09:35	05/03/23 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*64*		*41 - 120*	*05/02/23 09:35*	*05/03/23 18:02*	*1*
2-Fluorobiphenyl (Surr)	*80*		*48 - 120*	*05/02/23 09:35*	*05/03/23 18:02*	*1*
2-Fluorophenol (Surr)	*60*		*35 - 120*	*05/02/23 09:35*	*05/03/23 18:02*	*1*
Nitrobenzene-d5 (Surr)	*70*		*46 - 120*	*05/02/23 09:35*	*05/03/23 18:02*	*1*
Phenol-d5 (Surr)	*41*		*22 - 120*	*05/02/23 09:35*	*05/03/23 18:02*	*1*
p-Terphenyl-d14 (Surr)	*82*		*60 - 148*	*05/02/23 09:35*	*05/03/23 18:02*	*1*

Client Sample ID: MW-2022-8
Date Collected: 04/26/23 16:10
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/01/23 15:56	05/02/23 16:31	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 16:31	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 16:31	1
Aldrin	ND		0.050	0.0081	ug/L		05/01/23 15:56	05/02/23 16:31	1
alpha-BHC	~~0.022~~ ~~J B~~	0.050 U	0.050	0.0077	ug/L		05/01/23 15:56	05/02/23 16:31	1
beta-BHC	ND		0.050	0.025	ug/L		05/01/23 15:56	05/02/23 16:31	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/01/23 15:56	05/02/23 16:31	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/01/23 15:56	05/02/23 16:31	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/01/23 15:56	05/02/23 16:31	1
delta-BHC	**0.013**	**J**	0.050	0.010	ug/L		05/01/23 15:56	05/02/23 16:31	1
Dieldrin	ND		0.050	0.0098	ug/L		05/01/23 15:56	05/02/23 16:31	1
Endosulfan I	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 16:31	1
Endosulfan II	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 16:31	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/01/23 15:56	05/02/23 16:31	1
Endrin	ND		0.050	0.014	ug/L		05/01/23 15:56	05/02/23 16:31	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/01/23 15:56	05/02/23 16:31	1
Endrin ketone	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 16:31	1
gamma-BHC (Lindane)	~~0.021~~ ~~J B~~	0.050 U	0.050	0.0080	ug/L		05/01/23 15:56	05/02/23 16:31	1
Heptachlor	ND		0.050	0.0085	ug/L		05/01/23 15:56	05/02/23 16:31	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/01/23 15:56	05/02/23 16:31	1
Methoxychlor	ND		0.050	0.014	ug/L		05/01/23 15:56	05/02/23 16:31	1
Toxaphene	ND		0.50	0.12	ug/L		05/01/23 15:56	05/02/23 16:31	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*20 - 120*	*05/01/23 15:56*	*05/02/23 16:31*	*1*
DCB Decachlorobiphenyl	*63*		*20 - 120*	*05/01/23 15:56*	*05/02/23 16:31*	*1*
Tetrachloro-m-xylene	*88*		*44 - 120*	*05/01/23 15:56*	*05/02/23 16:31*	*1*
Tetrachloro-m-xylene	*84*		*44 - 120*	*05/01/23 15:56*	*05/02/23 16:31*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 09:54	1
PCB-1221	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 09:54	1
PCB-1232	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 09:54	1
PCB-1242	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 09:54	1
PCB-1248	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 09:54	1
PCB-1254	ND		0.50	0.25	ug/L		05/01/23 16:04	05/02/23 09:54	1
PCB-1260	ND		0.50	0.25	ug/L		05/01/23 16:04	05/02/23 09:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*39 - 121*	*05/01/23 16:04*	*05/02/23 09:54*	*1*
Tetrachloro-m-xylene	*59*		*39 - 121*	*05/01/23 16:04*	*05/02/23 09:54*	*1*
DCB Decachlorobiphenyl	*96*		*19 - 120*	*05/01/23 16:04*	*05/02/23 09:54*	*1*
DCB Decachlorobiphenyl	*76*		*19 - 120*	*05/01/23 16:04*	*05/02/23 09:54*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		05/03/23 09:25	05/04/23 16:24	1
2,4-D	ND		0.48	0.17	ug/L		05/03/23 09:25	05/04/23 16:24	1

Client Sample ID: MW-2022-8
Date Collected: 04/26/23 16:10
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		05/03/23 09:25	05/04/23 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*92*		*48 - 132*	*05/03/23 09:25*	*05/04/23 16:24*	*1*
2,4-Dichlorophenylacetic acid	*86*		*48 - 132*	*05/03/23 09:25*	*05/04/23 16:24*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		1.0	0.26	ug/L		05/03/23 00:30	05/04/23 04:42	1
Disulfoton	ND		1.0	0.41	ug/L		05/03/23 00:30	05/04/23 04:42	1
Famphur	ND		1.0	0.32	ug/L		05/03/23 00:30	05/04/23 04:42	1
Methyl parathion	ND		1.0	0.34	ug/L		05/03/23 00:30	05/04/23 04:42	1
Ethyl Parathion	ND		1.0	0.37	ug/L		05/03/23 00:30	05/04/23 04:42	1
Phorate	ND		1.0	0.38	ug/L		05/03/23 00:30	05/04/23 04:42	1
Sulfotepp	ND		1.0	0.40	ug/L		05/03/23 00:30	05/04/23 04:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*117*		*25 - 127*	*05/03/23 00:30*	*05/04/23 04:42*	*1*
Tributyl phosphate	*115*		*25 - 127*	*05/03/23 00:30*	*05/04/23 04:42*	*1*
Triphenylphosphate	*119*		*70 - 155*	*05/03/23 00:30*	*05/04/23 04:42*	*1*
Triphenylphosphate	*116*		*70 - 155*	*05/03/23 00:30*	*05/04/23 04:42*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		05/05/23 08:10	05/05/23 14:54	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		05/05/23 08:10	05/05/23 14:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		05/05/23 08:10	05/05/23 14:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.6	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorobutanesulfonic acid (PFBS)	**0.52**	**J**	1.6	0.51	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorobutanoic acid (PFBA)	**1.4**	**J**	4.1	0.99	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.38	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.34	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.44	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.53	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.76	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.70	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.62	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.56	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.53	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		05/05/23 08:10	05/05/23 14:54	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		05/05/23 08:10	05/05/23 14:54	1

Client Sample ID: MW-2022-8
Date Collected: 04/26/23 16:10
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	94		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C2 PFDoA	97		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C2 PFHxA	114		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C2 PFTeDA	94		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C2 PFUnA	100		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C3 PFBS	108		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C4 PFBA	118		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C4 PFHpA	106		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C4 PFOA	101		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C4 PFOS	106		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C5 PFNA	108		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C5 PFPeA	123		50 - 150	05/05/23 08:10	05/05/23 14:54	1
13C8 FOSA	116		50 - 150	05/05/23 08:10	05/05/23 14:54	1
18O2 PFHxS	122		50 - 150	05/05/23 08:10	05/05/23 14:54	1
d3-NMeFOSAA	102		50 - 150	05/05/23 08:10	05/05/23 14:54	1
d5-NEtFOSAA	104		50 - 150	05/05/23 08:10	05/05/23 14:54	1
M2-6:2 FTS	97		50 - 150	05/05/23 08:10	05/05/23 14:54	1
M2-8:2 FTS	102		50 - 150	05/05/23 08:10	05/05/23 14:54	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.84	~~J I~~ JNX	24	0.11	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,4,6,7,8-HpCDF	~~0.50~~	~~J B~~ 24 U	24	0.014	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,4,7,8,9-HpCDF	0.31	J	24	0.019	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,4,7,8-HxCDD	ND		24	0.012	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,4,7,8-HxCDF	0.37	~~J I~~ JNX	24	0.078	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,6,7,8-HxCDD	ND		24	0.013	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,6,7,8-HxCDF	ND		24	0.072	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,7,8,9-HxCDD	0.24	~~J I~~ JNX	24	0.012	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,7,8,9-HxCDF	ND		24	0.093	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,7,8-PeCDD	0.22	J	24	0.060	pg/L		05/23/23 09:37	05/26/23 19:46	1
1,2,3,7,8-PeCDF	0.34	~~J I~~ JNX	24	0.081	pg/L		05/23/23 09:37	05/26/23 19:46	1
2,3,4,6,7,8-HxCDF	ND		24	0.067	pg/L		05/23/23 09:37	05/26/23 19:46	1
2,3,4,7,8-PeCDF	ND		24	0.057	pg/L		05/23/23 09:37	05/26/23 19:46	1
2,3,7,8-TCDD	3.7	J	4.8	0.030	pg/L		05/23/23 09:37	05/26/23 19:46	1
2,3,7,8-TCDF	ND		4.8	0.017	pg/L		05/23/23 09:37	05/26/23 19:46	1
OCDD	~~2.5~~	~~J I B~~ 110 U	110	0.059	pg/L		05/23/23 09:37	05/26/23 19:46	1
OCDF	2.0	J	48	0.031	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total HpCDD	~~0.84~~	~~J I B~~ 24 U	24	0.11	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total HpCDF	1.1	J I B	24	0.016	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total HxCDD	1.7	J I B	24	0.012	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total HxCDF	0.37	J I B	24	0.077	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total PeCDD	1.3	~~J I~~ JNX	24	0.060	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total PeCDF	~~1.4~~	~~J I B~~ 24 U	24	0.069	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total TCDD	4.0	~~J I~~ JNX	4.8	0.030	pg/L		05/23/23 09:37	05/26/23 19:46	1
Total TCDF	1.2	~~J I~~ JNX	4.8	0.017	pg/L		05/23/23 09:37	05/26/23 19:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	90		40 - 135	05/23/23 09:37	05/26/23 19:46	1
13C-1,2,3,4,6,7,8-HpCDF	85		40 - 135	05/23/23 09:37	05/26/23 19:46	1
13C-1,2,3,4,7,8,9-HpCDF	88		40 - 135	05/23/23 09:37	05/26/23 19:46	1

Client Sample ID: MW-2022-8
Lab Sample ID: 480-208391-1
Date Collected: 04/26/23 16:10
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,4,7,8-HxCDF	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,6,7,8-HxCDF	*89*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,7,8,9-HxCDD	*84*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-2,3,4,7,8-PeCDF	*85*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-2,3,7,8-TCDD	*79*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-2,3,7,8-TCDF	*77*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-OCDD	*96*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*
13C-OCDF	*98*		*40 - 135*	*05/23/23 09:37*	*05/26/23 19:46*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/02/23 08:19	05/03/23 18:35	1
Arsenic	ND		0.015	0.0056	mg/L		05/02/23 08:19	05/03/23 18:35	1
Barium	**0.014**		0.0020	0.00070	mg/L		05/02/23 08:19	05/03/23 18:35	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/23 08:19	05/03/23 18:35	1
Cadmium	ND		0.0020	0.00050	mg/L		05/02/23 08:19	05/03/23 18:35	1
Chromium	**0.0011**	**J**	0.0040	0.0010	mg/L		05/02/23 08:19	05/03/23 18:35	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/23 08:19	05/03/23 18:35	1
Copper	ND		0.010	0.0016	mg/L		05/02/23 08:19	05/03/23 18:35	1
Lead	ND		0.010	0.0030	mg/L		05/02/23 08:19	05/03/23 18:35	1
Nickel	ND		0.010	0.0013	mg/L		05/02/23 08:19	05/03/23 18:35	1
Selenium	ND		0.025	0.0087	mg/L		05/02/23 08:19	05/03/23 18:35	1
Silver	ND		0.0060	0.0017	mg/L		05/02/23 08:19	05/03/23 18:35	1
Thallium	ND		0.020	0.010	mg/L		05/02/23 08:19	05/03/23 18:35	1
Tin	ND		0.010	0.0051	mg/L		05/02/23 08:19	05/03/23 18:35	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/23 08:19	05/03/23 18:35	1
Zinc	ND		0.010	0.0015	mg/L		05/02/23 08:19	05/03/23 18:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/02/23 10:29	05/02/23 14:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	**0.0042**	~~J H B ^2 F~~	J 0.010	0.0041	mg/L			05/11/23 15:09	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/02/23 12:57	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-208391-2
Date Collected: 04/27/23 11:30
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/01/23 18:45	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/01/23 18:45	1

Client Sample ID: MW-2022-9
Date Collected: 04/27/23 11:30
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/01/23 18:45	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/01/23 18:45	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/01/23 18:45	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/01/23 18:45	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/01/23 18:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/01/23 18:45	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/01/23 18:45	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/01/23 18:45	1
2-Butanone (MEK)	ND	*+	10	1.3	ug/L			05/01/23 18:45	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/01/23 18:45	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/01/23 18:45	1
2-Hexanone	ND	*+	5.0	1.2	ug/L			05/01/23 18:45	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/01/23 18:45	1
4-Methyl-2-pentanone (MIBK)	ND	*+	5.0	2.1	ug/L			05/01/23 18:45	1
Acetone	ND	*+	10	3.0	ug/L			05/01/23 18:45	1
Acetonitrile	ND		15	4.9	ug/L			05/01/23 18:45	1
Acrolein	ND		20	0.91	ug/L			05/01/23 18:45	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/01/23 18:45	1
Benzene	ND		1.0	0.41	ug/L			05/01/23 18:45	1
Bromoform	ND		1.0	0.26	ug/L			05/01/23 18:45	1
Bromomethane	ND		1.0	0.69	ug/L			05/01/23 18:45	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/01/23 18:45	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/01/23 18:45	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/01/23 18:45	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/01/23 18:45	1
Chloroethane	ND		1.0	0.32	ug/L			05/01/23 18:45	1
Chloroform	ND		1.0	0.34	ug/L			05/01/23 18:45	1
Chloromethane	ND		1.0	0.35	ug/L			05/01/23 18:45	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/01/23 18:45	1
Dibromomethane	ND		1.0	0.41	ug/L			05/01/23 18:45	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/01/23 18:45	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/01/23 18:45	1
Ethyl methacrylate	ND	*+	1.0	0.59	ug/L			05/01/23 18:45	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/01/23 18:45	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/01/23 18:45	1
Iodomethane	ND		1.0	0.30	ug/L			05/01/23 18:45	1
Methacrylonitrile	ND		5.0	0.69	ug/L			05/01/23 18:45	1
Methyl methacrylate	ND		1.0	0.61	ug/L			05/01/23 18:45	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/01/23 18:45	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/01/23 18:45	1
o-Xylene	ND		1.0	0.76	ug/L			05/01/23 18:45	1
Propionitrile	ND		10	5.8	ug/L			05/01/23 18:45	1
Styrene	ND		1.0	0.73	ug/L			05/01/23 18:45	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/01/23 18:45	1
Toluene	ND		1.0	0.51	ug/L			05/01/23 18:45	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/01/23 18:45	1
trans-1,3-Dichloropropene	ND	*+	1.0	0.37	ug/L			05/01/23 18:45	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/01/23 18:45	1
Trichloroethene	ND		1.0	0.46	ug/L			05/01/23 18:45	1

R

Client Sample ID: MW-2022-9
Lab Sample ID: 480-208391-2

Date Collected: 04/27/23 11:30
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/01/23 18:45	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/01/23 18:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/01/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*05/01/23 18:45*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*05/01/23 18:45*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*05/01/23 18:45*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/01/23 18:45*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,2,4-Trichlorobenzene	**0.60**	**J**	10	0.44	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,4-Dioxane	ND		10	1.1	ug/L		05/02/23 09:35	05/03/23 18:30	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/02/23 09:35	05/03/23 18:30	1
1-Naphthylamine	ND		10	1.3	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:30	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Naphthylamine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Nitroaniline	ND		10	0.42	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Picoline	ND		80	1.4	ug/L		05/02/23 09:35	05/03/23 18:30	1
2-Toluidine	ND		10	1.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:30	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1
3,3'-Dimethylbenzidine	ND	*1 *	40	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
3-Methylphenol	ND		10	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1
3-Nitroaniline	ND		10	0.48	ug/L		05/02/23 09:35	05/03/23 18:30	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:30	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/02/23 09:35	05/03/23 18:30	1

Client Sample ID: MW-2022-9
Date Collected: 04/27/23 11:30
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Methylphenol	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Nitroaniline	ND		10	0.25	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Nitrophenol	ND		10	1.5	ug/L		05/02/23 09:35	05/03/23 18:30	1	
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1	
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/02/23 09:35	05/03/23 18:30	1	
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		05/02/23 09:35	05/03/23 18:30	1	R
Acenaphthene	ND		5.0	0.41	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Acenaphthylene	ND		5.0	0.38	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Acetophenone	ND		5.0	0.54	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Aniline	ND		10	0.61	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Anthracene	ND		5.0	0.28	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Aramite, Total	ND		20	1.6	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzidine	ND	*1	80	2.2	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Benzyl alcohol	ND		20	2.0	ug/L		05/02/23 09:35	05/03/23 18:30	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Chrysene	ND		5.0	0.33	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Diallate	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Dibenzofuran	ND		10	0.51	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Dimethoate	ND		10	0.54	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Di-n-butyl phthalate	**0.54**	**J**	5.0	0.31	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Dinoseb	ND		10	2.9	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Diphenylamine	ND		10	0.82	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Disulfoton	ND		10	0.42	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Chlorobenzilate	ND		20	0.67	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Famphur	ND	*-*1	40	1.9	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Fluoranthene	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Fluorene	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:30	1	
Hexachloroethane	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:30	1	

Client Sample ID: MW-2022-9
Date Collected: 04/27/23 11:30
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:30	1
Isodrin	ND		10	0.18	ug/L		05/02/23 09:35	05/03/23 18:30	1
Isophorone	ND		5.0	0.43	ug/L		05/02/23 09:35	05/03/23 18:30	1
Isosafrole	ND		10	0.58	ug/L		05/02/23 09:35	05/03/23 18:30	1
Kepone	ND		50	1.8	ug/L		05/02/23 09:35	05/03/23 18:30	1
Methapyrilene	ND	*1	50	1.8	ug/L		05/02/23 09:35	05/03/23 18:30	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
Naphthalene	ND		5.0	0.76	ug/L		05/02/23 09:35	05/03/23 18:30	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/02/23 09:35	05/03/23 18:30	1
Ethyl Parathion	ND		10	0.64	ug/L		05/02/23 09:35	05/03/23 18:30	1
Methyl parathion	ND		10	0.37	ug/L		05/02/23 09:35	05/03/23 18:30	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/02/23 09:35	05/03/23 18:30	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/02/23 09:35	05/03/23 18:30	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
Pentachlorophenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:30	1
Phenacetin	ND		10	0.61	ug/L		05/02/23 09:35	05/03/23 18:30	1
Phenanthrene	ND		5.0	0.44	ug/L		05/02/23 09:35	05/03/23 18:30	1
Phenol	ND		5.0	0.39	ug/L		05/02/23 09:35	05/03/23 18:30	1
Phorate	ND		10	0.50	ug/L		05/02/23 09:35	05/03/23 18:30	1
p-Phenylene diamine	ND	*-	800	200	ug/L		05/02/23 09:35	05/03/23 18:30	1
Pronamide	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:30	1
Pyrene	ND		5.0	0.34	ug/L		05/02/23 09:35	05/03/23 18:30	1
Pyridine	ND		25	0.41	ug/L		05/02/23 09:35	05/03/23 18:30	1
Safrole	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:30	1
Sulfotepp	ND		10	0.64	ug/L		05/02/23 09:35	05/03/23 18:30	1
Thionazin	ND		10	0.38	ug/L		05/02/23 09:35	05/03/23 18:30	1

R

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*66*		*41 - 120*	*05/02/23 09:35*	*05/03/23 18:30*	*1*
2-Fluorobiphenyl (Surr)	*87*		*48 - 120*	*05/02/23 09:35*	*05/03/23 18:30*	*1*
2-Fluorophenol (Surr)	*61*		*35 - 120*	*05/02/23 09:35*	*05/03/23 18:30*	*1*
Nitrobenzene-d5 (Surr)	*76*		*46 - 120*	*05/02/23 09:35*	*05/03/23 18:30*	*1*
Phenol-d5 (Surr)	*42*		*22 - 120*	*05/02/23 09:35*	*05/03/23 18:30*	*1*
p-Terphenyl-d14 (Surr)	*82*		*60 - 148*	*05/02/23 09:35*	*05/03/23 18:30*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/01/23 15:56	05/02/23 16:50	1

Client Sample ID: MW-2022-9
Date Collected: 04/27/23 11:30
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 16:50	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 16:50	1
Aldrin	ND		0.050	0.0081	ug/L		05/01/23 15:56	05/02/23 16:50	1
alpha-BHC	~~0.012 J B~~ 0.050 U		0.050	0.0077	ug/L		05/01/23 15:56	05/02/23 16:50	1
beta-BHC	ND		0.050	0.025	ug/L		05/01/23 15:56	05/02/23 16:50	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/01/23 15:56	05/02/23 16:50	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/01/23 15:56	05/02/23 16:50	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/01/23 15:56	05/02/23 16:50	1
delta-BHC	**0.011**	**J**	0.050	0.010	ug/L		05/01/23 15:56	05/02/23 16:50	1
Dieldrin	ND		0.050	0.0098	ug/L		05/01/23 15:56	05/02/23 16:50	1
Endosulfan I	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 16:50	1
Endosulfan II	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 16:50	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/01/23 15:56	05/02/23 16:50	1
Endrin	ND		0.050	0.014	ug/L		05/01/23 15:56	05/02/23 16:50	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/01/23 15:56	05/02/23 16:50	1
Endrin ketone	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 16:50	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/01/23 15:56	05/02/23 16:50	1
Heptachlor	ND		0.050	0.0085	ug/L		05/01/23 15:56	05/02/23 16:50	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/01/23 15:56	05/02/23 16:50	1
Methoxychlor	ND		0.050	0.014	ug/L		05/01/23 15:56	05/02/23 16:50	1
Toxaphene	ND		0.50	0.12	ug/L		05/01/23 15:56	05/02/23 16:50	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*48*		*20 - 120*	*05/01/23 15:56*	*05/02/23 16:50*	*1*
DCB Decachlorobiphenyl	*52*		*20 - 120*	*05/01/23 15:56*	*05/02/23 16:50*	*1*
Tetrachloro-m-xylene	*89*		*44 - 120*	*05/01/23 15:56*	*05/02/23 16:50*	*1*
Tetrachloro-m-xylene	*80*		*44 - 120*	*05/01/23 15:56*	*05/02/23 16:50*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:08	1
PCB-1221	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:08	1
PCB-1232	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:08	1
PCB-1242	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:08	1
PCB-1248	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:08	1
PCB-1254	ND		0.50	0.25	ug/L		05/01/23 16:04	05/02/23 10:08	1
PCB-1260	ND		0.50	0.25	ug/L		05/01/23 16:04	05/02/23 10:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*64*		*39 - 121*	*05/01/23 16:04*	*05/02/23 10:08*	*1*
Tetrachloro-m-xylene	*50*		*39 - 121*	*05/01/23 16:04*	*05/02/23 10:08*	*1*
DCB Decachlorobiphenyl	*77*		*19 - 120*	*05/01/23 16:04*	*05/02/23 10:08*	*1*
DCB Decachlorobiphenyl	*61*		*19 - 120*	*05/01/23 16:04*	*05/02/23 10:08*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.50	0.067	ug/L		05/03/23 09:25	05/04/23 16:42	1
2,4-D	ND		0.50	0.17	ug/L		05/03/23 09:25	05/04/23 16:42	1
Silvex (2,4,5-TP)	ND		0.50	0.050	ug/L		05/03/23 09:25	05/04/23 16:42	1

Client Sample ID: MW-2022-9
Date Collected: 04/27/23 11:30
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	51		48 - 132	05/03/23 09:25	05/04/23 16:42	1
2,4-Dichlorophenylacetic acid	42	S1-	48 - 132	05/03/23 09:25	05/04/23 16:42	1

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.96	0.25	ug/L		05/03/23 00:30	05/04/23 05:14	1
Disulfoton	ND		0.96	0.39	ug/L		05/03/23 00:30	05/04/23 05:14	1
Famphur	ND		0.96	0.31	ug/L		05/03/23 00:30	05/04/23 05:14	1
Methyl parathion	ND		0.96	0.33	ug/L		05/03/23 00:30	05/04/23 05:14	1
Ethyl Parathion	ND		0.96	0.35	ug/L		05/03/23 00:30	05/04/23 05:14	1
Phorate	ND		0.96	0.37	ug/L		05/03/23 00:30	05/04/23 05:14	1
Sulfotepp	ND		0.96	0.39	ug/L		05/03/23 00:30	05/04/23 05:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	117		25 - 127	05/03/23 00:30	05/04/23 05:14	1
Tributyl phosphate	115		25 - 127	05/03/23 00:30	05/04/23 05:14	1
Triphenylphosphate	118		70 - 155	05/03/23 00:30	05/04/23 05:14	1
Triphenylphosphate	116		70 - 155	05/03/23 00:30	05/04/23 05:14	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.65	ng/L		05/05/23 08:10	05/05/23 15:02	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		05/05/23 08:10	05/05/23 15:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.3	ng/L		05/05/23 08:10	05/05/23 15:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorobutanesulfonic acid (PFBS)	**2.8**		1.7	0.52	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorobutanoic acid (PFBA)	**9.7**		4.2	1.0	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.34	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluoroheptanoic acid (PFHpA)	**88**		1.7	0.45	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorohexanesulfonic acid (PFHxS)	**0.61**	**J**	1.7	0.46	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorohexanoic acid (PFHxA)	**26**		1.7	0.55	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorononanoic acid (PFNA)	**0.88**	**J**	1.7	0.41	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.77	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.71	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorooctanoic acid (PFOA)	**65**		1.7	0.64	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluoropentanoic acid (PFPeA)	**15**		1.7	0.57	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.54	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.40	ng/L		05/05/23 08:10	05/05/23 15:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		05/05/23 08:10	05/05/23 15:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	104		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C2 PFDoA	97		50 - 150	05/05/23 08:10	05/05/23 15:02	1

Client Sample ID: MW-2022-9
Date Collected: 04/27/23 11:30
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	107		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C2 PFTeDA	91		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C2 PFUnA	96		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C3 PFBS	111		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C4 PFBA	109		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C4 PFHpA	105		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C4 PFOA	103		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C4 PFOS	107		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C5 PFNA	101		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C5 PFPeA	116		50 - 150	05/05/23 08:10	05/05/23 15:02	1
13C8 FOSA	100		50 - 150	05/05/23 08:10	05/05/23 15:02	1
18O2 PFHxS	103		50 - 150	05/05/23 08:10	05/05/23 15:02	1
d3-NMeFOSAA	90		50 - 150	05/05/23 08:10	05/05/23 15:02	1
d5-NEtFOSAA	95		50 - 150	05/05/23 08:10	05/05/23 15:02	1
M2-6:2 FTS	97		50 - 150	05/05/23 08:10	05/05/23 15:02	1
M2-8:2 FTS	95		50 - 150	05/05/23 08:10	05/05/23 15:02	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.68	~~J+~~ JNX	27	0.068	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,4,6,7,8-HpCDF	~~0.60~~	~~J+B~~ 27 U	27	0.014	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,4,7,8,9-HpCDF	0.51	~~J+~~ JNX	27	0.020	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,4,7,8-HxCDD	ND		27	0.019	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,4,7,8-HxCDF	ND		27	0.075	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,6,7,8-HxCDD	ND		27	0.019	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,6,7,8-HxCDF	ND		27	0.069	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,7,8,9-HxCDD	ND		27	0.019	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,7,8,9-HxCDF	ND		27	0.089	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,7,8-PeCDD	ND		27	0.028	pg/L		05/23/23 09:37	05/26/23 20:34	1
1,2,3,7,8-PeCDF	0.16	J	27	0.031	pg/L		05/23/23 09:37	05/26/23 20:34	1
2,3,4,6,7,8-HxCDF	ND		27	0.062	pg/L		05/23/23 09:37	05/26/23 20:34	1
2,3,4,7,8-PeCDF	ND		27	0.021	pg/L		05/23/23 09:37	05/26/23 20:34	1
2,3,7,8-TCDD	ND		5.4	0.025	pg/L		05/23/23 09:37	05/26/23 20:34	1
2,3,7,8-TCDF	ND		5.4	0.019	pg/L		05/23/23 09:37	05/26/23 20:34	1
OCDD	~~1.8~~	~~J+B~~ 120 U	120	0.050	pg/L		05/23/23 09:37	05/26/23 20:34	1
OCDF	2.8	~~J+~~ JNX	54	0.039	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total HpCDD	~~0.60~~	~~J+B~~ 27 U	27	0.068	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total HpCDF	~~1.4~~	~~J+B~~ 27 U	27	0.017	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total HxCDD	~~1.6~~	~~J+B~~ 27 U	27	0.019	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total HxCDF	ND		27	0.089	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total PeCDD	0.55	~~J+~~ JNX	27	0.028	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total PeCDF	~~0.61~~	~~J+B~~ 27 U	27	0.026	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total TCDD	0.32	~~J+~~ JNX	5.4	0.025	pg/L		05/23/23 09:37	05/26/23 20:34	1
Total TCDF	0.87	~~J+~~ JNX	5.4	0.019	pg/L		05/23/23 09:37	05/26/23 20:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	90		40 - 135	05/23/23 09:37	05/26/23 20:34	1
13C-1,2,3,4,6,7,8-HpCDF	85		40 - 135	05/23/23 09:37	05/26/23 20:34	1
13C-1,2,3,4,7,8,9-HpCDF	87		40 - 135	05/23/23 09:37	05/26/23 20:34	1
13C-1,2,3,4,7,8-HxCDD	76		40 - 135	05/23/23 09:37	05/26/23 20:34	1

Client Sample ID: MW-2022-9
Lab Sample ID: 480-208391-2
Date Collected: 04/27/23 11:30
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDF	*76*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-1,2,3,6,7,8-HxCDF	*85*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-1,2,3,7,8,9-HxCDD	*81*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-1,2,3,7,8,9-HxCDF	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-2,3,4,7,8-PeCDF	*87*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-2,3,7,8-TCDF	*76*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-OCDD	*95*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*
13C-OCDF	*96*		*40 - 135*	*05/23/23 09:37*	*05/26/23 20:34*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/02/23 08:19	05/03/23 18:39	1
Arsenic	ND		0.015	0.0056	mg/L		05/02/23 08:19	05/03/23 18:39	1
Barium	**0.0087**		0.0020	0.00070	mg/L		05/02/23 08:19	05/03/23 18:39	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/23 08:19	05/03/23 18:39	1
Cadmium	ND		0.0020	0.00050	mg/L		05/02/23 08:19	05/03/23 18:39	1
Chromium	ND		0.0040	0.0010	mg/L		05/02/23 08:19	05/03/23 18:39	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/23 08:19	05/03/23 18:39	1
Copper	ND		0.010	0.0016	mg/L		05/02/23 08:19	05/03/23 18:39	1
Lead	ND		0.010	0.0030	mg/L		05/02/23 08:19	05/03/23 18:39	1
Nickel	ND		0.010	0.0013	mg/L		05/02/23 08:19	05/03/23 18:39	1
Selenium	ND		0.025	0.0087	mg/L		05/02/23 08:19	05/03/23 18:39	1
Silver	ND		0.0060	0.0017	mg/L		05/02/23 08:19	05/03/23 18:39	1
Thallium	ND		0.020	0.010	mg/L		05/02/23 08:19	05/03/23 18:39	1
Tin	ND		0.010	0.0051	mg/L		05/02/23 08:19	05/03/23 18:39	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/23 08:19	05/03/23 18:39	1
Zinc	ND		0.010	0.0015	mg/L		05/02/23 08:19	05/03/23 18:39	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/02/23 10:29	05/02/23 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/11/23 15:17	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/03/23 09:50	1

Client Sample ID: DUP-1
Lab Sample ID: 480-208391-3
Date Collected: 04/27/23 00:00
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/01/23 19:08	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/01/23 19:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/01/23 19:08	1

Client Sample ID: DUP-1
Lab Sample ID: 480-208391-3

Date Collected: 04/27/23 00:00
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/01/23 19:08	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/01/23 19:08	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/01/23 19:08	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/01/23 19:08	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/01/23 19:08	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/01/23 19:08	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/01/23 19:08	1	
2-Butanone (MEK)	ND	*+	10	1.3	ug/L			05/01/23 19:08	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/01/23 19:08	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/01/23 19:08	1	R
2-Hexanone	ND	*+	5.0	1.2	ug/L			05/01/23 19:08	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/01/23 19:08	1	
4-Methyl-2-pentanone (MIBK)	ND	*+	5.0	2.1	ug/L			05/01/23 19:08	1	
Acetone	ND	*+	10	3.0	ug/L			05/01/23 19:08	1	
Acetonitrile	ND		15	4.9	ug/L			05/01/23 19:08	1	
Acrolein	ND		20	0.91	ug/L			05/01/23 19:08	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/01/23 19:08	1	
Benzene	ND		1.0	0.41	ug/L			05/01/23 19:08	1	
Bromoform	ND		1.0	0.26	ug/L			05/01/23 19:08	1	
Bromomethane	ND		1.0	0.69	ug/L			05/01/23 19:08	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/01/23 19:08	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/01/23 19:08	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/01/23 19:08	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/01/23 19:08	1	
Chloroethane	ND		1.0	0.32	ug/L			05/01/23 19:08	1	
Chloroform	ND		1.0	0.34	ug/L			05/01/23 19:08	1	
Chloromethane	ND		1.0	0.35	ug/L			05/01/23 19:08	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/01/23 19:08	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/01/23 19:08	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/01/23 19:08	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/01/23 19:08	1	
Ethyl methacrylate	ND	*+	1.0	0.59	ug/L			05/01/23 19:08	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/01/23 19:08	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/01/23 19:08	1	
Iodomethane	ND		1.0	0.30	ug/L			05/01/23 19:08	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/01/23 19:08	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/01/23 19:08	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/01/23 19:08	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/01/23 19:08	1	
o-Xylene	ND		1.0	0.76	ug/L			05/01/23 19:08	1	
Propionitrile	ND		10	5.8	ug/L			05/01/23 19:08	1	
Styrene	ND		1.0	0.73	ug/L			05/01/23 19:08	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/01/23 19:08	1	
Toluene	ND		1.0	0.51	ug/L			05/01/23 19:08	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/01/23 19:08	1	
trans-1,3-Dichloropropene	ND	*+	1.0	0.37	ug/L			05/01/23 19:08	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/01/23 19:08	1	
Trichloroethene	ND		1.0	0.46	ug/L			05/01/23 19:08	1	
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/01/23 19:08	1	

Client Sample ID: DUP-1
Date Collected: 04/27/23 00:00
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-3
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		5.0	0.85	ug/L			05/01/23 19:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/01/23 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*77 - 120*		*05/01/23 19:08*	*1*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*05/01/23 19:08*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*05/01/23 19:08*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/01/23 19:08*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,4-Dioxane	ND		10	1.1	ug/L		05/02/23 09:35	05/03/23 18:58	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/02/23 09:35	05/03/23 18:58	1
1-Naphthylamine	ND		10	1.3	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:58	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Naphthylamine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Nitroaniline	ND		10	0.42	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Picoline	ND		80	1.4	ug/L		05/02/23 09:35	05/03/23 18:58	1
2-Toluidine	ND		10	1.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:58	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
3,3'-Dimethylbenzidine	ND	*1 *-	40	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
3-Methylphenol	ND		10	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
3-Nitroaniline	ND		10	0.48	ug/L		05/02/23 09:35	05/03/23 18:58	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:58	1

Client Sample ID: DUP-1
Date Collected: 04/27/23 00:00
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-3
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Methylphenol	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Nitroaniline	ND		10	0.25	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Nitrophenol	ND		10	1.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/02/23 09:35	05/03/23 18:58	1
a,a-Dimethylphenethylamine	ND	*	100	40	ug/L		05/02/23 09:35	05/03/23 18:58	1 R
Acenaphthene	ND		5.0	0.41	ug/L		05/02/23 09:35	05/03/23 18:58	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/02/23 09:35	05/03/23 18:58	1
Acetophenone	ND		5.0	0.54	ug/L		05/02/23 09:35	05/03/23 18:58	1
Aniline	ND		10	0.61	ug/L		05/02/23 09:35	05/03/23 18:58	1
Anthracene	ND		5.0	0.28	ug/L		05/02/23 09:35	05/03/23 18:58	1
Aramite, Total	ND		20	1.6	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzidine	ND	*1	80	2.2	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/02/23 09:35	05/03/23 18:58	1
Benzyl alcohol	ND		20	2.0	ug/L		05/02/23 09:35	05/03/23 18:58	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/02/23 09:35	05/03/23 18:58	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/02/23 09:35	05/03/23 18:58	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/02/23 09:35	05/03/23 18:58	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/02/23 09:35	05/03/23 18:58	1
Chrysene	ND		5.0	0.33	ug/L		05/02/23 09:35	05/03/23 18:58	1
Diallate	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/02/23 09:35	05/03/23 18:58	1
Dibenzofuran	ND		10	0.51	ug/L		05/02/23 09:35	05/03/23 18:58	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/02/23 09:35	05/03/23 18:58	1
Dimethoate	ND		10	0.54	ug/L		05/02/23 09:35	05/03/23 18:58	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:58	1
Di-n-butyl phthalate	**0.64**	**J**	5.0	0.31	ug/L		05/02/23 09:35	05/03/23 18:58	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:58	1
Dinoseb	ND		10	2.9	ug/L		05/02/23 09:35	05/03/23 18:58	1
Diphenylamine	ND		10	0.82	ug/L		05/02/23 09:35	05/03/23 18:58	1
Disulfoton	ND		10	0.42	ug/L		05/02/23 09:35	05/03/23 18:58	1
Chlorobenzilate	ND		20	0.67	ug/L		05/02/23 09:35	05/03/23 18:58	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/02/23 09:35	05/03/23 18:58	1
Famphur	ND	*- *1	40	1.9	ug/L		05/02/23 09:35	05/03/23 18:58	1
Fluoranthene	ND		5.0	0.40	ug/L		05/02/23 09:35	05/03/23 18:58	1
Fluorene	ND		5.0	0.36	ug/L		05/02/23 09:35	05/03/23 18:58	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:58	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/02/23 09:35	05/03/23 18:58	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:58	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/02/23 09:35	05/03/23 18:58	1
Hexachloropropene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1

Client Sample ID: DUP-1
Date Collected: 04/27/23 00:00
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-3
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/02/23 09:35	05/03/23 18:58	1
Isodrin	ND		10	0.18	ug/L		05/02/23 09:35	05/03/23 18:58	1
Isophorone	ND		5.0	0.43	ug/L		05/02/23 09:35	05/03/23 18:58	1
Isosafrole	ND		10	0.58	ug/L		05/02/23 09:35	05/03/23 18:58	1
Kepone	ND		50	1.8	ug/L		05/02/23 09:35	05/03/23 18:58	1
Methapyrilene	ND	*1	50	1.8	ug/L		05/02/23 09:35	05/03/23 18:58	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
Naphthalene	ND		5.0	0.76	ug/L		05/02/23 09:35	05/03/23 18:58	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/02/23 09:35	05/03/23 18:58	1
Ethyl Parathion	ND		10	0.64	ug/L		05/02/23 09:35	05/03/23 18:58	1
Methyl parathion	ND		10	0.37	ug/L		05/02/23 09:35	05/03/23 18:58	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/02/23 09:35	05/03/23 18:58	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/02/23 09:35	05/03/23 18:58	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
Pentachlorophenol	ND		10	2.2	ug/L		05/02/23 09:35	05/03/23 18:58	1
Phenacetin	ND		10	0.61	ug/L		05/02/23 09:35	05/03/23 18:58	1
Phenanthrene	ND		5.0	0.44	ug/L		05/02/23 09:35	05/03/23 18:58	1
Phenol	ND		5.0	0.39	ug/L		05/02/23 09:35	05/03/23 18:58	1
Phorate	ND		10	0.50	ug/L		05/02/23 09:35	05/03/23 18:58	1
p-Phenylene diamine	ND	*	800	200	ug/L		05/02/23 09:35	05/03/23 18:58	1 R
Pronamide	ND		10	2.5	ug/L		05/02/23 09:35	05/03/23 18:58	1
Pyrene	ND		5.0	0.34	ug/L		05/02/23 09:35	05/03/23 18:58	1
Pyridine	ND		25	0.41	ug/L		05/02/23 09:35	05/03/23 18:58	1
Safrole	ND		10	0.46	ug/L		05/02/23 09:35	05/03/23 18:58	1
Sulfotepp	ND		10	0.64	ug/L		05/02/23 09:35	05/03/23 18:58	1
Thionazin	ND		10	0.38	ug/L		05/02/23 09:35	05/03/23 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*41 - 120*	*05/02/23 09:35*	*05/03/23 18:58*	*1*
2-Fluorobiphenyl (Surr)	*94*		*48 - 120*	*05/02/23 09:35*	*05/03/23 18:58*	*1*
2-Fluorophenol (Surr)	*66*		*35 - 120*	*05/02/23 09:35*	*05/03/23 18:58*	*1*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*	*05/02/23 09:35*	*05/03/23 18:58*	*1*
Phenol-d5 (Surr)	*45*		*22 - 120*	*05/02/23 09:35*	*05/03/23 18:58*	*1*
p-Terphenyl-d14 (Surr)	*87*		*60 - 148*	*05/02/23 09:35*	*05/03/23 18:58*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/01/23 15:56	05/02/23 17:10	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 17:10	1

Client Sample ID: DUP-1
Date Collected: 04/27/23 00:00
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-3
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 17:10	1
Aldrin	ND		0.050	0.0081	ug/L		05/01/23 15:56	05/02/23 17:10	1
alpha-BHC	~~0.011~~ ~~J B~~ 0.050 U		0.050	0.0077	ug/L		05/01/23 15:56	05/02/23 17:10	1
beta-BHC	ND		0.050	0.025	ug/L		05/01/23 15:56	05/02/23 17:10	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/01/23 15:56	05/02/23 17:10	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/01/23 15:56	05/02/23 17:10	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/01/23 15:56	05/02/23 17:10	1
delta-BHC	**0.010** **J**		0.050	0.010	ug/L		05/01/23 15:56	05/02/23 17:10	1
Dieldrin	ND		0.050	0.0098	ug/L		05/01/23 15:56	05/02/23 17:10	1
Endosulfan I	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 17:10	1
Endosulfan II	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 17:10	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/01/23 15:56	05/02/23 17:10	1
Endrin	ND		0.050	0.014	ug/L		05/01/23 15:56	05/02/23 17:10	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/01/23 15:56	05/02/23 17:10	1
Endrin ketone	ND		0.050	0.012	ug/L		05/01/23 15:56	05/02/23 17:10	1
gamma-BHC (Lindane)	~~0.011~~ ~~J B~~ 0.050 U		0.050	0.0080	ug/L		05/01/23 15:56	05/02/23 17:10	1
Heptachlor	ND		0.050	0.0085	ug/L		05/01/23 15:56	05/02/23 17:10	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/01/23 15:56	05/02/23 17:10	1
Methoxychlor	ND		0.050	0.014	ug/L		05/01/23 15:56	05/02/23 17:10	1
Toxaphene	ND		0.50	0.12	ug/L		05/01/23 15:56	05/02/23 17:10	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/01/23 15:56	05/02/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*57*		*20 - 120*	*05/01/23 15:56*	*05/02/23 17:10*	*1*
DCB Decachlorobiphenyl	*67*		*20 - 120*	*05/01/23 15:56*	*05/02/23 17:10*	*1*
Tetrachloro-m-xylene	*106*		*44 - 120*	*05/01/23 15:56*	*05/02/23 17:10*	*1*
Tetrachloro-m-xylene	*95*		*44 - 120*	*05/01/23 15:56*	*05/02/23 17:10*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:22	1
PCB-1221	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:22	1
PCB-1232	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:22	1
PCB-1242	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:22	1
PCB-1248	ND		0.50	0.18	ug/L		05/01/23 16:04	05/02/23 10:22	1
PCB-1254	ND		0.50	0.25	ug/L		05/01/23 16:04	05/02/23 10:22	1
PCB-1260	ND		0.50	0.25	ug/L		05/01/23 16:04	05/02/23 10:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*39 - 121*	*05/01/23 16:04*	*05/02/23 10:22*	*1*
Tetrachloro-m-xylene	*56*		*39 - 121*	*05/01/23 16:04*	*05/02/23 10:22*	*1*
DCB Decachlorobiphenyl	*78*		*19 - 120*	*05/01/23 16:04*	*05/02/23 10:22*	*1*
DCB Decachlorobiphenyl	*63*		*19 - 120*	*05/01/23 16:04*	*05/02/23 10:22*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.50	0.067	ug/L		05/03/23 09:25	05/04/23 17:01	1
2,4-D	ND		0.50	0.17	ug/L		05/03/23 09:25	05/04/23 17:01	1
Silvex (2,4,5-TP)	ND		0.50	0.050	ug/L		05/03/23 09:25	05/04/23 17:01	1

Client Sample ID: DUP-1
Date Collected: 04/27/23 00:00
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	*90*		*48 - 132*	*05/03/23 09:25*	*05/04/23 17:01*	*1*
2,4-Dichlorophenylacetic acid	*82*		*48 - 132*	*05/03/23 09:25*	*05/04/23 17:01*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.96	0.25	ug/L		05/03/23 00:30	05/04/23 05:45	1
Disulfoton	ND		0.96	0.39	ug/L		05/03/23 00:30	05/04/23 05:45	1
Famphur	ND		0.96	0.31	ug/L		05/03/23 00:30	05/04/23 05:45	1
Methyl parathion	ND		0.96	0.33	ug/L		05/03/23 00:30	05/04/23 05:45	1
Ethyl Parathion	ND		0.96	0.35	ug/L		05/03/23 00:30	05/04/23 05:45	1
Phorate	ND		0.96	0.37	ug/L		05/03/23 00:30	05/04/23 05:45	1
Sulfotepp	ND		0.96	0.39	ug/L		05/03/23 00:30	05/04/23 05:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*119*		*25 - 127*	*05/03/23 00:30*	*05/04/23 05:45*	*1*
Tributyl phosphate	*118*		*25 - 127*	*05/03/23 00:30*	*05/04/23 05:45*	*1*
Triphenylphosphate	*123*		*70 - 155*	*05/03/23 00:30*	*05/04/23 05:45*	*1*
Triphenylphosphate	*119*		*70 - 155*	*05/03/23 00:30*	*05/04/23 05:45*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.65	ng/L		05/05/23 08:10	05/05/23 15:10	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		05/05/23 08:10	05/05/23 15:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.3	ng/L		05/05/23 08:10	05/05/23 15:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.7	0.52	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorobutanoic acid (PFBA)	**11**		4.2	1.0	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.35	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluoroheptanoic acid (PFHpA)	**97**		1.7	0.45	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorohexanesulfonic acid (PFHxS)	**0.64**	**J**	1.7	0.46	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorohexanoic acid (PFHxA)	**24**		1.7	0.55	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorononanoic acid (PFNA)	**0.92**	**J**	1.7	0.41	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.77	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.72	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorooctanoic acid (PFOA)	**64**		1.7	0.64	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluoropentanoic acid (PFPeA)	**16**		1.7	0.57	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.54	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.40	ng/L		05/05/23 08:10	05/05/23 15:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		05/05/23 08:10	05/05/23 15:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	*105*		*50 - 150*	*05/05/23 08:10*	*05/05/23 15:10*	*1*
13C2 PFDoA	*99*		*50 - 150*	*05/05/23 08:10*	*05/05/23 15:10*	*1*

Client Sample ID: DUP-1
Date Collected: 04/27/23 00:00
Date Received: 04/29/23 10:00

Lab Sample ID: 480-208391-3
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	122		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C2 PFTeDA	100		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C2 PFUnA	99		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C3 PFBS	118		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C4 PFBA	117		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C4 PFHpA	110		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C4 PFOA	116		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C4 PFOS	114		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C5 PFNA	108		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C5 PFPeA	126		50 - 150	05/05/23 08:10	05/05/23 15:10	1
13C8 FOSA	106		50 - 150	05/05/23 08:10	05/05/23 15:10	1
18O2 PFHxS	112		50 - 150	05/05/23 08:10	05/05/23 15:10	1
d3-NMeFOSAA	95		50 - 150	05/05/23 08:10	05/05/23 15:10	1
d5-NEtFOSAA	97		50 - 150	05/05/23 08:10	05/05/23 15:10	1
M2-6:2 FTS	104		50 - 150	05/05/23 08:10	05/05/23 15:10	1
M2-8:2 FTS	104		50 - 150	05/05/23 08:10	05/05/23 15:10	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.77	J	25	0.079	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,4,6,7,8-HpCDF	~~0.67~~	~~J I B~~ 25 U	25	0.015	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,4,7,8,9-HpCDF	0.23	~~J I~~ JNX	25	0.021	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,4,7,8-HxCDD	~~0.29~~	~~J I B~~ 25 U	25	0.030	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,4,7,8-HxCDF	0.54	~~J I~~ JNX	25	0.064	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,6,7,8-HxCDD	ND		25	0.029	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,6,7,8-HxCDF	0.26	~~J I~~ JNX	25	0.062	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,7,8,9-HxCDD	ND		25	0.029	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,7,8,9-HxCDF	ND		25	0.078	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,7,8-PeCDD	0.11	J	25	0.029	pg/L		05/23/23 09:37	05/26/23 21:23	1
1,2,3,7,8-PeCDF	0.58	J	25	0.031	pg/L		05/23/23 09:37	05/26/23 21:23	1
2,3,4,6,7,8-HxCDF	0.32	J I JNX	25	0.056	pg/L		05/23/23 09:37	05/26/23 21:23	1
2,3,4,7,8-PeCDF	0.13	J I	25	0.022	pg/L		05/23/23 09:37	05/26/23 21:23	1
2,3,7,8-TCDD	0.11	J I	5.0	0.025	pg/L		05/23/23 09:37	05/26/23 21:23	1
2,3,7,8-TCDF	0.24	J I	5.0	0.018	pg/L		05/23/23 09:37	05/26/23 21:23	1
OCDD	~~1.6~~	~~J I B~~ 25 U	110	0.076	pg/L		05/23/23 09:37	05/26/23 21:23	1
OCDF	2.3	J	50	0.048	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total HpCDD	1.3	J I B 25 U	25	0.079	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total HpCDF	1.1	J I B	25	0.018	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total HxCDD	1.6	J I B	25	0.029	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total HxCDF	1.4	J I B	25	0.065	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total PeCDD	0.64	~~J I~~ JNX	25	0.029	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total PeCDF	~~0.99~~	~~J I B~~ 25 U	25	0.027	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total TCDD	0.24	~~J I~~ JNX	5.0	0.025	pg/L		05/23/23 09:37	05/26/23 21:23	1
Total TCDF	0.35	~~J I~~ JNX	5.0	0.018	pg/L		05/23/23 09:37	05/26/23 21:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	92		40 - 135	05/23/23 09:37	05/26/23 21:23	1
13C-1,2,3,4,6,7,8-HpCDF	85		40 - 135	05/23/23 09:37	05/26/23 21:23	1
13C-1,2,3,4,7,8,9-HpCDF	91		40 - 135	05/23/23 09:37	05/26/23 21:23	1
13C-1,2,3,4,7,8-HxCDD	78		40 - 135	05/23/23 09:37	05/26/23 21:23	1

Client Sample ID: DUP-1
Lab Sample ID: 480-208391-3
Date Collected: 04/27/23 00:00
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-1,2,3,6,7,8-HxCDF	*90*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-1,2,3,7,8,9-HxCDD	*86*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-1,2,3,7,8,9-HxCDF	*85*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-2,3,7,8-TCDD	*82*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-2,3,7,8-TCDF	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-OCDD	*103*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*
13C-OCDF	*104*		*40 - 135*	*05/23/23 09:37*	*05/26/23 21:23*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/02/23 08:19	05/03/23 18:43	1
Arsenic	ND		0.015	0.0056	mg/L		05/02/23 08:19	05/03/23 18:43	1
Barium	**0.0086**		0.0020	0.00070	mg/L		05/02/23 08:19	05/03/23 18:43	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/23 08:19	05/03/23 18:43	1
Cadmium	ND		0.0020	0.00050	mg/L		05/02/23 08:19	05/03/23 18:43	1
Chromium	ND		0.0040	0.0010	mg/L		05/02/23 08:19	05/03/23 18:43	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/23 08:19	05/03/23 18:43	1
Copper	ND		0.010	0.0016	mg/L		05/02/23 08:19	05/03/23 18:43	1
Lead	ND		0.010	0.0030	mg/L		05/02/23 08:19	05/03/23 18:43	1
Nickel	ND		0.010	0.0013	mg/L		05/02/23 08:19	05/03/23 18:43	1
Selenium	ND		0.025	0.0087	mg/L		05/02/23 08:19	05/03/23 18:43	1
Silver	ND		0.0060	0.0017	mg/L		05/02/23 08:19	05/03/23 18:43	1
Thallium	ND		0.020	0.010	mg/L		05/02/23 08:19	05/03/23 18:43	1
Tin	ND		0.010	0.0051	mg/L		05/02/23 08:19	05/03/23 18:43	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/23 08:19	05/03/23 18:43	1
Zinc	ND		0.010	0.0015	mg/L		05/02/23 08:19	05/03/23 18:43	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/02/23 10:29	05/02/23 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/11/23 15:20	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/03/23 09:50	1

Client Sample ID: TRIP BLANK 042723
Lab Sample ID: 480-208391-4
Date Collected: 04/27/23 00:00
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/01/23 19:31	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/01/23 19:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/01/23 19:31	1

Client Sample ID: TRIP BLANK 042723
Lab Sample ID: 480-208391-4

Date Collected: 04/27/23 00:00
Matrix: Water

Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/01/23 19:31	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/01/23 19:31	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/01/23 19:31	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/01/23 19:31	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/01/23 19:31	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/01/23 19:31	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/01/23 19:31	1	
2-Butanone (MEK)	ND	*+	10	1.3	ug/L			05/01/23 19:31	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/01/23 19:31	1	
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~05/01/23 19:31~~	~~1~~	R
2-Hexanone	ND	*+	5.0	1.2	ug/L			05/01/23 19:31	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/01/23 19:31	1	
4-Methyl-2-pentanone (MIBK)	ND	*+	5.0	2.1	ug/L			05/01/23 19:31	1	
Acetone	ND	*+	10	3.0	ug/L			05/01/23 19:31	1	
Acetonitrile	ND		15	4.9	ug/L			05/01/23 19:31	1	
Acrolein	ND		20	0.91	ug/L			05/01/23 19:31	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/01/23 19:31	1	
Benzene	ND		1.0	0.41	ug/L			05/01/23 19:31	1	
Bromoform	ND		1.0	0.26	ug/L			05/01/23 19:31	1	
Bromomethane	ND		1.0	0.69	ug/L			05/01/23 19:31	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/01/23 19:31	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/01/23 19:31	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/01/23 19:31	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/01/23 19:31	1	
Chloroethane	ND		1.0	0.32	ug/L			05/01/23 19:31	1	
Chloroform	ND		1.0	0.34	ug/L			05/01/23 19:31	1	
Chloromethane	ND		1.0	0.35	ug/L			05/01/23 19:31	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/01/23 19:31	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/01/23 19:31	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/01/23 19:31	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/01/23 19:31	1	
Ethyl methacrylate	ND	*+	1.0	0.59	ug/L			05/01/23 19:31	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/01/23 19:31	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/01/23 19:31	1	
Iodomethane	ND		1.0	0.30	ug/L			05/01/23 19:31	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/01/23 19:31	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/01/23 19:31	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/01/23 19:31	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/01/23 19:31	1	
o-Xylene	ND		1.0	0.76	ug/L			05/01/23 19:31	1	
Propionitrile	ND		10	5.8	ug/L			05/01/23 19:31	1	
Styrene	ND		1.0	0.73	ug/L			05/01/23 19:31	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/01/23 19:31	1	
Toluene	ND		1.0	0.51	ug/L			05/01/23 19:31	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/01/23 19:31	1	
trans-1,3-Dichloropropene	ND	*+	1.0	0.37	ug/L			05/01/23 19:31	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/01/23 19:31	1	
Trichloroethene	ND		1.0	0.46	ug/L			05/01/23 19:31	1	
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/01/23 19:31	1	

Client: ARCADIS U.S. Inc
Job ID: 480-208391-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK 042723
Lab Sample ID: 480-208391-4
Date Collected: 04/27/23 00:00
Matrix: Water
Date Received: 04/29/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		5.0	0.85	ug/L			05/01/23 19:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/01/23 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*77 - 120*		*05/01/23 19:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*05/01/23 19:31*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*05/01/23 19:31*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/01/23 19:31*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-208460-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50617R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 Blank Contamination 9
2.3 System Performance and Overall Assessment 9
2.4 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 10
3.1 Holding Times 10
3.2 Calibration 10
3.2.1 Continuing Calibration 10
3.3 Laboratory Control Sample Analysis 11
3.4 System Performance and Overall Assessment 12
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 14
5.2 Blank Contamination 14
5.3 System Performance and Overall Assessment 15
5.4 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 16
6.2 Blank Contamination 16
6.3 Compound Identification 17
6.4 System Performance and Overall Assessment 17
6.5 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 17
7.1 Holding Times 18

7.2 System Performance and Overall Assessment 18
7.3 Data Validation Checklist 18
8 Metals Analyses 18
8.1 Holding Times 18
8.2 System Performance and Overall Assessment 19
8.3 Data Validation Checklist 19
9 General Chemistry Analyses 19
9.1 Holding Times 19
9.2 Blank Contamination 20
9.3 System Performance and Overall Assessment 20
9.4 Data Validation Checklist for General Chemistry 20
10 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 10
Table 6. Summary of Compounds Outside Specified Calibration Control Limits 10
Table 7. Continuing Calibration Evaluation Criteria and Qualifications 11
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 9. Laboratory Control Sample Recovery Criteria and Qualifications 12
Table 10. Holding Time for Method SW-846 8082A 13
Table 11. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 12. Summary of Holding Time Exceedances 14
Table 13. Summary of Holding Time Qualifications 14
Table 14. Summary of Blank Contamination Qualifications 15
Table 15. Holding Time for Method SW-846 8290A 16
Table 16. Summary of Blank Contamination Qualifications 16
Table 17. Holding Time for Method 537 18
Table 18. Holding Time for Method SW-846 6010C/7470A 19
Table 19. Specified Holding Times 20

Table 20. Overall Summary of Data Usability 21

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208460-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-4D	480-208460-1	Water	04/28/2023		X	X	X	X	X	X	X
TRIP BLANK 042823	480-208460-2	Water	04/28/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	1	0	0	0	2
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
OPC	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
PFAS	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Acetone was detected in the associated trip blank-TRIP BLANK 042823; however, the associated sample results were non-detect. No qualification of the sample results was required.

2.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.4 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.2.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 6. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-4D	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0081
		Kepone	0.0010
	CCV %D	Kepone	-97.0%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 7. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-4D	Prep Batch: 668062	Kepone	<10%
		p-Phenylene diamine	

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		
Continuing calibration %Ds		X	X		

Notes:
%R Percent recovery
%D Percent difference

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

The analyses that exceeded the holding are presented in the following table.

Table 12. Summary of Holding Time Exceedances

Sample ID	Holding Time	Criteria
MW-2022-4D	The sample extracted on 11th day from collection	7 days from collection to extraction

Sample results associated with sample locations analyzed by analytical method SW-846 8141B were qualified, as specified in the table below. All other holding times were met.

Table 13. Summary of Holding Time Qualifications

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 14. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2022-4D	SW-846 8081B	4,4'-DDT (MB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Method blank
RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 16. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-4D	1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) OCDD (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 17. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 19. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 669203 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 20. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	96.3%	2
SVOCs	97.6%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 31, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 1, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Thom McClenahan	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48021970			
Site:	SSOW#: 30150026.3000			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers
Preservation Code:							N	N	N	N	N	D	A	N	CB	B	N	
MW-2022-4D	4/28/23	1210	G	Water			x	x	x	x	x	x	x	x	x	x	x	20
TripBlank 042823	4/28/23	X	G	Water									x					2

TM 4.28.23

TM 4.28.23

TM 4.29.23

480-208460 Chain of Custody

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Special Instructions/Note:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5-1-23 1010	ARCADIS		5-1-23 1010	EET
2		5-1-23 1500	EET			
3					5/2/23 1000	TMB

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.1 #1 ICE

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

4141 892

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	Carrier Tracking No(s)	COC No: 480-80324 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP - New York, State - Massachusetts		Job #: 480-208460-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/15/2023			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4D (480-208460-1)	4/28/23	12:10 Eastern		Water			X	2	

480-208460 Chain of Custody

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	5-3-23 1800	TAB	[signature]	5-3-23 09:40	EMW
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

6/7/2023 4:58 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing

480-208460 Chain of Custody

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier No: 480-80369 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et.eurofinsus com	State of Origin: Massachusetts
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York; State - Massachusetts	Page: Page 1 of 1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/15/2023		Job #: 480-208460-1
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4D (480-208460-1)	4/28/23	12.10 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 5-4-23 1300	Company: TAL	Received by:	Date/Time: 5/5/23 10:35	Company: TAL	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No..
	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

6/7/2023 4:58 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80316.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208460-1
Address: 2425 New Holland Pike,	Due Date Requested: 5/15/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4D (480-208460-1)	4/28/23	12:10 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		5-3-23 1800				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
					5/4/23 1000	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		0.0

MB

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-208460-1

Date Collected: 04/28/23 12:10
Matrix: Water

Date Received: 05/02/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/04/23 14:54	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/04/23 14:54	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/04/23 14:54	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/04/23 14:54	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/04/23 14:54	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/04/23 14:54	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/04/23 14:54	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/04/23 14:54	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/04/23 14:54	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/04/23 14:54	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/04/23 14:54	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/04/23 14:54	1	
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~05/04/23 14:54~~	~~1~~	R
2-Hexanone	ND		5.0	1.2	ug/L			05/04/23 14:54	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/04/23 14:54	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/04/23 14:54	1	
Acetone	ND		10	3.0	ug/L			05/04/23 14:54	1	
Acetonitrile	ND		15	4.9	ug/L			05/04/23 14:54	1	
Acrolein	ND		20	0.91	ug/L			05/04/23 14:54	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/04/23 14:54	1	
Benzene	ND		1.0	0.41	ug/L			05/04/23 14:54	1	
Bromoform	ND		1.0	0.26	ug/L			05/04/23 14:54	1	
Bromomethane	ND		1.0	0.69	ug/L			05/04/23 14:54	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/04/23 14:54	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/04/23 14:54	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/04/23 14:54	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/04/23 14:54	1	
Chloroethane	ND		1.0	0.32	ug/L			05/04/23 14:54	1	
Chloroform	ND		1.0	0.34	ug/L			05/04/23 14:54	1	
Chloromethane	ND		1.0	0.35	ug/L			05/04/23 14:54	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/04/23 14:54	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/04/23 14:54	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/04/23 14:54	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/04/23 14:54	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/04/23 14:54	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/04/23 14:54	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/04/23 14:54	1	
Iodomethane	ND		1.0	0.30	ug/L			05/04/23 14:54	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/04/23 14:54	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/04/23 14:54	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/04/23 14:54	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/04/23 14:54	1	
o-Xylene	ND		1.0	0.76	ug/L			05/04/23 14:54	1	
Propionitrile	ND		10	5.8	ug/L			05/04/23 14:54	1	
Styrene	ND		1.0	0.73	ug/L			05/04/23 14:54	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/04/23 14:54	1	
Toluene	ND		1.0	0.51	ug/L			05/04/23 14:54	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/04/23 14:54	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/04/23 14:54	1	

Client Sample ID: MW-2022-4D
Date Collected: 04/28/23 12:10
Date Received: 05/02/23 10:00

Lab Sample ID: 480-208460-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/04/23 14:54	1
Trichloroethene	ND		1.0	0.46	ug/L			05/04/23 14:54	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/04/23 14:54	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/04/23 14:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/04/23 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*77 - 120*		*05/04/23 14:54*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*05/04/23 14:54*	*1*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*05/04/23 14:54*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*05/04/23 14:54*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,4-Dioxane	ND		10	1.1	ug/L		05/03/23 15:18	05/05/23 09:19	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/03/23 15:18	05/05/23 09:19	1
1-Naphthylamine	ND		10	1.3	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/03/23 15:18	05/05/23 09:19	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Naphthylamine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Nitroaniline	ND		10	0.42	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Picoline	ND		80	1.4	ug/L		05/03/23 15:18	05/05/23 09:19	1
2-Toluidine	ND		10	1.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/03/23 15:18	05/05/23 09:19	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
3-Methylphenol	ND		10	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
3-Nitroaniline	ND		10	0.48	ug/L		05/03/23 15:18	05/05/23 09:19	1

Client Sample ID: MW-2022-4D
Date Collected: 04/28/23 12:10
Date Received: 05/02/23 10:00

Lab Sample ID: 480-208460-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Methylphenol	ND		10	0.36	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Nitroaniline	ND		10	0.25	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Nitrophenol	ND		10	1.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1 R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/03/23 15:18	05/05/23 09:19	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		05/03/23 15:18	05/05/23 09:19	1
Acenaphthene	ND		5.0	0.41	ug/L		05/03/23 15:18	05/05/23 09:19	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/03/23 15:18	05/05/23 09:19	1
Acetophenone	ND		5.0	0.54	ug/L		05/03/23 15:18	05/05/23 09:19	1
Aniline	ND		10	0.61	ug/L		05/03/23 15:18	05/05/23 09:19	1
Anthracene	ND		5.0	0.28	ug/L		05/03/23 15:18	05/05/23 09:19	1
Aramite, Total	ND		20	1.6	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzidine	ND		80	2.2	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/03/23 15:18	05/05/23 09:19	1
Benzyl alcohol	ND		20	2.0	ug/L		05/03/23 15:18	05/05/23 09:19	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/03/23 15:18	05/05/23 09:19	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/03/23 15:18	05/05/23 09:19	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/03/23 15:18	05/05/23 09:19	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/03/23 15:18	05/05/23 09:19	1
Chrysene	ND		5.0	0.33	ug/L		05/03/23 15:18	05/05/23 09:19	1
Diallate	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/03/23 15:18	05/05/23 09:19	1
Dibenzofuran	ND		10	0.51	ug/L		05/03/23 15:18	05/05/23 09:19	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/03/23 15:18	05/05/23 09:19	1
Dimethoate	ND		10	0.54	ug/L		05/03/23 15:18	05/05/23 09:19	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/03/23 15:18	05/05/23 09:19	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/03/23 15:18	05/05/23 09:19	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/03/23 15:18	05/05/23 09:19	1
Dinoseb	ND		10	2.9	ug/L		05/03/23 15:18	05/05/23 09:19	1
Diphenylamine	ND		10	0.82	ug/L		05/03/23 15:18	05/05/23 09:19	1
Disulfoton	ND		10	0.42	ug/L		05/03/23 15:18	05/05/23 09:19	1
Chlorobenzilate	ND		20	0.67	ug/L		05/03/23 15:18	05/05/23 09:19	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/03/23 15:18	05/05/23 09:19	1
Famphur	ND	*	40	1.9	ug/L		05/03/23 15:18	05/05/23 09:19	1
Fluoranthene	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 09:19	1
Fluorene	ND		5.0	0.36	ug/L		05/03/23 15:18	05/05/23 09:19	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/03/23 15:18	05/05/23 09:19	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/03/23 15:18	05/05/23 09:19	1

Client Sample ID: MW-2022-4D
Date Collected: 04/28/23 12:10
Date Received: 05/02/23 10:00

Lab Sample ID: 480-208460-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Hexachloroethane	ND		5.0	0.59	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Hexachloropropene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Isodrin	ND		10	0.18	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Isophorone	ND		5.0	0.43	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Isosafrole	ND		10	0.58	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Kepone	ND	*	50	1.8	ug/L		05/03/23 15:18	05/05/23 09:19	1	R
Methapyrilene	ND		50	1.8	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Methyl methanesulfonate	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Naphthalene	ND		5.0	0.76	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Nitrobenzene	ND		5.0	0.29	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Ethyl Parathion	ND		10	0.64	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Methyl parathion	ND		10	0.37	ug/L		05/03/23 15:18	05/05/23 09:19	1	
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Pentachlorobenzene	ND		10	0.53	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Pentachlorophenol	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Phenacetin	ND		10	0.61	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Phenanthrene	ND		5.0	0.44	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Phenol	ND		5.0	0.39	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Phorate	ND		10	0.50	ug/L		05/03/23 15:18	05/05/23 09:19	1	
p-Phenylene diamine	ND	*-	800	200	ug/L		05/03/23 15:18	05/05/23 09:19	1	R
Pronamide	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Pyrene	ND		5.0	0.34	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Pyridine	ND		25	0.41	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Safrole	ND		10	0.46	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Sulfotepp	ND		10	0.64	ug/L		05/03/23 15:18	05/05/23 09:19	1	
Thionazin	ND		10	0.38	ug/L		05/03/23 15:18	05/05/23 09:19	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*69*		*41 - 120*	*05/03/23 15:18*	*05/05/23 09:19*	*1*
2-Fluorobiphenyl (Surr)	*79*		*48 - 120*	*05/03/23 15:18*	*05/05/23 09:19*	*1*
2-Fluorophenol (Surr)	*54*		*35 - 120*	*05/03/23 15:18*	*05/05/23 09:19*	*1*
Nitrobenzene-d5 (Surr)	*71*		*46 - 120*	*05/03/23 15:18*	*05/05/23 09:19*	*1*
Phenol-d5 (Surr)	*37*		*22 - 120*	*05/03/23 15:18*	*05/05/23 09:19*	*1*
p-Terphenyl-d14 (Surr)	*91*		*60 - 148*	*05/03/23 15:18*	*05/05/23 09:19*	*1*

Client Sample ID: MW-2022-4D
Date Collected: 04/28/23 12:10
Date Received: 05/02/23 10:00

Lab Sample ID: 480-208460-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/02/23 16:09	05/03/23 15:29	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/02/23 16:09	05/03/23 15:29	1
4,4'-DDT	~~0.020~~ ~~J B~~	0.050 U	0.050	0.011	ug/L		05/02/23 16:09	05/03/23 15:29	1
Aldrin	ND		0.050	0.0081	ug/L		05/02/23 16:09	05/03/23 15:29	1
alpha-BHC	**0.18**	~~*1~~	0.050	0.0077	ug/L		05/02/23 16:09	05/03/23 15:29	1
beta-BHC	**0.087**		0.050	0.025	ug/L		05/02/23 16:09	05/03/23 15:29	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/02/23 16:09	05/03/23 15:29	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/02/23 16:09	05/03/23 15:29	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/02/23 16:09	05/03/23 15:29	1
delta-BHC	ND		0.050	0.010	ug/L		05/02/23 16:09	05/03/23 15:29	1
Dieldrin	ND		0.050	0.0098	ug/L		05/02/23 16:09	05/03/23 15:29	1
Endosulfan I	ND		0.050	0.011	ug/L		05/02/23 16:09	05/03/23 15:29	1
Endosulfan II	ND		0.050	0.012	ug/L		05/02/23 16:09	05/03/23 15:29	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/02/23 16:09	05/03/23 15:29	1
Endrin	ND		0.050	0.014	ug/L		05/02/23 16:09	05/03/23 15:29	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/02/23 16:09	05/03/23 15:29	1
Endrin ketone	ND		0.050	0.012	ug/L		05/02/23 16:09	05/03/23 15:29	1
gamma-BHC (Lindane)	**0.11**	~~B *1~~	0.050	0.0080	ug/L		05/02/23 16:09	05/03/23 15:29	1
Heptachlor	ND		0.050	0.0085	ug/L		05/02/23 16:09	05/03/23 15:29	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/02/23 16:09	05/03/23 15:29	1
Methoxychlor	ND		0.050	0.014	ug/L		05/02/23 16:09	05/03/23 15:29	1
Toxaphene	ND		0.50	0.12	ug/L		05/02/23 16:09	05/03/23 15:29	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/02/23 16:09	05/03/23 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*20 - 120*	*05/02/23 16:09*	*05/03/23 15:29*	*1*
DCB Decachlorobiphenyl	*76*		*20 - 120*	*05/02/23 16:09*	*05/03/23 15:29*	*1*
Tetrachloro-m-xylene	*64*		*44 - 120*	*05/02/23 16:09*	*05/03/23 15:29*	*1*
Tetrachloro-m-xylene	*59*		*44 - 120*	*05/02/23 16:09*	*05/03/23 15:29*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.52	0.18	ug/L		05/04/23 07:01	05/04/23 16:48	1
PCB-1221	ND		0.52	0.18	ug/L		05/04/23 07:01	05/04/23 16:48	1
PCB-1232	ND		0.52	0.18	ug/L		05/04/23 07:01	05/04/23 16:48	1
PCB-1242	ND		0.52	0.18	ug/L		05/04/23 07:01	05/04/23 16:48	1
PCB-1248	ND		0.52	0.18	ug/L		05/04/23 07:01	05/04/23 16:48	1
PCB-1254	ND		0.52	0.26	ug/L		05/04/23 07:01	05/04/23 16:48	1
PCB-1260	ND		0.52	0.26	ug/L		05/04/23 07:01	05/04/23 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*39 - 121*	*05/04/23 07:01*	*05/04/23 16:48*	*1*
Tetrachloro-m-xylene	*56*		*39 - 121*	*05/04/23 07:01*	*05/04/23 16:48*	*1*
DCB Decachlorobiphenyl	*77*		*19 - 120*	*05/04/23 07:01*	*05/04/23 16:48*	*1*
DCB Decachlorobiphenyl	*66*		*19 - 120*	*05/04/23 07:01*	*05/04/23 16:48*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		05/03/23 09:25	05/04/23 17:38	1
2,4-D	ND		0.48	0.16	ug/L		05/03/23 09:25	05/04/23 17:38	1

Client Sample ID: MW-2022-4D
Date Collected: 04/28/23 12:10
Date Received: 05/02/23 10:00

Lab Sample ID: 480-208460-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		05/03/23 09:25	05/04/23 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*94*		*48 - 132*	*05/03/23 09:25*	*05/04/23 17:38*	*1*
2,4-Dichlorophenylacetic acid	*82*		*48 - 132*	*05/03/23 09:25*	*05/04/23 17:38*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	H	0.96	0.25	ug/L		05/09/23 01:30	05/12/23 09:17	1
Disulfoton	ND	H	0.96	0.39	ug/L		05/09/23 01:30	05/12/23 09:17	1
Famphur	ND	H	0.96	0.31	ug/L		05/09/23 01:30	05/12/23 09:17	1
Methyl parathion	ND	H	0.96	0.33	ug/L		05/09/23 01:30	05/12/23 09:17	1
Ethyl Parathion	ND	H	0.96	0.35	ug/L		05/09/23 01:30	05/12/23 09:17	1
Phorate	ND	H	0.96	0.37	ug/L		05/09/23 01:30	05/12/23 09:17	1
Sulfotepp	ND	H	0.96	0.39	ug/L		05/09/23 01:30	05/12/23 09:17	1

UJ

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*113*		*25 - 127*	*05/09/23 01:30*	*05/12/23 09:17*	*1*
Tributyl phosphate	*112*		*25 - 127*	*05/09/23 01:30*	*05/12/23 09:17*	*1*
Triphenylphosphate	*130*		*70 - 155*	*05/09/23 01:30*	*05/12/23 09:17*	*1*
Triphenylphosphate	*125*		*70 - 155*	*05/09/23 01:30*	*05/12/23 09:17*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.8	0.69	ng/L		05/08/23 08:43	05/08/23 19:17	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.5	1.2	ng/L		05/08/23 08:43	05/08/23 19:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.4	ng/L		05/08/23 08:43	05/08/23 19:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.7	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.56	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorobutanoic acid (PFBA)	ND		4.5	1.1	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.36	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.41	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.37	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.48	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.49	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.58	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.44	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.82	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**	**J**	1.8	0.76	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.68	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.61	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.57	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.43	ng/L		05/08/23 08:43	05/08/23 19:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.49	ng/L		05/08/23 08:43	05/08/23 19:17	1

Client Sample ID: MW-2022-4D
Date Collected: 04/28/23 12:10
Date Received: 05/02/23 10:00

Lab Sample ID: 480-208460-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	95		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C2 PFDoA	92		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C2 PFHxA	105		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C2 PFTeDA	91		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C2 PFUnA	98		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C3 PFBS	103		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C4 PFBA	110		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C4 PFHpA	103		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C4 PFOA	106		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C4 PFOS	97		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C5 PFNA	103		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C5 PFPeA	103		50 - 150	05/08/23 08:43	05/08/23 19:17	1
13C8 FOSA	96		50 - 150	05/08/23 08:43	05/08/23 19:17	1
18O2 PFHxS	97		50 - 150	05/08/23 08:43	05/08/23 19:17	1
d3-NMeFOSAA	90		50 - 150	05/08/23 08:43	05/08/23 19:17	1
d5-NEtFOSAA	93		50 - 150	05/08/23 08:43	05/08/23 19:17	1
M2-6:2 FTS	90		50 - 150	05/08/23 08:43	05/08/23 19:17	1
M2-8:2 FTS	100		50 - 150	05/08/23 08:43	05/08/23 19:17	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.82	~~J I~~ JNX	25	0.089	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,4,6,7,8-HpCDF	~~0.36~~ ~~J B~~ 25 U		25	0.0064	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,4,7,8,9-HpCDF	0.38	~~J I~~ JNX	25	0.0084	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,4,7,8-HxCDD	~~0.15~~ ~~J I B~~ 25 U		25	0.0099	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,4,7,8-HxCDF	ND		25	0.098	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,6,7,8-HxCDD	ND		25	0.0097	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,6,7,8-HxCDF	ND		25	0.090	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,7,8,9-HxCDD	0.068	J I JNX	25	0.010	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,7,8,9-HxCDF	0.23	J I JNX	25	0.11	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,7,8-PeCDD	ND		25	0.022	pg/L		05/23/23 09:37	05/26/23 22:11	1
1,2,3,7,8-PeCDF	0.16	J I JNX	25	0.017	pg/L		05/23/23 09:37	05/26/23 22:11	1
2,3,4,6,7,8-HxCDF	0.20	J I JNX	25	0.085	pg/L		05/23/23 09:37	05/26/23 22:11	1
2,3,4,7,8-PeCDF	0.19	J I JNX	25	0.011	pg/L		05/23/23 09:37	05/26/23 22:11	1
2,3,7,8-TCDD	ND		4.9	0.024	pg/L		05/23/23 09:37	05/26/23 22:11	1
2,3,7,8-TCDF	0.13	~~J I~~ JNX	4.9	0.020	pg/L		05/23/23 09:37	05/26/23 22:11	1
OCDD	~~1.5~~ ~~J I B~~ 110 U		110	0.052	pg/L		05/23/23 09:37	05/26/23 22:11	1
OCDF	1.8	J	49	0.011	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total HpCDD	0.82	J I B 25 U	25	0.089	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total HpCDF	1.1	J I B	25	0.0074	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total HxCDD	1.3	J I B	25	0.010	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total HxCDF	0.42	J I B	25	0.096	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total PeCDD	0.64	~~J I~~ JNX	25	0.022	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total PeCDF	~~0.83~~ ~~J I B~~ 25 U		25	0.014	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total TCDD	ND		4.9	0.54	pg/L		05/23/23 09:37	05/26/23 22:11	1
Total TCDF	0.56	~~J I~~ JNX	4.9	0.020	pg/L		05/23/23 09:37	05/26/23 22:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	90		40 - 135	05/23/23 09:37	05/26/23 22:11	1
13C-1,2,3,4,6,7,8-HpCDF	84		40 - 135	05/23/23 09:37	05/26/23 22:11	1
13C-1,2,3,4,7,8,9-HpCDF	89		40 - 135	05/23/23 09:37	05/26/23 22:11	1

Client Sample ID: MW-2022-4D
Lab Sample ID: 480-208460-1

Date Collected: 04/28/23 12:10
Matrix: Water
Date Received: 05/02/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*86*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,7,8,9-HxCDD	*80*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,7,8-PeCDD	*82*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-2,3,7,8-TCDD	*80*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-OCDD	*97*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*
13C-OCDF	*98*		*40 - 135*	*05/23/23 09:37*	*05/26/23 22:11*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/04/23 08:42	05/05/23 01:40	1
Arsenic	ND		0.015	0.0056	mg/L		05/04/23 08:42	05/05/23 01:40	1
Barium	**0.0071**		0.0020	0.00070	mg/L		05/04/23 08:42	05/05/23 01:40	1
Beryllium	ND		0.0020	0.00030	mg/L		05/04/23 08:42	05/05/23 01:40	1
Cadmium	ND		0.0020	0.00050	mg/L		05/04/23 08:42	05/05/23 01:40	1
Chromium	ND		0.0040	0.0010	mg/L		05/04/23 08:42	05/05/23 01:40	1
Cobalt	ND		0.0040	0.00063	mg/L		05/04/23 08:42	05/05/23 01:40	1
Copper	ND		0.010	0.0016	mg/L		05/04/23 08:42	05/05/23 01:40	1
Lead	ND		0.010	0.0030	mg/L		05/04/23 08:42	05/05/23 01:40	1
Nickel	ND		0.010	0.0013	mg/L		05/04/23 08:42	05/05/23 01:40	1
Selenium	ND		0.025	0.0087	mg/L		05/04/23 08:42	05/05/23 01:40	1
Silver	ND		0.0060	0.0017	mg/L		05/04/23 08:42	05/05/23 01:40	1
Thallium	ND		0.020	0.010	mg/L		05/04/23 08:42	05/05/23 01:40	1
Tin	ND		0.010	0.0051	mg/L		05/04/23 08:42	05/05/23 01:40	1
Vanadium	ND		0.0050	0.0015	mg/L		05/04/23 08:42	05/05/23 01:40	1
Zinc	ND		0.010	0.0015	mg/L		05/04/23 08:42	05/05/23 01:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/03/23 10:55	05/03/23 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/11/23 16:00	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/03/23 09:50	1

Client Sample ID: TRIP BLANK 042823
Lab Sample ID: 480-208460-2

Date Collected: 04/28/23 00:00
Matrix: Water
Date Received: 05/02/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/04/23 15:17	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/04/23 15:17	1

Client Sample ID: TRIP BLANK 042823
Lab Sample ID: 480-208460-2

Date Collected: 04/28/23 00:00
Matrix: Water
Date Received: 05/02/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/04/23 15:17	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/04/23 15:17	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/04/23 15:17	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/04/23 15:17	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/04/23 15:17	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/04/23 15:17	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/04/23 15:17	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/04/23 15:17	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/04/23 15:17	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/04/23 15:17	1	
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~05/04/23 15:17~~	~~1~~	R
2-Hexanone	ND		5.0	1.2	ug/L			05/04/23 15:17	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/04/23 15:17	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/04/23 15:17	1	
Acetone	**3.2**	**J**	10	3.0	ug/L			05/04/23 15:17	1	
Acetonitrile	ND		15	4.9	ug/L			05/04/23 15:17	1	
Acrolein	ND		20	0.91	ug/L			05/04/23 15:17	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/04/23 15:17	1	
Benzene	ND		1.0	0.41	ug/L			05/04/23 15:17	1	
Bromoform	ND		1.0	0.26	ug/L			05/04/23 15:17	1	
Bromomethane	ND		1.0	0.69	ug/L			05/04/23 15:17	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/04/23 15:17	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/04/23 15:17	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/04/23 15:17	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/04/23 15:17	1	
Chloroethane	ND		1.0	0.32	ug/L			05/04/23 15:17	1	
Chloroform	ND		1.0	0.34	ug/L			05/04/23 15:17	1	
Chloromethane	ND		1.0	0.35	ug/L			05/04/23 15:17	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/04/23 15:17	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/04/23 15:17	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/04/23 15:17	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/04/23 15:17	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/04/23 15:17	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/04/23 15:17	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/04/23 15:17	1	
Iodomethane	ND		1.0	0.30	ug/L			05/04/23 15:17	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/04/23 15:17	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/04/23 15:17	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/04/23 15:17	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/04/23 15:17	1	
o-Xylene	ND		1.0	0.76	ug/L			05/04/23 15:17	1	
Propionitrile	ND		10	5.8	ug/L			05/04/23 15:17	1	
Styrene	ND		1.0	0.73	ug/L			05/04/23 15:17	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/04/23 15:17	1	
Toluene	ND		1.0	0.51	ug/L			05/04/23 15:17	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/04/23 15:17	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/04/23 15:17	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/04/23 15:17	1	
Trichloroethene	ND		1.0	0.46	ug/L			05/04/23 15:17	1	

Client: ARCADIS U.S. Inc
Job ID: 480-208460-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK 042823
Lab Sample ID: 480-208460-2
Date Collected: 04/28/23 00:00
Matrix: Water
Date Received: 05/02/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/04/23 15:17	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/04/23 15:17	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/04/23 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*05/04/23 15:17*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*05/04/23 15:17*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*05/04/23 15:17*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/04/23 15:17*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans, Metals, and Miscellaneous Analyses

SDG # 480-208517-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50545R
Review Level: Tier I/II
Project: 30181915 Task 0003

Contents

1 Summary 8
1.1 Analytical Data Package Documentation 8
1.2 Data Validation Procedures 9
2 Volatile Organic Compound Analyses 11
2.1 Holding Times 11
2.2 Blank Contamination 12
2.3 Mass Spectrometer Tuning 12
2.4 Calibration 12
2.4.1 Initial Calibration 12
2.4.2 Continuing Calibration 12
2.5 Surrogates/System Monitoring Compounds 13
2.6 Internal Standard Performance 13
2.7 Matrix Spike/Matrix Spike Duplicate Analysis 13
2.8 Laboratory Control Sample Analysis 13
2.9 Field Duplicate Analysis 13
2.10 Compound Identification 14
2.11 System Performance and Overall Assessment 14
2.12 Data Validation Checklist 14
3 Semi-volatile Organic Compound Analyses 16
3.1 Holding Times 16
3.2 Blank Contamination 16
3.3 Mass Spectrometer Tuning 16
3.4 Calibration 16
3.4.1 Initial Calibration 16
3.4.2 Continuing Calibration 17
3.5 Surrogates/System Monitoring Compounds 18
3.6 Internal Standard Performance 18
3.7 Matrix Spike/Matrix Spike Duplicate Analysis 18
3.8 Laboratory Control Sample/Laboratory Control Sample Duplicate Analysis 18
3.9 Field Duplicate Analysis 19
3.10 Compound Identification 19
3.11 System Performance and Overall Assessment 19

3.12 Data Validation Checklist 20
4 Polychlorinated Biphenyl Analyses 21
4.1 Holding Times 21
4.2 Blank Contamination 22
4.3 System Performance 22
4.4 Calibration 22
4.4.1 Initial Calibration 22
4.4.2 Continuing Calibration 22
4.5 Surrogates/System Monitoring Compounds 23
4.6 Matrix Spike/Matrix Spike Duplicate Analysis 23
4.7 Laboratory Control Sample Analysis 23
4.8 Field Duplicate Analysis 23
4.9 Compound Identification 23
4.10 System Performance and Overall Assessment 24
4.11 Data Validation Checklist 24
5 Pesticide/Herbicide Analyses 25
5.1 Holding Times 25
5.2 Blank Contamination 25
5.3 System Performance 26
5.4 Calibration 26
5.4.1 Initial Calibration 26
5.4.2 Continuing Calibration 26
5.5 Surrogates/System Monitoring Compounds 27
5.6 Matrix Spike/Matrix Spike Duplicate Analysis 27
5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 28
5.8 Field Duplicate Analysis 28
5.9 Compound Identification 28
5.10 System Performance and Overall Assessment 28
5.11 Data Validation Checklist 28
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 30
6.1 Holding Times 30
6.2 Blank Contamination 30
6.3 Mass Spectrometer Tuning 31

6.4 Calibration 31
6.4.1 Initial Calibration 31
6.4.2 Continuing Calibration 31
6.5 Labeled Standard Performance 31
6.6 Matrix Spike/Matrix Spike Duplicate Analysis 31
6.7 Ongoing Precision Result / Laboratory Control Sample Analysis 32
6.8 Field Duplicate Analysis 32
6.9 Compound Identification 32
6.10 System Performance and Overall Assessment 32
6.11 Data Validation Checklist 33
7 Perfluoroalkyl Substances Analyses 34
7.1 Holding Times 34
7.2 Blank Contamination 34
7.3 Mass Calibration 35
7.4 Calibration 35
7.4.1 Initial Calibration 35
7.4.2 Continuing Calibration 35
7.5 Isotopically Labelled Standards 35
7.5.1 Extracted Internal Standard 35
7.5.2 Injection Internal Standards 36
7.6 Matrix Spike/Matrix Spike Duplicate Analysis 36
7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 36
7.8 Field Duplicate Analysis 36
7.9 Compound Identification 36
7.10 System Performance and Overall Assessment 36
7.11 Data Validation Checklist 37
8 Metals Analyses 38
8.1 Holding Times 38
8.2 Blank Contamination 39
8.3 Calibration 39
8.3.1 Initial Calibration and Continuing Calibration 39
8.3.2 Lower Limit of Quantitation Check Standard 39
8.3.3 ICP Interference Control Sample 39

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 40
8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 40
8.4.2 Laboratory Duplicate Analysis 40
8.5 Field Duplicate Analysis 40
8.6 Laboratory Control Sample Analysis 40
8.7 Serial Dilution 41
8.8 System Performance and Overall Assessment 41
8.9 Data Validation Checklist 41
9 General Chemistry Analyses 42
9.1 Holding Times 42
9.2 Blank Contamination 42
9.3 Calibration 43
9.3.1 Initial Calibration and Continuing Calibration 43
9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 43
9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis 43
9.4.2 Laboratory Duplicate Analysis 43
9.5 Field Duplicate Analysis 44
9.6 Laboratory Control Sample (LCS) Analysis 44
9.7 System Performance and Overall Assessment 44
9.8 Data Validation Checklist for General Chemistry 44
10 Overall Data Usability 45

Tables

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation 8
Table 2. Evaluation of Data Package Completeness 8
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 11
Table 4. Holding Time for Method SW-846 8260C 11
Table 5. Summary of Compounds Outside Specified Calibration Control Limits Error! Bookmark not defined.
Table 6. Continuing Calibration Evaluation Criteria and Qualifications ..... Error! Bookmark not defined.
Table 7. Field Duplicate Sample Results ..... Error! Bookmark not defined.
Table 8. Holding Time for Method SW-846 8270D 16
Table 9. Summary of Compounds Outside Specified Calibration Control Limits 17
Table 10. Continuing Calibration Evaluation Criteria and Qualifications 17

Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits 19

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications 19

Table 13. Field Duplicate Sample Results..... Error! Bookmark not defined.

Table 14. Holding Time for Method SW-846 8082A 21

Table 15. Field Duplicate Sample Results..... Error! Bookmark not defined.

Table 16. Holding Time for Method SW-846 8081B/8141B/8151A..... 25

Table 17. Summary of Holding Time Exceedances..... Error! Bookmark not defined.

Table 18. Summary of Holding Time Qualifications..... Error! Bookmark not defined.

Table 19. Summary of Blank Contamination Qualifications ..... Error! Bookmark not defined.

Table 20. Summary of Compounds Outside Specified Calibration Control Limits ..... Error! Bookmark not defined.

Table 21. Continuing Calibration Evaluation Criteria and Qualifications..... Error! Bookmark not defined.

Table 22. Field Duplicate Sample Results..... Error! Bookmark not defined.

Table 23. Holding Time for Method SW-846 8290A 30

Table 24. Summary of Blank Contamination Qualifications 30

Table 25. Field Duplicate Sample Results..... Error! Bookmark not defined.

Table 26. Holding Time for Method 537..... 34

Table 27. Summary of Compounds Outside Specified Calibration Control Limits ..... Error! Bookmark not defined.

Table 28. Continuing Calibration Evaluation Criteria and Qualifications ..... Error! Bookmark not defined.

Table 29. Samples with Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries Outside Control Limits..... Error! Bookmark not defined.

Table 30. Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery Criteria and Qualifications..... Error! Bookmark not defined.

Table 31. Field Duplicate Sample Result..... Error! Bookmark not defined.

Table 32. Holding Time for Method SW-846 6010C/7470A/7471B..... 38

Table 33. Field Duplicate Sample Results..... Error! Bookmark not defined.

Table 34. Samples with Laboratory Control Sample Recoveries Outside Control Limits . Error! Bookmark not defined.

Table 35. Laboratory Control Sample Recovery Criteria and Qualifications ..... Error! Bookmark not defined.

Table 36. Specified Holding Times 42

Table 37. Samples with Matrix Spike Recoveries Outside Control Limits..... Error! Bookmark not defined.

Table 38. Matrix Spike Recovery Evaluation Criteria and Qualifications ..... Error! Bookmark not defined.

Table 39. Field Duplicate Sample Results..... Error! Bookmark not defined.

Table 40. Overall Summary of Data Usability 45

Appendices

Appendix A Chain of Custody

Appendix B Annotated Sample Analysis Data Sheets

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208517-1 performed on behalf of the General Electric Company (GE) for soil sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I and Tier II levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier and Tier II Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-4S	480-208517-1	Water	5/1/2023		X	X	X	X	X	X	X
TRIP BLANK 050123	480-208517-2	Water	5/1/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 7471B, 9012B, and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	1	0	1	2
SVOCs	0	0	0	1	0	0	1
PCBs	0	0	0	1	0	0	1
PEST	0	0	0	1	0	0	1
HERB	0	0	0	1	0	0	1
OPC	0	0	0	1	0	0	1
PCDD/PCDF	0	0	0	1	0	0	1
PFAS	0	0	0	1	0	0	1
Metals	0	0	0	1	0	0	1
MISC	0	0	0	1	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

2.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

2.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

2.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

2.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

2.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

2.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

2.7 Matrix Spike/Matrix Spike Duplicate Analysis

Matrix Spike / Matrix Spike Duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

2.8 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

2.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

2.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

The laboratory calibrated for the compounds 2-Chloro-1,3-butadiene, 2-Chloroethyl vinyl ether, Acetonitrile, Methacrylonitrile, Methyl methacrylate, and Propionitrile; however, they were not spiked or evaluated in the LCS. Therefore, these results will be qualified as estimated, J/UJ.

2.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.12 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times/Preparation		X	X		
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
D. Reconstructed ion chromatograms		X		X	
E. Quantitation Reports		X		X	
F. RT of sample compounds within the established RT windows		X		X	
G. Transcription/calculation errors present		X		X	
H. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

3 Semi-volatile Organic Compound Analyses

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 8. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

3.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05). The initial calibration standard must exhibit a percent difference (%D) less than the control limit (25%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

3.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 9. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-4S	CCV %D	p-Phenylene diamine	-34.4%
		4-Nitroquinoline-1-oxide	-83.2%
	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0081

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 10. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

Continuing Calibration	Criteria	Sample Result	Qualification

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

3.6 Internal Standard Performance

Internal standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

3.7 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

3.8 Laboratory Control Sample Analysis

The Laboratory Control Sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 11. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery
MW-2022-4S	Prep Batch: 668062	Famphur	<LL but >10%
		Kepone	<10%
		p-Phenylene diamine	<10%

Note:
AC Acceptable

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 12. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.9 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices or 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water/three times the RL is applied for soil. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

3.10 Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

3.11 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review,

the overall data quality is within the guidelines specified in the method.

3.12 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial calibration %Ds		X		X	
Continuing calibration RRFs		X	X		
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
C. A. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

4 Polychlorinated Biphenyl Analyses

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 14. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

4.3 System Performance

System performance and column resolution were acceptable.

4.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All Aroclors associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

4.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

4.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

The continuing calibration %D were within the specified control limits.

4.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that both the surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

4.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

4.7 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

4.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrix.

A field duplicate analysis was not performed on sample associated with this SDG.

4.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

The dual column analysis exhibited an acceptable %RPD between columns.

4.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.11 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

5 Pesticide/Herbicide Analyses

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing

concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
MW-2022-4S	4,4'-DDT	Detected sample results <RL and <BAL	"U" at the RL

RL = reporting limit

5.3 System Performance

System performance and column resolution were acceptable.

5.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

All compounds associated with calibrations were within the specified control limits for initial calibration and continuing calibration, as described below.

5.4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The initial calibration standard must exhibit a percent difference (%D) less than the control limit (20%).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

5.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (15%).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 17. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compounds	Criteria
MW-2022-4S	CCV %D (Method 8141)	Phorate	-41.0%

Sample ID	Continuing Calibration	Compounds	Criteria
		Methyl parathion	-24.4%
		Dimethoate	-24.8%
		Disulfoton	-16.0%
		Famphur	-16.2%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 10. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration Verification (CCV)	%D >15% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

5.5 Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. Pesticide - herbicide analysis requires that one of the two pesticide - herbicide surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

5.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The RPD between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

5.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

5.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on sample associated with this SDG.

5.9 Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (RPD) of detected sample results must be less than 25%.

Dual column analysis performed on the field samples exhibited RPDs within the control limit.

5.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.11 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks/Field blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Column (RPD) (If dual column is performed-not confirmation purposes only)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier II Validation					
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X	X		
System performance and column resolution		X		X	
Compound identification and quantitation					
C. Quantitation Reports		X		X	
D. RT of sample compounds within the established RT windows		X		X	
E. Pattern identification		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 23. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 24. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-4S	1,2,3,4,6,7,8-HpCDF (MB) OCDD (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HxCDF (MB) Total PeCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

6.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

6.4.1 Initial Calibration

A maximum relative standard deviation (RSD) of 15% is allowed for all non-labeled compounds (target) and 30% is allowed for all labeled compounds (internal standards and recovery standards).

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

6.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibited percent difference (%D) less than the control limit (20%).

The continuing calibration %D were within the specified control limits.

6.5 Labeled Standard Performance

Labeled standard performance criteria ensure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria require the labeled standards exhibit recoveries within the control limits of 40% to 135%.

All labeled standard responses were within control limits.

6.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

6.7 Ongoing Precision Result / Laboratory Control Sample Analysis

The Ongoing Precision Result/Laboratory Control Sample (OPR/LCS) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the OPR analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate analysis was not performed on sample associated with this SDG.

6.9 Compound Identification

PCDD/PCDF compounds are identified by using the compound’s ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest.” This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as “I” (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.11 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I/II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Labeled standard recovery (%R)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Initial / Continuing calibration %Ds		X		X	
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Signal-to-noise ratio $\geq$ 10:1		X		X	
Internal standard performance		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Recovery standard performance		X		X	
Resolution mix ≤ 25%		X		X	
Compound identification and quantitation					
C. Reconstructed ion chromatograms		X		X	
D. Quantitation Reports		X		X	
E. RT of sample compounds within the established RT windows		X		X	
F. Transcription/calculation errors present		X		X	
G. Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

7 Perfluoroalkyl Substances Analyses

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 26. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of ten times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

7.3 Mass Calibration

Mass calibration and system performance were acceptable.

7.4 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

7.4.1 Initial Calibration

The percent relative standard deviation (%RSD) of the response factors (RF) must be less than 20%, or for linear calibration, $R^2 \geq 0.99$. Analytes must be within 70-130% of their true value for each calibration standard.

The initial calibration (ICAL) and the ICV %D were within the specified control limits.

7.4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

7.5 Isotopically Labelled Standards

7.5.1 Extracted Internal Standard

Labeled standards must be added to all field samples and QC samples prior to extraction. Extracted Internal Standard (EIS) recoveries must be within the limits of 50% to150% (25% to 150% for poor responding analytes FBA, PFPeA, fluorotelomer sulfonates).

All EIS recoveries were within the specified control limits.

7.5.2 Injection Internal Standards

Injection internal standards are added to the aliquot of sample dilutions, QC samples, and standards just prior to analysis. Peak areas must be within 50-150% of the area measured in the ICAL midpoint standard. On days when ICAL is not performed, the peak areas must be within 50-150% of the peak area measured in daily initial CCV.

Samples associated with internal standards exhibited responses within the control limits.

7.6 Matrix Spike/Matrix Spike Duplicate Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD less than 30%. The MS/MSD recovery control limits do not apply when the concentration detected in the parent sample exceeds the MS/MSD spike level by a factor of four or greater.

The MS/MSD analysis was not performed on sample associated with this SDG.

7.7 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample / laboratory control sample duplicate (LCS/LCSD) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery and RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

7.8 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water.

A field duplicate analysis was not performed on sample associated with this SDG.

7.9 Compound Identification

PFC analytes are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

All identified compounds met the specified criteria.

7.10 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review,

the overall data quality is within the guidelines specified in the method.

7.11 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Field blanks	X				X
C. Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field Duplicate (RPD)	X				X
Extracted Internal Standards (EIS) %R		X		X	
Injection Internal Standard %R		X		X	
Dilution Factor		X		X	
Moisture Content	X				X
Tier III Validation					
Instrument tune and performance check		X		X	
Initial calibration %RSDs		X		X	

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Continuing calibration %Ds		X		X	
Instrument sensitivity check		X		X	
Ion transitions used		X		X	
Compound identification and quantitation		X		X	
Reconstructed ion chromatograms		X		X	
Quantitation Reports		X		X	
RT of sample compounds within the established RT windows		X		X	
Transcription/calculations acceptable		X		X	
Ion Ratio %D		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

8 Metals Analyses

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 32. Holding Time for Method SW-846 6010C/7470A/7471B

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

8.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

8.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All initial and continuing calibration verification standard recoveries were within the control limit.

8.3.2 Lower Limit of Quantitation Check Standard

The lower limit of quantitation check (LLQC) check standard serves to verify the linearity of calibration of the analysis at the reporting limit. The LLQC recoveries must be within 70 to 130%, and 50 to 150% for antimony (Sb), lead (Pb), and thallium (Tl). The LLQC standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the LLQC standard analysis are presented below in the LLQC standards evaluation table (if applicable).

All LLQC standard recoveries were within control limits.

8.3.3 ICP Interference Control Sample

The Interference Control Sample (ICS) verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

8.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

8.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils and RPD 20% for water matrices and 35% for soil matrices. The MS/MSD recovery control limits do not apply for MS/MSD performed on samples where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

8.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices

The laboratory duplicate analysis was not performed on sample associated with this SDG.

8.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

8.6 Laboratory Control Sample Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

All LCS recoveries were within control limits.

8.7 Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 15% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample.

The serial dilution was not performed on sample associated with this SDG.

8.8 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.9 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Reporting Limit Verification		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
LLQC Standard Recovery		X		X	
ICP Interference Check		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference
%D Percent difference

9 General Chemistry Analyses

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 36. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 669584 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

9.3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration must be greater than 0.995 analytes and all initial and continuing calibration verification standard recoveries must be within the control limits of 85%-115%.

All initial and continuing calibration verification standard recoveries were within the control limit.

9.4 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.4.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis was not performed on sample associated with this SDG.

9.4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate analysis was not performed on a sample within this SDG.

9.5 Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit 30% for water matrices and 50% for soil matrix is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices. Results for duplicate samples are summarized in the following table.

A field duplicate analysis was not performed on sample associated with this SDG.

9.6 Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120% for water and within laboratory established acceptance limits for soils.

The LCS analysis exhibited recoveries within the control limits.

9.7 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.8 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I/II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS) %R		X		X	

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Matrix Spike (MS) %R	X				X
Matrix Spike Duplicate (MSD) %R	X				X
MS/MSD Precision (RPD)	X				X
Field/Lab Duplicate (RPD)		X		X	
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
Transcription/calculations acceptable		X		X	
Raw Data		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

Notes:
%R Percent recovery
RPD Relative percent difference

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 40. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	98.2%	2
SVOCs	97.6%	3
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0

Parameter	Percent Usability	Rejected Data
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Andrew Korycinski

SIGNATURE: 

DATE: August 4, 2023

PEER REVIEW: Joseph C. Houser

DATE: August 4, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Thom McClenahan	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48021970			
Site:	SSOW#: 30150026.3000			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS					Total Number of containers
Preservation Code:							N	N	N	N	N	D	A	N	CB	B	N					
MW-2022-4S	5/1/23	1310	G	Water			x	x	x	x	x	x	x	x	x	x	x					20
TripBlank 050123	5/1/23	X	G	Water									x									2

Special Instructions/Note:

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

480-208517 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FedEx Ground

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	5-2-23 1000	ARCADIS		5-2-23 1000	FEDEX
Relinquished by:	5-2-23 1500	FEDEX		5/3/23 TCC	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.7 # ICE

Ver: 01/16/2019

6/7/2023 1:36 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

8141 32BB

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80343.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP - New York, State - Massachusetts		Job #: 480-208517-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/16/2023			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4S (480-208517-1)	5/1/23	13 10 Eastern		Water			X	2	

480-208517 Chain of Custody

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time:	Method of Shipment.

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
[signature]	5-3-23 1800	[signature]	[signature]	5-5-23 09:40	[signature]

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

6/7/2023 1:36 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

Chain of Custody Record

480-208517 Chain of Custody

ofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		338.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - New York, State - Massachusetts		Job #: 480-208517-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/16/2023			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4S (480-208517-1)	5/1/23	13 10 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.
Empty Kit Relinquished by	Date: Time: Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	5-3-23 1800	TAL		5/4/23 10:50	TAL
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No..	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

6/7/2023 1:36 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80341.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208517-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/16/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-4S (480-208517-1)	5/1/23	13:10 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 5-3-23 1800	Company: TAS	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 5/4/23 1000	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.0

MB

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-4S
Date Collected: 05/01/23 13:10
Date Received: 05/03/23 11:00

Lab Sample ID: 480-208517-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/08/23 13:55	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/08/23 13:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/08/23 13:55	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/08/23 13:55	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/08/23 13:55	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/08/23 13:55	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/08/23 13:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/08/23 13:55	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/08/23 13:55	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/08/23 13:55	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/08/23 13:55	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			05/08/23 13:55	1
2-Chloroethyl vinyl ether	R ND		5.0	0.96	ug/L			05/08/23 13:55	1
2-Hexanone	ND		5.0	1.2	ug/L			05/08/23 13:55	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/08/23 13:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/08/23 13:55	1
Acetone	ND		10	3.0	ug/L			05/08/23 13:55	1
Acetonitrile	ND	UJ	15	4.9	ug/L			05/08/23 13:55	1
Acrolein	ND		20	0.91	ug/L			05/08/23 13:55	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/08/23 13:55	1
Benzene	ND		1.0	0.41	ug/L			05/08/23 13:55	1
Bromoform	ND		1.0	0.26	ug/L			05/08/23 13:55	1
Bromomethane	ND		1.0	0.69	ug/L			05/08/23 13:55	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/08/23 13:55	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/08/23 13:55	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/08/23 13:55	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/08/23 13:55	1
Chloroethane	ND		1.0	0.32	ug/L			05/08/23 13:55	1
Chloroform	ND		1.0	0.34	ug/L			05/08/23 13:55	1
Chloromethane	ND		1.0	0.35	ug/L			05/08/23 13:55	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/08/23 13:55	1
Dibromomethane	ND		1.0	0.41	ug/L			05/08/23 13:55	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/08/23 13:55	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/08/23 13:55	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/08/23 13:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/08/23 13:55	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/08/23 13:55	1
Iodomethane	ND		1.0	0.30	ug/L			05/08/23 13:55	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			05/08/23 13:55	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			05/08/23 13:55	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/08/23 13:55	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/08/23 13:55	1
o-Xylene	ND		1.0	0.76	ug/L			05/08/23 13:55	1
Propionitrile	ND	UJ	10	5.8	ug/L			05/08/23 13:55	1
Styrene	ND		1.0	0.73	ug/L			05/08/23 13:55	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/08/23 13:55	1
Toluene	ND		1.0	0.51	ug/L			05/08/23 13:55	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/08/23 13:55	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/08/23 13:55	1

Client Sample ID: MW-2022-4S
Lab Sample ID: 480-208517-1

Date Collected: 05/01/23 13:10
Matrix: Water

Date Received: 05/03/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/08/23 13:55	1
Trichloroethene	ND		1.0	0.46	ug/L			05/08/23 13:55	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/08/23 13:55	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/08/23 13:55	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/08/23 13:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*77 - 120*		*05/08/23 13:55*	*1*
4-Bromofluorobenzene (Surr)	*112*		*73 - 120*		*05/08/23 13:55*	*1*
Dibromofluoromethane (Surr)	*87*		*75 - 123*		*05/08/23 13:55*	*1*
Toluene-d8 (Surr)	*83*		*80 - 120*		*05/08/23 13:55*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,4-Dioxane	ND		10	1.1	ug/L		05/03/23 15:18	05/05/23 10:42	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/03/23 15:18	05/05/23 10:42	1
1-Naphthylamine	ND		10	1.3	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/03/23 15:18	05/05/23 10:42	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Naphthylamine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Nitroaniline	ND		10	0.42	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Picoline	ND		80	1.4	ug/L		05/03/23 15:18	05/05/23 10:42	1
2-Toluidine	ND		10	1.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/03/23 15:18	05/05/23 10:42	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
3,3'-Dimethylbenzidine	ND		40	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
3-Methylphenol	ND		10	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
3-Nitroaniline	ND		10	0.48	ug/L		05/03/23 15:18	05/05/23 10:42	1

Client Sample ID: MW-2022-4S
Date Collected: 05/01/23 13:10
Date Received: 05/03/23 11:00

Lab Sample ID: 480-208517-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Methylphenol	ND		10	0.36	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Nitroaniline	ND		10	0.25	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Nitrophenol	ND		10	1.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
4-Nitroquinoline-1-oxide	R ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/03/23 15:18	05/05/23 10:42	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		05/03/23 15:18	05/05/23 10:42	1
Acenaphthene	ND		5.0	0.41	ug/L		05/03/23 15:18	05/05/23 10:42	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/03/23 15:18	05/05/23 10:42	1
Acetophenone	ND		5.0	0.54	ug/L		05/03/23 15:18	05/05/23 10:42	1
Aniline	ND		10	0.61	ug/L		05/03/23 15:18	05/05/23 10:42	1
Anthracene	ND		5.0	0.28	ug/L		05/03/23 15:18	05/05/23 10:42	1
Aramite, Total	ND		20	1.6	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzidine	ND		80	2.2	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/03/23 15:18	05/05/23 10:42	1
Benzyl alcohol	ND		20	2.0	ug/L		05/03/23 15:18	05/05/23 10:42	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/03/23 15:18	05/05/23 10:42	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/03/23 15:18	05/05/23 10:42	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/03/23 15:18	05/05/23 10:42	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/03/23 15:18	05/05/23 10:42	1
Chrysene	ND		5.0	0.33	ug/L		05/03/23 15:18	05/05/23 10:42	1
Diallate	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/03/23 15:18	05/05/23 10:42	1
Dibenzofuran	ND		10	0.51	ug/L		05/03/23 15:18	05/05/23 10:42	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/03/23 15:18	05/05/23 10:42	1
Dimethoate	ND		10	0.54	ug/L		05/03/23 15:18	05/05/23 10:42	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/03/23 15:18	05/05/23 10:42	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/03/23 15:18	05/05/23 10:42	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/03/23 15:18	05/05/23 10:42	1
Dinoseb	ND		10	2.9	ug/L		05/03/23 15:18	05/05/23 10:42	1
Diphenylamine	ND		10	0.82	ug/L		05/03/23 15:18	05/05/23 10:42	1
Disulfoton	ND		10	0.42	ug/L		05/03/23 15:18	05/05/23 10:42	1
Chlorobenzilate	ND		20	0.67	ug/L		05/03/23 15:18	05/05/23 10:42	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/03/23 15:18	05/05/23 10:42	1
Famphur	ND	UJ	40	1.9	ug/L		05/03/23 15:18	05/05/23 10:42	1
Fluoranthene	ND		5.0	0.40	ug/L		05/03/23 15:18	05/05/23 10:42	1
Fluorene	ND		5.0	0.36	ug/L		05/03/23 15:18	05/05/23 10:42	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/03/23 15:18	05/05/23 10:42	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/03/23 15:18	05/05/23 10:42	1

Client Sample ID: MW-2022-4S
Lab Sample ID: 480-208517-1

Date Collected: 05/01/23 13:10
Matrix: Water

Date Received: 05/03/23 11:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/03/23 15:18	05/05/23 10:42	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/03/23 15:18	05/05/23 10:42	1
Hexachloropropene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/03/23 15:18	05/05/23 10:42	1
Isodrin	ND		10	0.18	ug/L		05/03/23 15:18	05/05/23 10:42	1
Isophorone	ND		5.0	0.43	ug/L		05/03/23 15:18	05/05/23 10:42	1
Isosafrole	ND		10	0.58	ug/L		05/03/23 15:18	05/05/23 10:42	1
Kepone	R ~~ND~~	~~*-~~	~~50~~	~~1.8~~	~~ug/L~~		~~05/03/23 15:18~~	~~05/05/23 10:42~~	1
Methapyrilene	ND		50	1.8	ug/L		05/03/23 15:18	05/05/23 10:42	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
Naphthalene	ND		5.0	0.76	ug/L		05/03/23 15:18	05/05/23 10:42	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/03/23 15:18	05/05/23 10:42	1
Ethyl Parathion	ND		10	0.64	ug/L		05/03/23 15:18	05/05/23 10:42	1
Methyl parathion	ND		10	0.37	ug/L		05/03/23 15:18	05/05/23 10:42	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/03/23 15:18	05/05/23 10:42	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/03/23 15:18	05/05/23 10:42	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
Pentachlorophenol	ND		10	2.2	ug/L		05/03/23 15:18	05/05/23 10:42	1
Phenacetin	ND		10	0.61	ug/L		05/03/23 15:18	05/05/23 10:42	1
Phenanthrene	ND		5.0	0.44	ug/L		05/03/23 15:18	05/05/23 10:42	1
Phenol	ND		5.0	0.39	ug/L		05/03/23 15:18	05/05/23 10:42	1
Phorate	ND		10	0.50	ug/L		05/03/23 15:18	05/05/23 10:42	1
p-Phenylene diamine	R ~~ND~~	~~*-~~	~~800~~	~~200~~	~~ug/L~~		~~05/03/23 15:18~~	~~05/05/23 10:42~~	1
Pronamide	ND		10	2.5	ug/L		05/03/23 15:18	05/05/23 10:42	1
Pyrene	ND		5.0	0.34	ug/L		05/03/23 15:18	05/05/23 10:42	1
Pyridine	ND		25	0.41	ug/L		05/03/23 15:18	05/05/23 10:42	1
Safrole	ND		10	0.46	ug/L		05/03/23 15:18	05/05/23 10:42	1
Sulfotepp	ND		10	0.64	ug/L		05/03/23 15:18	05/05/23 10:42	1
Thionazin	ND		10	0.38	ug/L		05/03/23 15:18	05/05/23 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*78*		*41 - 120*	*05/03/23 15:18*	*05/05/23 10:42*	*1*
2-Fluorobiphenyl (Surr)	*84*		*48 - 120*	*05/03/23 15:18*	*05/05/23 10:42*	*1*
2-Fluorophenol (Surr)	*60*		*35 - 120*	*05/03/23 15:18*	*05/05/23 10:42*	*1*
Nitrobenzene-d5 (Surr)	*75*		*46 - 120*	*05/03/23 15:18*	*05/05/23 10:42*	*1*
Phenol-d5 (Surr)	*40*		*22 - 120*	*05/03/23 15:18*	*05/05/23 10:42*	*1*
p-Terphenyl-d14 (Surr)	*93*		*60 - 148*	*05/03/23 15:18*	*05/05/23 10:42*	*1*

Client Sample ID: MW-2022-4S
Date Collected: 05/01/23 13:10
Date Received: 05/03/23 11:00

Lab Sample ID: 480-208517-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/04/23 06:51	05/04/23 18:18	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/04/23 06:51	05/04/23 18:18	1
4,4'-DDT	0.050 ~~0.016~~ ~~J B~~	U	0.050	0.011	ug/L		05/04/23 06:51	05/04/23 18:18	1
Aldrin	ND		0.050	0.0081	ug/L		05/04/23 06:51	05/04/23 18:18	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/04/23 06:51	05/04/23 18:18	1
beta-BHC	ND		0.050	0.025	ug/L		05/04/23 06:51	05/04/23 18:18	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/04/23 06:51	05/04/23 18:18	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/04/23 06:51	05/04/23 18:18	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/04/23 06:51	05/04/23 18:18	1
delta-BHC	ND		0.050	0.010	ug/L		05/04/23 06:51	05/04/23 18:18	1
Dieldrin	ND		0.050	0.0098	ug/L		05/04/23 06:51	05/04/23 18:18	1
Endosulfan I	ND		0.050	0.011	ug/L		05/04/23 06:51	05/04/23 18:18	1
Endosulfan II	ND		0.050	0.012	ug/L		05/04/23 06:51	05/04/23 18:18	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/04/23 06:51	05/04/23 18:18	1
Endrin	ND		0.050	0.014	ug/L		05/04/23 06:51	05/04/23 18:18	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/04/23 06:51	05/04/23 18:18	1
Endrin ketone	ND		0.050	0.012	ug/L		05/04/23 06:51	05/04/23 18:18	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/04/23 06:51	05/04/23 18:18	1
Heptachlor	ND		0.050	0.0085	ug/L		05/04/23 06:51	05/04/23 18:18	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/04/23 06:51	05/04/23 18:18	1
Methoxychlor	ND		0.050	0.014	ug/L		05/04/23 06:51	05/04/23 18:18	1
Toxaphene	ND		0.50	0.12	ug/L		05/04/23 06:51	05/04/23 18:18	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/04/23 06:51	05/04/23 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*65*		*20 - 120*	*05/04/23 06:51*	*05/04/23 18:18*	*1*
DCB Decachlorobiphenyl	*68*		*20 - 120*	*05/04/23 06:51*	*05/04/23 18:18*	*1*
Tetrachloro-m-xylene	*67*		*44 - 120*	*05/04/23 06:51*	*05/04/23 18:18*	*1*
Tetrachloro-m-xylene	*62*		*44 - 120*	*05/04/23 06:51*	*05/04/23 18:18*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/04/23 07:01	05/04/23 19:09	1
PCB-1221	ND		0.50	0.18	ug/L		05/04/23 07:01	05/04/23 19:09	1
PCB-1232	ND		0.50	0.18	ug/L		05/04/23 07:01	05/04/23 19:09	1
PCB-1242	ND		0.50	0.18	ug/L		05/04/23 07:01	05/04/23 19:09	1
PCB-1248	ND		0.50	0.18	ug/L		05/04/23 07:01	05/04/23 19:09	1
PCB-1254	ND		0.50	0.25	ug/L		05/04/23 07:01	05/04/23 19:09	1
PCB-1260	ND		0.50	0.25	ug/L		05/04/23 07:01	05/04/23 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*39 - 121*	*05/04/23 07:01*	*05/04/23 19:09*	*1*
Tetrachloro-m-xylene	*76*		*39 - 121*	*05/04/23 07:01*	*05/04/23 19:09*	*1*
DCB Decachlorobiphenyl	*77*		*19 - 120*	*05/04/23 07:01*	*05/04/23 19:09*	*1*
DCB Decachlorobiphenyl	*66*		*19 - 120*	*05/04/23 07:01*	*05/04/23 19:09*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.51	0.070	ug/L		05/04/23 09:52	05/05/23 13:11	1
2,4-D	ND		0.51	0.18	ug/L		05/04/23 09:52	05/05/23 13:11	1

Client Sample ID: MW-2022-4S
Date Collected: 05/01/23 13:10
Date Received: 05/03/23 11:00

Lab Sample ID: 480-208517-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.51	0.051	ug/L		05/04/23 09:52	05/05/23 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*83*		*48 - 132*	*05/04/23 09:52*	*05/05/23 13:11*	*1*
2,4-Dichlorophenylacetic acid	*81*		*48 - 132*	*05/04/23 09:52*	*05/05/23 13:11*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	UJ	0.95	0.25	ug/L		05/09/23 01:30	05/12/23 13:29	1
Disulfoton	ND	UJ	0.95	0.39	ug/L		05/09/23 01:30	05/12/23 13:29	1
Famphur	ND	UJ	0.95	0.31	ug/L		05/09/23 01:30	05/12/23 13:29	1
Methyl parathion	ND	UJ	0.95	0.33	ug/L		05/09/23 01:30	05/12/23 13:29	1
Ethyl Parathion	ND		0.95	0.35	ug/L		05/09/23 01:30	05/12/23 13:29	1
Phorate	ND	UJ	0.95	0.36	ug/L		05/09/23 01:30	05/12/23 13:29	1
Sulfotepp	ND		0.95	0.38	ug/L		05/09/23 01:30	05/12/23 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*114*		*25 - 127*	*05/09/23 01:30*	*05/12/23 13:29*	*1*
Tributyl phosphate	*114*		*25 - 127*	*05/09/23 01:30*	*05/12/23 13:29*	*1*
Triphenylphosphate	*132*		*70 - 155*	*05/09/23 01:30*	*05/12/23 13:29*	*1*
Triphenylphosphate	*126*		*70 - 155*	*05/09/23 01:30*	*05/12/23 13:29*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.63	ng/L		05/05/23 08:10	05/05/23 17:12	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	1.1	ng/L		05/05/23 08:10	05/08/23 16:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	1.3	ng/L		05/05/23 08:10	05/05/23 17:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	1.6	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.51	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorobutanoic acid (PFBA)	**5.0**		4.1	0.98	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.33	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.38	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.40	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.33	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluoroheptanoic acid (PFHpA)	**0.86**	**J**	1.6	0.44	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.45	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorohexanoic acid (PFHxA)	**0.94**	**J**	1.6	0.53	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.75	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.69	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorooctanoic acid (PFOA)	**0.96**	**J**	1.6	0.62	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluoropentanoic acid (PFPeA)	**0.88**	**J**	1.6	0.56	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.52	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.39	ng/L		05/05/23 08:10	05/05/23 17:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.45	ng/L		05/05/23 08:10	05/05/23 17:12	1

Client Sample ID: MW-2022-4S
Date Collected: 05/01/23 13:10
Date Received: 05/03/23 11:00

Lab Sample ID: 480-208517-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	96		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C2 PFDoA	87		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C2 PFHxA	112		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C2 PFTeDA	89		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C2 PFUnA	95		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C3 PFBS	102		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C4 PFBA	104		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C4 PFHpA	105		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C4 PFOA	102		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C4 PFOS	99		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C5 PFNA	101		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C5 PFPeA	113		50 - 150	05/05/23 08:10	05/05/23 17:12	1
13C8 FOSA	94		50 - 150	05/05/23 08:10	05/05/23 17:12	1
18O2 PFHxS	104		50 - 150	05/05/23 08:10	05/05/23 17:12	1
d3-NMeFOSAA	87		50 - 150	05/05/23 08:10	05/05/23 17:12	1
d5-NEtFOSAA	84		50 - 150	05/05/23 08:10	05/05/23 17:12	1
M2-6:2 FTS	100		50 - 150	05/05/23 08:10	05/08/23 16:59	1
M2-8:2 FTS	98		50 - 150	05/05/23 08:10	05/05/23 17:12	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	0.90	J~~N~~ JNX	24	0.11	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,4,6,7,8-HpCDF	24 ~~0.99~~	~~J I B~~ U	24	0.0076	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,4,7,8,9-HpCDF	0.17	J	24	0.011	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,4,7,8-HxCDD	ND		24	0.035	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,4,7,8-HxCDF	0.36	J~~N~~ JNX	24	0.074	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,6,7,8-HxCDD	ND		24	0.035	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,6,7,8-HxCDF	ND		24	0.065	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,7,8,9-HxCDD	ND		24	0.036	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,7,8,9-HxCDF	ND		24	0.084	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,7,8-PeCDD	0.063	J~~N~~ JNX	24	0.053	pg/L		05/23/23 09:37	05/26/23 23:00	1
1,2,3,7,8-PeCDF	0.33	J~~N~~ JNX	24	0.030	pg/L		05/23/23 09:37	05/26/23 23:00	1
2,3,4,6,7,8-HxCDF	ND		24	0.063	pg/L		05/23/23 09:37	05/26/23 23:00	1
2,3,4,7,8-PeCDF	0.13	J~~N~~ JNX	24	0.021	pg/L		05/23/23 09:37	05/26/23 23:00	1
2,3,7,8-TCDD	0.20	J~~N~~ JNX	4.7	0.035	pg/L		05/23/23 09:37	05/26/23 23:00	1
2,3,7,8-TCDF	0.098	J~~N~~ JNX	4.7	0.028	pg/L		05/23/23 09:37	05/26/23 23:00	1
OCDD	100 ~~2.7~~	~~J B~~ U	100	0.060	pg/L		05/23/23 09:37	05/26/23 23:00	1
OCDF	2.3	J~~N~~ JNX	47	0.032	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total HpCDD	24 ~~1.6~~	~~J I B~~ U	24	0.11	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total HpCDF	24 ~~1.5~~	~~J I B~~ U	24	0.0091	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total HxCDD	24 ~~1.0~~	~~J I B~~ U	24	0.035	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total HxCDF	24 ~~0.36~~	~~J I B~~ U	24	0.072	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total PeCDD	1.2	J~~N~~ JNX	24	0.053	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total PeCDF	24 ~~1.0~~	~~J I B~~ U	24	0.025	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total TCDD	0.92	J~~N~~ JNX	4.7	0.035	pg/L		05/23/23 09:37	05/26/23 23:00	1
Total TCDF	0.50	J~~N~~ JNX	4.7	0.028	pg/L		05/23/23 09:37	05/26/23 23:00	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	85		40 - 135	05/23/23 09:37	05/26/23 23:00	1
13C-1,2,3,4,6,7,8-HpCDF	83		40 - 135	05/23/23 09:37	05/26/23 23:00	1
13C-1,2,3,4,7,8,9-HpCDF	82		40 - 135	05/23/23 09:37	05/26/23 23:00	1

Client Sample ID: MW-2022-4S
Lab Sample ID: 480-208517-1

Date Collected: 05/01/23 13:10
Matrix: Water
Date Received: 05/03/23 11:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*72*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*71*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,7,8,9-HxCDD	*80*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-2,3,7,8-TCDF	*67*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-OCDD	*94*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*
13C-OCDF	*94*		*40 - 135*	*05/23/23 09:37*	*05/26/23 23:00*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/04/23 10:49	05/05/23 00:22	1
Arsenic	ND		0.015	0.0056	mg/L		05/04/23 10:49	05/05/23 00:22	1
Barium	**0.018**		0.0020	0.00070	mg/L		05/04/23 10:49	05/05/23 00:22	1
Beryllium	ND		0.0020	0.00030	mg/L		05/04/23 10:49	05/05/23 00:22	1
Cadmium	ND		0.0020	0.00050	mg/L		05/04/23 10:49	05/05/23 00:22	1
Chromium	ND		0.0040	0.0010	mg/L		05/04/23 10:49	05/05/23 00:22	1
Cobalt	ND		0.0040	0.00063	mg/L		05/04/23 10:49	05/05/23 00:22	1
Copper	ND		0.010	0.0016	mg/L		05/04/23 10:49	05/05/23 00:22	1
Lead	ND		0.010	0.0030	mg/L		05/04/23 10:49	05/05/23 00:22	1
Nickel	ND		0.010	0.0013	mg/L		05/04/23 10:49	05/05/23 00:22	1
Selenium	ND		0.025	0.0087	mg/L		05/04/23 10:49	05/05/23 00:22	1
Silver	ND		0.0060	0.0017	mg/L		05/04/23 10:49	05/05/23 00:22	1
Thallium	ND		0.020	0.010	mg/L		05/04/23 10:49	05/05/23 00:22	1
Tin	ND		0.010	0.0051	mg/L		05/04/23 10:49	05/05/23 00:22	1
Vanadium	ND		0.0050	0.0015	mg/L		05/04/23 10:49	05/05/23 00:22	1
Zinc	ND		0.010	0.0015	mg/L		05/04/23 10:49	05/05/23 00:22	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/04/23 11:00	05/04/23 16:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/15/23 12:33	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/04/23 11:30	1

Client Sample ID: TRIP BLANK 050123
Lab Sample ID: 480-208517-2

Date Collected: 05/01/23 00:00
Matrix: Water
Date Received: 05/03/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/08/23 14:17	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/08/23 14:17	1

Client Sample ID: TRIP BLANK 050123
Lab Sample ID: 480-208517-2

Date Collected: 05/01/23 00:00
Matrix: Water
Date Received: 05/03/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/08/23 14:17	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/08/23 14:17	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/08/23 14:17	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/08/23 14:17	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/08/23 14:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/08/23 14:17	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/08/23 14:17	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/08/23 14:17	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/08/23 14:17	1
2-Chloro-1,3-butadiene	ND	UJ	1.0	0.49	ug/L			05/08/23 14:17	1
2-Chloroethyl vinyl ether	R ND		5.0	0.96	ug/L			05/08/23 14:17	1
2-Hexanone	ND		5.0	1.2	ug/L			05/08/23 14:17	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/08/23 14:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/08/23 14:17	1
Acetone	ND		10	3.0	ug/L			05/08/23 14:17	1
Acetonitrile	ND	UJ	15	4.9	ug/L			05/08/23 14:17	1
Acrolein	ND		20	0.91	ug/L			05/08/23 14:17	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/08/23 14:17	1
Benzene	ND		1.0	0.41	ug/L			05/08/23 14:17	1
Bromoform	ND		1.0	0.26	ug/L			05/08/23 14:17	1
Bromomethane	ND		1.0	0.69	ug/L			05/08/23 14:17	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/08/23 14:17	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/08/23 14:17	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/08/23 14:17	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/08/23 14:17	1
Chloroethane	ND		1.0	0.32	ug/L			05/08/23 14:17	1
Chloroform	ND		1.0	0.34	ug/L			05/08/23 14:17	1
Chloromethane	ND		1.0	0.35	ug/L			05/08/23 14:17	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/08/23 14:17	1
Dibromomethane	ND		1.0	0.41	ug/L			05/08/23 14:17	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/08/23 14:17	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/08/23 14:17	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/08/23 14:17	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/08/23 14:17	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/08/23 14:17	1
Iodomethane	ND		1.0	0.30	ug/L			05/08/23 14:17	1
Methacrylonitrile	ND	UJ	5.0	0.69	ug/L			05/08/23 14:17	1
Methyl methacrylate	ND	UJ	1.0	0.61	ug/L			05/08/23 14:17	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/08/23 14:17	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/08/23 14:17	1
o-Xylene	ND		1.0	0.76	ug/L			05/08/23 14:17	1
Propionitrile	ND	UJ	10	5.8	ug/L			05/08/23 14:17	1
Styrene	ND		1.0	0.73	ug/L			05/08/23 14:17	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/08/23 14:17	1
Toluene	ND		1.0	0.51	ug/L			05/08/23 14:17	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/08/23 14:17	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/08/23 14:17	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/08/23 14:17	1
Trichloroethene	ND		1.0	0.46	ug/L			05/08/23 14:17	1

Client Sample ID: TRIP BLANK 050123
Lab Sample ID: 480-208517-2

Date Collected: 05/01/23 00:00
Matrix: Water
Date Received: 05/03/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/08/23 14:17	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/08/23 14:17	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/08/23 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*77*		*77 - 120*		*05/08/23 14:17*	*1*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*		*05/08/23 14:17*	*1*
Dibromofluoromethane (Surr)	*87*		*75 - 123*		*05/08/23 14:17*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*05/08/23 14:17*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-208542-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50618R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Blank Contamination 10
3.3 Calibration 10
3.3.1 Continuing Calibration 10
3.4 Laboratory Control Sample Analysis 11
3.5 System Performance and Overall Assessment 12
3.6 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 13
4.2 Blank Contamination 13
4.3 System Performance and Overall Assessment 13
4.4 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 14
5.1 Holding Times 14
5.2 Blank Contamination 14
5.3 System Performance and Overall Assessment 15
5.4 Data Validation Checklist 15
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 16
6.2 Blank Contamination 16
6.3 Compound Identification 17
6.4 System Performance and Overall Assessment 17
6.5 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 18

7.1 Holding Times 18
7.2 System Performance and Overall Assessment 18
7.3 Data Validation Checklist 18
8 Metals Analyses 19
8.1 Holding Times 19
8.2 Blank Contamination 19
8.3 System Performance and Overall Assessment 20
8.4 Data Validation Checklist 20
9 General Chemistry Analyses 20
9.1 Holding Times 20
9.2 Blank Contamination 21
9.3 System Performance and Overall Assessment 21
9.4 Data Validation Checklist for General Chemistry 21
10 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Compounds Outside Specified Calibration Control Limits 10
Table 7. Continuing Calibration Evaluation Criteria and Qualifications 10
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 9. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 10. Holding Time for Method SW-846 8082A 13
Table 11. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 12. Summary of Blank Contamination Qualifications 15
Table 13. Holding Time for Method SW-846 8290A 16
Table 14. Summary of Blank Contamination Qualifications 16
Table 15. Holding Time for Method 537 18
Table 16. Holding Time for Method SW-846 6010C/7470A 19
Table 17. Summary of Blank Contamination Qualifications 19

Table 18. Specified Holding Times **20**

Table 19. Overall Summary of Data Usability **22**

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208542-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-7	480-208542-1	Water	05/02/2023		X	X	X	X	X	X	X
RB-050223	480-208542-2	Water	05/02/2023		X	X	X	X	X	X	X
TRIP BLANK 050223	480-208542-3	Water	05/02/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	2	0	0	0	3
SVOCs	1	0	1	0	0	0	2
PCBs	1	0	1	0	0	0	2
PEST	1	0	1	0	0	0	2
HERB	1	0	1	0	0	0	2
OPC	1	0	1	0	0	0	2
PCDD/PCDF	1	0	1	0	0	0	2
PFAS	1	0	1	0	0	0	2
Metals	1	0	1	0	0	0	2
MISC	1	0	1	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Di-n-butyl phthalate was detected in the associated rinse blank-RB-050223; however, the associated sample results were non-detect. No qualification of the sample results was required.

3.3 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.3.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 6. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-7 RB-050223	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0071

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 7. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J

Continuing Calibration	Criteria	Sample Result	Qualification
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.4 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compound	LCS Recovery
MW-2022-7 RB-050223	Prep Batch: 668392	p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ

Control Limit	Sample Result	Qualification
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.6 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Equipment Blanks/Field Blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

PCB-1242 was detected in the associated rinse blank-RB-050223; however, the associated sample results were non-detect. No qualification of the sample results was required.

4.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.4 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Equipment Blanks/Field Blanks		X	X		

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Delta-BHC was detected in the associated method blank batch-668392; however, the associated sample results were non-detect. No qualification of the sample results was required.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 12. Summary of Blank Contamination Qualifications

Sample ID	Method	Compound	Sample Result	Qualification
MW-2022-7	SW-846 8081B	4,4'-DDT (RB)	Detected sample results <RL and <BAL	"U" at the RL

Notes:
MB Rinse blank
RL Reporting limit

5.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.4 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Equipment Blanks / Field Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 13. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 14. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-7	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,7,8-PeCDF (RB) OCDD (MB) Total HpCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RB Rinse blank

RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
B. Equipment Blanks / Field Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All analytes associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the analytes listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B) from the data. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 17. Summary of Blank Contamination Qualifications

Sample ID	Analyte	Sample Result	Qualification
MW-2022-7	Nickle (MB, RB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RB Rinse blank
RL Reporting limit

8.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.4 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
B. Equipment Blanks / Field Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 18. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 669584 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation

process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 19. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	94.4%	3
SVOCs	96.8%	4
PCBs	100%	0
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: July 31, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 1, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Albany #224

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Thom McClenahan	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48021970			
Site:	SSOW#: 30150026.3000			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N	
MW-2022-7	5/2/23	1205	G	Water			x	x	x	x	x	x	x	x	x	x	x	20
RB-050223	5/2/23	1615	G	Water			x	x	x	x	x	x	x	x	x	x	x	20
TripBlank 050223	5/2/23	X	G	Water									x					2

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)

Other:

Special Instructions/Note:

480-208542 Chain of Custody

TAT

5-3-23

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Tim Knuller	5-3-23 1000	ARCADIS	Tim Knuller	5-3-23 1000	EETN
2	Tim Knuller	5-3-23 1500	EETN	Caddell	5/4/23 0600	TAB
3		Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 2.9, 2.5, 3.0

Ver: 01/16/2019

6/8/2023 4:13 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	Carrier Tracking No(s)	COC No.: 480-80385.1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208542-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/17/2023			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-7 (480-208542-1)	5/2/23	12:05 Eastern		Water			X	2	
RB-050223 (480-208542-2)	5/2/23	16:15 Eastern		Water			X	2	

480-208542 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 5-4-23 1800	Company: TAB	Received by:	Date/Time: 5/5/23 9:20	Company: ET
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Page 6368 of 6375

6/8/2023 4:13 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-208542 Chain of Custody

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	C No: 0-80382.1
Client Contact: Shipping/Receiving	Phone.	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York; State - Massachusetts	Page: Page 1 of 1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/17/2023		Job #: 480-208542-1
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-7 (480-208542-1)	5/2/23	12:05 Eastern		Water			X	2	
RB-050223 (480-208542-2)	5/2/23	16:15 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:
Empty Kit Relinquished by:	Date: Time: Method of Shipment:

Relinquished by:	Date/Time: 5-4-23 1800	Company: TAL	Received by:	Date/Time: 5/5/23 10:35	Company: TAL
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

6/8/2023 4:13 PM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80384.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208542-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 5/17/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitnc Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-7 (480-208542-1)	5/2/23	12:05 Eastern		Water			X	2	
RB-050223 (480-208542-2)	5/2/23	16:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		5-4-23 1800				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 5/8/23 9:40	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.5

CB

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-7
Date Collected: 05/02/23 12:05
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/08/23 16:22	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/08/23 16:22	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/08/23 16:22	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/08/23 16:22	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/08/23 16:22	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/08/23 16:22	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/08/23 16:22	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/08/23 16:22	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/08/23 16:22	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/08/23 16:22	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/08/23 16:22	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/08/23 16:22	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/08/23 16:22	1	R
2-Hexanone	ND		5.0	1.2	ug/L			05/08/23 16:22	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/08/23 16:22	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/08/23 16:22	1	
Acetone	ND		10	3.0	ug/L			05/08/23 16:22	1	
Acetonitrile	ND		15	4.9	ug/L			05/08/23 16:22	1	
Acrolein	ND		20	0.91	ug/L			05/08/23 16:22	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/08/23 16:22	1	
Benzene	ND		1.0	0.41	ug/L			05/08/23 16:22	1	
Bromoform	ND		1.0	0.26	ug/L			05/08/23 16:22	1	
Bromomethane	ND		1.0	0.69	ug/L			05/08/23 16:22	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/08/23 16:22	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/08/23 16:22	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/08/23 16:22	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/08/23 16:22	1	
Chloroethane	ND		1.0	0.32	ug/L			05/08/23 16:22	1	
Chloroform	ND		1.0	0.34	ug/L			05/08/23 16:22	1	
Chloromethane	ND		1.0	0.35	ug/L			05/08/23 16:22	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/08/23 16:22	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/08/23 16:22	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/08/23 16:22	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/08/23 16:22	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/08/23 16:22	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/08/23 16:22	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/08/23 16:22	1	
Iodomethane	ND		1.0	0.30	ug/L			05/08/23 16:22	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/08/23 16:22	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/08/23 16:22	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/08/23 16:22	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/08/23 16:22	1	
o-Xylene	ND		1.0	0.76	ug/L			05/08/23 16:22	1	
Propionitrile	ND		10	5.8	ug/L			05/08/23 16:22	1	
Styrene	ND		1.0	0.73	ug/L			05/08/23 16:22	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/08/23 16:22	1	
Toluene	ND		1.0	0.51	ug/L			05/08/23 16:22	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/08/23 16:22	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/08/23 16:22	1	

Client Sample ID: MW-2022-7
Date Collected: 05/02/23 12:05
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/08/23 16:22	1
Trichloroethene	ND		1.0	0.46	ug/L			05/08/23 16:22	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/08/23 16:22	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/08/23 16:22	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/08/23 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*05/08/23 16:22*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*05/08/23 16:22*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*05/08/23 16:22*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/08/23 16:22*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.4	0.63	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,2,4-Trichlorobenzene	ND		11	0.48	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,2-Dichlorobenzene	ND		11	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,2-Diphenylhydrazine	ND		11	0.38	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,3,5-Trinitrobenzene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,3-Dichlorobenzene	ND		11	0.52	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,3-Dinitrobenzene	ND		22	0.89	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,4-Dichlorobenzene	ND		11	0.50	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,4-Dioxane	ND		11	1.2	ug/L		05/05/23 15:12	05/09/23 17:01	1
1,4-Naphthoquinone	ND		11	0.26	ug/L		05/05/23 15:12	05/09/23 17:01	1
1-Naphthylamine	ND	*-	11	1.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,3,4,6-Tetrachlorophenol	ND		5.4	0.35	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,4,5-Trichlorophenol	ND		5.4	0.52	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,4,6-Trichlorophenol	ND		5.4	0.66	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,4-Dichlorophenol	ND		5.4	0.55	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,4-Dimethylphenol	ND		5.4	0.54	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,4-Dinitrophenol	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,4-Dinitrotoluene	ND		5.4	0.49	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,6-Dichlorophenol	ND		11	0.50	ug/L		05/05/23 15:12	05/09/23 17:01	1
2,6-Dinitrotoluene	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Acetylaminofluorene	ND		11	2.5	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Chloronaphthalene	ND		5.4	0.50	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Chlorophenol	ND		5.4	0.58	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Methylnaphthalene	ND		5.4	0.65	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Methylphenol	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Naphthylamine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Nitroaniline	ND		11	0.46	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Nitrophenol	ND		5.4	0.52	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Picoline	ND		87	1.5	ug/L		05/05/23 15:12	05/09/23 17:01	1
2-Toluidine	ND		11	1.6	ug/L		05/05/23 15:12	05/09/23 17:01	1
3 & 4 Methylphenol	ND		11	0.39	ug/L		05/05/23 15:12	05/09/23 17:01	1
3,3'-Dichlorobenzidine	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
3,3'-Dimethylbenzidine	ND	*-	43	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
3-Methylcholanthrene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
3-Methylphenol	ND		11	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
3-Nitroaniline	ND		11	0.52	ug/L		05/05/23 15:12	05/09/23 17:01	1

Client Sample ID: MW-2022-7
Lab Sample ID: 480-208542-1

Date Collected: 05/02/23 12:05
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Aminobiphenyl	ND		11	0.88	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Bromophenyl phenyl ether	ND		5.4	0.49	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Chloro-3-methylphenol	ND		5.4	0.49	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Chloroaniline	ND		5.4	0.64	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Chlorophenyl phenyl ether	ND		5.4	0.38	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Methylphenol	ND		11	0.39	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Nitroaniline	ND		11	0.27	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Nitrophenol	ND		11	1.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
4-Nitroquinoline-1-oxide	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1 R
7,12-Dimethylbenz(a)anthracene	ND		11	0.67	ug/L		05/05/23 15:12	05/09/23 17:01	1
a,a-Dimethylphenethylamine	ND		110	43	ug/L		05/05/23 15:12	05/09/23 17:01	1
Acenaphthene	ND		5.4	0.45	ug/L		05/05/23 15:12	05/09/23 17:01	1
Acenaphthylene	ND		5.4	0.41	ug/L		05/05/23 15:12	05/09/23 17:01	1
Acetophenone	ND		5.4	0.59	ug/L		05/05/23 15:12	05/09/23 17:01	1
Aniline	ND		11	0.66	ug/L		05/05/23 15:12	05/09/23 17:01	1
Anthracene	ND		5.4	0.30	ug/L		05/05/23 15:12	05/09/23 17:01	1
Aramite, Total	ND		22	1.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzidine	ND		87	2.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzo[a]anthracene	ND		5.4	0.39	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzo[a]pyrene	ND		5.4	0.51	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzo[b]fluoranthene	ND		5.4	0.37	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzo[g,h,i]perylene	ND		5.4	0.38	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzo[k]fluoranthene	ND		5.4	0.79	ug/L		05/05/23 15:12	05/09/23 17:01	1
Benzyl alcohol	ND		22	2.2	ug/L		05/05/23 15:12	05/09/23 17:01	1
bis (2-chloroisopropyl) ether	ND		5.4	0.57	ug/L		05/05/23 15:12	05/09/23 17:01	1
Bis(2-chloroethoxy)methane	ND		5.4	0.38	ug/L		05/05/23 15:12	05/09/23 17:01	1
Bis(2-chloroethyl)ether	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
Bis(2-ethylhexyl) phthalate	ND		5.4	2.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
Butyl benzyl phthalate	ND		5.4	1.1	ug/L		05/05/23 15:12	05/09/23 17:01	1
Chrysene	ND		5.4	0.36	ug/L		05/05/23 15:12	05/09/23 17:01	1
Diallate	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
Dibenz(a,h)anthracene	ND		5.4	0.46	ug/L		05/05/23 15:12	05/09/23 17:01	1
Dibenzofuran	ND		11	0.55	ug/L		05/05/23 15:12	05/09/23 17:01	1
Diethyl phthalate	ND		5.4	0.24	ug/L		05/05/23 15:12	05/09/23 17:01	1
Dimethoate	ND		11	0.59	ug/L		05/05/23 15:12	05/09/23 17:01	1
Dimethyl phthalate	ND		5.4	0.39	ug/L		05/05/23 15:12	05/09/23 17:01	1
Di-n-butyl phthalate	ND		5.4	0.34	ug/L		05/05/23 15:12	05/09/23 17:01	1
Di-n-octyl phthalate	ND		5.4	0.51	ug/L		05/05/23 15:12	05/09/23 17:01	1
Dinoseb	ND		11	3.2	ug/L		05/05/23 15:12	05/09/23 17:01	1
Diphenylamine	ND		11	0.89	ug/L		05/05/23 15:12	05/09/23 17:01	1
Disulfoton	ND		11	0.46	ug/L		05/05/23 15:12	05/09/23 17:01	1
Chlorobenzilate	ND		22	0.73	ug/L		05/05/23 15:12	05/09/23 17:01	1
Ethyl methanesulfonate	ND		11	0.42	ug/L		05/05/23 15:12	05/09/23 17:01	1
Famphur	ND	*	43	2.1	ug/L		05/05/23 15:12	05/09/23 17:01	1
Fluoranthene	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:01	1
Fluorene	ND		5.4	0.39	ug/L		05/05/23 15:12	05/09/23 17:01	1
Hexachlorobenzene	ND		5.4	0.55	ug/L		05/05/23 15:12	05/09/23 17:01	1
Hexachlorobutadiene	ND		5.4	0.74	ug/L		05/05/23 15:12	05/09/23 17:01	1

Client Sample ID: MW-2022-7
Date Collected: 05/02/23 12:05
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.4	0.64	ug/L		05/05/23 15:12	05/09/23 17:01	1
Hexachloroethane	ND		5.4	0.64	ug/L		05/05/23 15:12	05/09/23 17:01	1
Hexachloropropene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
Indeno[1,2,3-cd]pyrene	ND		5.4	0.51	ug/L		05/05/23 15:12	05/09/23 17:01	1
Isodrin	ND		11	0.20	ug/L		05/05/23 15:12	05/09/23 17:01	1
Isophorone	ND		5.4	0.47	ug/L		05/05/23 15:12	05/09/23 17:01	1
Isosafrole	ND		11	0.63	ug/L		05/05/23 15:12	05/09/23 17:01	1
Kepone	ND	*-	54	2.0	ug/L		05/05/23 15:12	05/09/23 17:01	1
Methapyrilene	ND		54	2.0	ug/L		05/05/23 15:12	05/09/23 17:01	1
Methyl methanesulfonate	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
Naphthalene	ND		5.4	0.83	ug/L		05/05/23 15:12	05/09/23 17:01	1
Nitrobenzene	ND		5.4	0.32	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitro-o-toluidine	ND		11	0.71	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosodiethylamine	ND		11	0.39	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosodi-n-butylamine	ND		11	0.65	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosodi-n-propylamine	ND		5.4	0.59	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosodiphenylamine	ND		5.4	0.55	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosomethylethylamine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosomorpholine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosopiperidine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
N-Nitrosopyrrolidine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
o,o',o''-Triethylphosphorothioate	ND		11	0.47	ug/L		05/05/23 15:12	05/09/23 17:01	1
Ethyl Parathion	ND		11	0.70	ug/L		05/05/23 15:12	05/09/23 17:01	1
Methyl parathion	ND		11	0.40	ug/L		05/05/23 15:12	05/09/23 17:01	1
p-Dimethylamino azobenzene	ND		11	0.82	ug/L		05/05/23 15:12	05/09/23 17:01	1
Pentachlorobenzene	ND		11	0.58	ug/L		05/05/23 15:12	05/09/23 17:01	1
Pentachloronitrobenzene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
Pentachlorophenol	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:01	1
Phenacetin	ND		11	0.66	ug/L		05/05/23 15:12	05/09/23 17:01	1
Phenanthrene	ND		5.4	0.48	ug/L		05/05/23 15:12	05/09/23 17:01	1
Phenol	ND		5.4	0.42	ug/L		05/05/23 15:12	05/09/23 17:01	1
Phorate	ND		11	0.54	ug/L		05/05/23 15:12	05/09/23 17:01	1
p-Phenylene diamine	ND	*-	870	220	ug/L		05/05/23 15:12	05/09/23 17:01	1 R
Pronamide	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:01	1
Pyrene	ND		5.4	0.37	ug/L		05/05/23 15:12	05/09/23 17:01	1
Pyridine	ND		27	0.45	ug/L		05/05/23 15:12	05/09/23 17:01	1
Safrole	ND		11	0.50	ug/L		05/05/23 15:12	05/09/23 17:01	1
Sulfotepp	ND		11	0.70	ug/L		05/05/23 15:12	05/09/23 17:01	1
Thionazin	ND		11	0.41	ug/L		05/05/23 15:12	05/09/23 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*41 - 120*	*05/05/23 15:12*	*05/09/23 17:01*	*1*
2-Fluorobiphenyl (Surr)	*94*		*48 - 120*	*05/05/23 15:12*	*05/09/23 17:01*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 120*	*05/05/23 15:12*	*05/09/23 17:01*	*1*
Nitrobenzene-d5 (Surr)	*85*		*46 - 120*	*05/05/23 15:12*	*05/09/23 17:01*	*1*
Phenol-d5 (Surr)	*51*		*22 - 120*	*05/05/23 15:12*	*05/09/23 17:01*	*1*
p-Terphenyl-d14 (Surr)	*77*		*60 - 148*	*05/05/23 15:12*	*05/09/23 17:01*	*1*

Client Sample ID: MW-2022-7
Date Collected: 05/02/23 12:05
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/08/23 09:11	05/08/23 15:34	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/08/23 09:11	05/08/23 15:34	1
4,4'-DDT	~~0.022~~	**J** 0.050 U	0.050	0.011	ug/L		05/08/23 09:11	05/08/23 15:34	1
Aldrin	ND		0.050	0.0081	ug/L		05/08/23 09:11	05/08/23 15:34	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/08/23 09:11	05/08/23 15:34	1
beta-BHC	ND		0.050	0.025	ug/L		05/08/23 09:11	05/08/23 15:34	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/08/23 09:11	05/08/23 15:34	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/08/23 09:11	05/08/23 15:34	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/08/23 09:11	05/08/23 15:34	1
delta-BHC	ND		0.050	0.010	ug/L		05/08/23 09:11	05/08/23 15:34	1
Dieldrin	ND		0.050	0.0098	ug/L		05/08/23 09:11	05/08/23 15:34	1
Endosulfan I	ND		0.050	0.011	ug/L		05/08/23 09:11	05/08/23 15:34	1
Endosulfan II	ND		0.050	0.012	ug/L		05/08/23 09:11	05/08/23 15:34	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/08/23 09:11	05/08/23 15:34	1
Endrin	ND		0.050	0.014	ug/L		05/08/23 09:11	05/08/23 15:34	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/08/23 09:11	05/08/23 15:34	1
Endrin ketone	ND		0.050	0.012	ug/L		05/08/23 09:11	05/08/23 15:34	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/08/23 09:11	05/08/23 15:34	1
Heptachlor	ND		0.050	0.0085	ug/L		05/08/23 09:11	05/08/23 15:34	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/08/23 09:11	05/08/23 15:34	1
Methoxychlor	**0.019**	**J**	0.050	0.014	ug/L		05/08/23 09:11	05/08/23 15:34	1
Toxaphene	ND		0.50	0.12	ug/L		05/08/23 09:11	05/08/23 15:34	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/08/23 09:11	05/08/23 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*40*		*20 - 120*	*05/08/23 09:11*	*05/08/23 15:34*	*1*
DCB Decachlorobiphenyl	*43*		*20 - 120*	*05/08/23 09:11*	*05/08/23 15:34*	*1*
Tetrachloro-m-xylene	*91*		*44 - 120*	*05/08/23 09:11*	*05/08/23 15:34*	*1*
Tetrachloro-m-xylene	*78*		*44 - 120*	*05/08/23 09:11*	*05/08/23 15:34*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/05/23 07:10	05/05/23 19:04	1
PCB-1221	ND		0.50	0.18	ug/L		05/05/23 07:10	05/05/23 19:04	1
PCB-1232	ND		0.50	0.18	ug/L		05/05/23 07:10	05/05/23 19:04	1
PCB-1242	ND		0.50	0.18	ug/L		05/05/23 07:10	05/05/23 19:04	1
PCB-1248	ND		0.50	0.18	ug/L		05/05/23 07:10	05/05/23 19:04	1
PCB-1254	ND		0.50	0.25	ug/L		05/05/23 07:10	05/05/23 19:04	1
PCB-1260	ND		0.50	0.25	ug/L		05/05/23 07:10	05/05/23 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*39 - 121*	*05/05/23 07:10*	*05/05/23 19:04*	*1*
Tetrachloro-m-xylene	*54*		*39 - 121*	*05/05/23 07:10*	*05/05/23 19:04*	*1*
DCB Decachlorobiphenyl	*39*		*19 - 120*	*05/05/23 07:10*	*05/05/23 19:04*	*1*
DCB Decachlorobiphenyl	*36*		*19 - 120*	*05/05/23 07:10*	*05/05/23 19:04*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.51	0.070	ug/L		05/08/23 09:24	05/09/23 14:11	1
2,4-D	ND		0.51	0.18	ug/L		05/08/23 09:24	05/09/23 14:11	1

Client Sample ID: MW-2022-7
Date Collected: 05/02/23 12:05
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.51	0.051	ug/L		05/08/23 09:24	05/09/23 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*52*		*48 - 132*	*05/08/23 09:24*	*05/09/23 14:11*	*1*
2,4-Dichlorophenylacetic acid	*49*		*48 - 132*	*05/08/23 09:24*	*05/09/23 14:11*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		1.1	0.28	ug/L		05/08/23 06:40	05/10/23 18:54	1
Disulfoton	ND		1.1	0.43	ug/L		05/08/23 06:40	05/10/23 18:54	1
Famphur	ND		1.1	0.34	ug/L		05/08/23 06:40	05/10/23 18:54	1
Methyl parathion	ND		1.1	0.37	ug/L		05/08/23 06:40	05/10/23 18:54	1
Ethyl Parathion	ND		1.1	0.39	ug/L		05/08/23 06:40	05/10/23 18:54	1
Phorate	ND		1.1	0.40	ug/L		05/08/23 06:40	05/10/23 18:54	1
Sulfotepp	ND		1.1	0.43	ug/L		05/08/23 06:40	05/10/23 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*112*		*25 - 127*	*05/08/23 06:40*	*05/10/23 18:54*	*1*
Tributyl phosphate	*111*		*25 - 127*	*05/08/23 06:40*	*05/10/23 18:54*	*1*
Triphenylphosphate	*129*		*70 - 155*	*05/08/23 06:40*	*05/10/23 18:54*	*1*
Triphenylphosphate	*128*		*70 - 155*	*05/08/23 06:40*	*05/10/23 18:54*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.66	ng/L		05/08/23 08:43	05/08/23 21:04	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.3	1.1	ng/L		05/08/23 08:43	05/08/23 21:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	1.4	ng/L		05/08/23 08:43	05/08/23 21:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	1.6	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.53	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorobutanoic acid (PFBA)	ND		4.3	1.0	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.42	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.35	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.46	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.47	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.55	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.78	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.72	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.65	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.58	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.41	ng/L		05/08/23 08:43	05/08/23 21:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.47	ng/L		05/08/23 08:43	05/08/23 21:04	1

Client Sample ID: MW-2022-7
Date Collected: 05/02/23 12:05
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	96		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C2 PFDoA	94		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C2 PFHxA	113		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C2 PFTeDA	94		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C2 PFUnA	94		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C3 PFBS	107		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C4 PFBA	119		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C4 PFHpA	108		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C4 PFOA	111		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C4 PFOS	92		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C5 PFNA	106		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C5 PFPeA	112		50 - 150	05/08/23 08:43	05/08/23 21:04	1
13C8 FOSA	93		50 - 150	05/08/23 08:43	05/08/23 21:04	1
18O2 PFHxS	102		50 - 150	05/08/23 08:43	05/08/23 21:04	1
d3-NMeFOSAA	92		50 - 150	05/08/23 08:43	05/08/23 21:04	1
d5-NEtFOSAA	95		50 - 150	05/08/23 08:43	05/08/23 21:04	1
M2-6:2 FTS	88		50 - 150	05/08/23 08:43	05/08/23 21:04	1
M2-8:2 FTS	94		50 - 150	05/08/23 08:43	05/08/23 21:04	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	~~2.2~~	~~J I B~~ 26 U	26	0.61	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,4,6,7,8-HpCDF	ND		26	0.33	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,4,7,8,9-HpCDF	ND		26	0.54	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,4,7,8-HxCDD	ND		26	0.28	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,4,7,8-HxCDF	ND		26	0.29	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,6,7,8-HxCDD	ND		26	0.28	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,6,7,8-HxCDF	ND		26	0.27	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,7,8,9-HxCDD	ND		26	0.28	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,7,8,9-HxCDF	ND		26	0.35	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,7,8-PeCDD	ND		26	0.19	pg/L		05/24/23 10:15	06/01/23 12:56	1
1,2,3,7,8-PeCDF	~~0.46~~	~~J I~~ 26 U	26	0.11	pg/L		05/24/23 10:15	06/01/23 12:56	1
2,3,4,6,7,8-HxCDF	ND		26	0.25	pg/L		05/24/23 10:15	06/01/23 12:56	1
2,3,4,7,8-PeCDF	ND		26	0.077	pg/L		05/24/23 10:15	06/01/23 12:56	1
2,3,7,8-TCDD	ND		5.2	0.070	pg/L		05/24/23 10:15	06/01/23 12:56	1
2,3,7,8-TCDF	ND		5.2	0.050	pg/L		05/24/23 10:15	06/01/23 12:56	1
OCDD	~~5.0~~	~~J I B~~ 10 U	110	0.53	pg/L		05/24/23 10:15	06/01/23 12:56	1
OCDF	ND		52	0.52	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total HpCDD	~~2.2~~	~~J I B~~ 26 U	26	0.61	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total HpCDF	ND		26	0.54	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total HxCDD	ND		26	0.28	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total HxCDF	~~4.5~~	J I B 26 U	26	0.29	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total PeCDD	0.69	J B 26 U	26	0.19	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total PeCDF	1.9	J I B 26 U	26	0.093	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total TCDD	1.5	~~J I~~ JNX	5.2	0.070	pg/L		05/24/23 10:15	06/01/23 12:56	1
Total TCDF	~~0.34~~	~~J I B~~ 5.2 U	5.2	0.050	pg/L		05/24/23 10:15	06/01/23 12:56	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	76		40 - 135	05/24/23 10:15	06/01/23 12:56	1
13C-1,2,3,4,6,7,8-HpCDF	74		40 - 135	05/24/23 10:15	06/01/23 12:56	1
13C-1,2,3,4,7,8,9-HpCDF	65		40 - 135	05/24/23 10:15	06/01/23 12:56	1

Client Sample ID: MW-2022-7
Lab Sample ID: 480-208542-1
Date Collected: 05/02/23 12:05
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,7,8,9-HxCDD	*74*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*70*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-2,3,4,7,8-PeCDF	*69*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-2,3,7,8-TCDD	*67*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-OCDD	*81*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*
13C-OCDF	*71*		*40 - 135*	*05/24/23 10:15*	*06/01/23 12:56*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/05/23 08:10	05/06/23 00:34	1
Arsenic	ND		0.015	0.0056	mg/L		05/05/23 08:10	05/06/23 00:34	1
Barium	**0.083**		0.0020	0.00070	mg/L		05/05/23 08:10	05/06/23 00:34	1
Beryllium	ND		0.0020	0.00030	mg/L		05/05/23 08:10	05/06/23 00:34	1
Cadmium	ND		0.0020	0.00050	mg/L		05/05/23 08:10	05/06/23 00:34	1
Chromium	ND		0.0040	0.0010	mg/L		05/05/23 08:10	05/06/23 00:34	1
Cobalt	**0.0026**	**J**	0.0040	0.00063	mg/L		05/05/23 08:10	05/06/23 00:34	1
Copper	**0.0017**	**J**	0.010	0.0016	mg/L		05/05/23 08:10	05/06/23 00:34	1
Lead	ND		0.010	0.0030	mg/L		05/05/23 08:10	05/06/23 00:34	1
Nickel	~~0.0033~~	~~J B~~ 0.010 U	0.010	0.0013	mg/L		05/05/23 08:10	05/06/23 00:34	1
Selenium	ND		0.025	0.0087	mg/L		05/05/23 08:10	05/06/23 00:34	1
Silver	ND		0.0060	0.0017	mg/L		05/05/23 08:10	05/06/23 00:34	1
Thallium	ND		0.020	0.010	mg/L		05/05/23 08:10	05/06/23 00:34	1
Tin	ND		0.010	0.0051	mg/L		05/05/23 08:10	05/06/23 00:34	1
Vanadium	ND		0.0050	0.0015	mg/L		05/05/23 08:10	05/06/23 00:34	1
Zinc	**0.0015**	**J**	0.010	0.0015	mg/L		05/05/23 08:10	05/06/23 00:34	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/05/23 11:10	05/05/23 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/15/23 12:36	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/09/23 14:00	1

Client Sample ID: RB-050223
Lab Sample ID: 480-208542-2
Date Collected: 05/02/23 16:15
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/08/23 16:46	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/08/23 16:46	1

Client Sample ID: RB-050223
Lab Sample ID: 480-208542-2

Date Collected: 05/02/23 16:15
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/08/23 16:46	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/08/23 16:46	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/08/23 16:46	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/08/23 16:46	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/08/23 16:46	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/08/23 16:46	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/08/23 16:46	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/08/23 16:46	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/08/23 16:46	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/08/23 16:46	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/08/23 16:46	1	R
2-Hexanone	ND		5.0	1.2	ug/L			05/08/23 16:46	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/08/23 16:46	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/08/23 16:46	1	
Acetone	ND		10	3.0	ug/L			05/08/23 16:46	1	
Acetonitrile	ND		15	4.9	ug/L			05/08/23 16:46	1	
Acrolein	ND		20	0.91	ug/L			05/08/23 16:46	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/08/23 16:46	1	
Benzene	ND		1.0	0.41	ug/L			05/08/23 16:46	1	
Bromoform	ND		1.0	0.26	ug/L			05/08/23 16:46	1	
Bromomethane	ND		1.0	0.69	ug/L			05/08/23 16:46	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/08/23 16:46	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/08/23 16:46	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/08/23 16:46	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/08/23 16:46	1	
Chloroethane	ND		1.0	0.32	ug/L			05/08/23 16:46	1	
Chloroform	ND		1.0	0.34	ug/L			05/08/23 16:46	1	
Chloromethane	ND		1.0	0.35	ug/L			05/08/23 16:46	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/08/23 16:46	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/08/23 16:46	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/08/23 16:46	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/08/23 16:46	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/08/23 16:46	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/08/23 16:46	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/08/23 16:46	1	
Iodomethane	ND		1.0	0.30	ug/L			05/08/23 16:46	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/08/23 16:46	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/08/23 16:46	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/08/23 16:46	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/08/23 16:46	1	
o-Xylene	ND		1.0	0.76	ug/L			05/08/23 16:46	1	
Propionitrile	ND		10	5.8	ug/L			05/08/23 16:46	1	
Styrene	ND		1.0	0.73	ug/L			05/08/23 16:46	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/08/23 16:46	1	
Toluene	ND		1.0	0.51	ug/L			05/08/23 16:46	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/08/23 16:46	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/08/23 16:46	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/08/23 16:46	1	
Trichloroethene	ND		1.0	0.46	ug/L			05/08/23 16:46	1	

Client Sample ID: RB-050223
Date Collected: 05/02/23 16:15
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/08/23 16:46	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/08/23 16:46	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/08/23 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*05/08/23 16:46*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*05/08/23 16:46*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*05/08/23 16:46*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/08/23 16:46*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.4	0.63	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,2,4-Trichlorobenzene	ND		11	0.48	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,2-Dichlorobenzene	ND		11	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,2-Diphenylhydrazine	ND		11	0.38	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,3,5-Trinitrobenzene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,3-Dichlorobenzene	ND		11	0.52	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,3-Dinitrobenzene	ND		22	0.89	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,4-Dichlorobenzene	ND		11	0.50	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,4-Dioxane	ND		11	1.2	ug/L		05/05/23 15:12	05/09/23 17:29	1
1,4-Naphthoquinone	ND		11	0.26	ug/L		05/05/23 15:12	05/09/23 17:29	1
1-Naphthylamine	ND	*	11	1.4	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,3,4,6-Tetrachlorophenol	ND		5.4	0.35	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,4,5-Trichlorophenol	ND		5.4	0.52	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,4,6-Trichlorophenol	ND		5.4	0.66	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,4-Dichlorophenol	ND		5.4	0.55	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,4-Dimethylphenol	ND		5.4	0.54	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,4-Dinitrophenol	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,4-Dinitrotoluene	ND		5.4	0.49	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,6-Dichlorophenol	ND		11	0.50	ug/L		05/05/23 15:12	05/09/23 17:29	1
2,6-Dinitrotoluene	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Acetylaminofluorene	ND		11	2.5	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Chloronaphthalene	ND		5.4	0.50	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Chlorophenol	ND		5.4	0.58	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Methylnaphthalene	ND		5.4	0.65	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Methylphenol	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Naphthylamine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Nitroaniline	ND		11	0.46	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Nitrophenol	ND		5.4	0.52	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Picoline	ND		87	1.5	ug/L		05/05/23 15:12	05/09/23 17:29	1
2-Toluidine	ND		11	1.6	ug/L		05/05/23 15:12	05/09/23 17:29	1
3 & 4 Methylphenol	ND		11	0.39	ug/L		05/05/23 15:12	05/09/23 17:29	1
3,3'-Dichlorobenzidine	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1
3,3'-Dimethylbenzidine	ND	*	43	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
3-Methylcholanthrene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
3-Methylphenol	ND		11	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1
3-Nitroaniline	ND		11	0.52	ug/L		05/05/23 15:12	05/09/23 17:29	1
4,6-Dinitro-2-methylphenol	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:29	1
4-Aminobiphenyl	ND		11	0.88	ug/L		05/05/23 15:12	05/09/23 17:29	1

Client Sample ID: RB-050223
Date Collected: 05/02/23 16:15
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4-Bromophenyl phenyl ether	ND		5.4	0.49	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Chloro-3-methylphenol	ND		5.4	0.49	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Chloroaniline	ND		5.4	0.64	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Chlorophenyl phenyl ether	ND		5.4	0.38	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Methylphenol	ND		11	0.39	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Nitroaniline	ND		11	0.27	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Nitrophenol	ND		11	1.7	ug/L		05/05/23 15:12	05/09/23 17:29	1	
4-Nitroquinoline-1-oxide	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1	R
7,12-Dimethylbenz(a)anthracene	ND		11	0.67	ug/L		05/05/23 15:12	05/09/23 17:29	1	
a,a-Dimethylphenethylamine	ND		110	43	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Acenaphthene	ND		5.4	0.45	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Acenaphthylene	ND		5.4	0.41	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Acetophenone	ND		5.4	0.59	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Aniline	ND		11	0.66	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Anthracene	ND		5.4	0.30	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Aramite, Total	ND		22	1.7	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzidine	ND		87	2.4	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzo[a]anthracene	ND		5.4	0.39	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzo[a]pyrene	ND		5.4	0.51	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzo[b]fluoranthene	ND		5.4	0.37	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzo[g,h,i]perylene	ND		5.4	0.38	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzo[k]fluoranthene	ND		5.4	0.79	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Benzyl alcohol	ND		22	2.2	ug/L		05/05/23 15:12	05/09/23 17:29	1	
bis (2-chloroisopropyl) ether	ND		5.4	0.57	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Bis(2-chloroethoxy)methane	ND		5.4	0.38	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Bis(2-chloroethyl)ether	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Bis(2-ethylhexyl) phthalate	ND		5.4	2.4	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Butyl benzyl phthalate	ND		5.4	1.1	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Chrysene	ND		5.4	0.36	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Diallate	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Dibenz(a,h)anthracene	ND		5.4	0.46	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Dibenzofuran	ND		11	0.55	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Diethyl phthalate	ND		5.4	0.24	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Dimethoate	ND		11	0.59	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Dimethyl phthalate	ND		5.4	0.39	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Di-n-butyl phthalate	**0.62**	**J**	5.4	0.34	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Di-n-octyl phthalate	ND		5.4	0.51	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Dinoseb	ND		11	3.2	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Diphenylamine	ND		11	0.89	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Disulfoton	ND		11	0.46	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Chlorobenzilate	ND		22	0.73	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Ethyl methanesulfonate	ND		11	0.42	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Famphur	ND	*	43	2.1	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Fluoranthene	ND		5.4	0.43	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Fluorene	ND		5.4	0.39	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Hexachlorobenzene	ND		5.4	0.55	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Hexachlorobutadiene	ND		5.4	0.74	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Hexachlorocyclopentadiene	ND		5.4	0.64	ug/L		05/05/23 15:12	05/09/23 17:29	1	
Hexachloroethane	ND		5.4	0.64	ug/L		05/05/23 15:12	05/09/23 17:29	1	

Client Sample ID: RB-050223
Lab Sample ID: 480-208542-2

Date Collected: 05/02/23 16:15
Matrix: Water

Date Received: 05/04/23 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloropropene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
Indeno[1,2,3-cd]pyrene	ND		5.4	0.51	ug/L		05/05/23 15:12	05/09/23 17:29	1
Isodrin	ND		11	0.20	ug/L		05/05/23 15:12	05/09/23 17:29	1
Isophorone	ND		5.4	0.47	ug/L		05/05/23 15:12	05/09/23 17:29	1
Isosafrole	ND		11	0.63	ug/L		05/05/23 15:12	05/09/23 17:29	1
Kepone	ND	*	54	2.0	ug/L		05/05/23 15:12	05/09/23 17:29	1
Methapyrilene	ND		54	2.0	ug/L		05/05/23 15:12	05/09/23 17:29	1
Methyl methanesulfonate	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
Naphthalene	ND		5.4	0.83	ug/L		05/05/23 15:12	05/09/23 17:29	1
Nitrobenzene	ND		5.4	0.32	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitro-o-toluidine	ND		11	0.71	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosodiethylamine	ND		11	0.39	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosodi-n-butylamine	ND		11	0.65	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosodi-n-propylamine	ND		5.4	0.59	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosodiphenylamine	ND		5.4	0.55	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosomethylethylamine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosomorpholine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosopiperidine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
N-Nitrosopyrrolidine	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
o,o',o''-Triethylphosphorothioate	ND		11	0.47	ug/L		05/05/23 15:12	05/09/23 17:29	1
Ethyl Parathion	ND		11	0.70	ug/L		05/05/23 15:12	05/09/23 17:29	1
Methyl parathion	ND		11	0.40	ug/L		05/05/23 15:12	05/09/23 17:29	1
p-Dimethylamino azobenzene	ND		11	0.82	ug/L		05/05/23 15:12	05/09/23 17:29	1
Pentachlorobenzene	ND		11	0.58	ug/L		05/05/23 15:12	05/09/23 17:29	1
Pentachloronitrobenzene	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
Pentachlorophenol	ND		11	2.4	ug/L		05/05/23 15:12	05/09/23 17:29	1
Phenacetin	ND		11	0.66	ug/L		05/05/23 15:12	05/09/23 17:29	1
Phenanthrene	ND		5.4	0.48	ug/L		05/05/23 15:12	05/09/23 17:29	1
Phenol	ND		5.4	0.42	ug/L		05/05/23 15:12	05/09/23 17:29	1
Phorate	ND		11	0.54	ug/L		05/05/23 15:12	05/09/23 17:29	1
p-Phenylene diamine	ND	*	870	220	ug/L		05/05/23 15:12	05/09/23 17:29	1 R
Pronamide	ND		11	2.7	ug/L		05/05/23 15:12	05/09/23 17:29	1
Pyrene	ND		5.4	0.37	ug/L		05/05/23 15:12	05/09/23 17:29	1
Pyridine	ND		27	0.45	ug/L		05/05/23 15:12	05/09/23 17:29	1
Safrole	ND		11	0.50	ug/L		05/05/23 15:12	05/09/23 17:29	1
Sulfotepp	ND		11	0.70	ug/L		05/05/23 15:12	05/09/23 17:29	1
Thionazin	ND		11	0.41	ug/L		05/05/23 15:12	05/09/23 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*75*		*41 - 120*	*05/05/23 15:12*	*05/09/23 17:29*	*1*
2-Fluorobiphenyl (Surr)	*90*		*48 - 120*	*05/05/23 15:12*	*05/09/23 17:29*	*1*
2-Fluorophenol (Surr)	*71*		*35 - 120*	*05/05/23 15:12*	*05/09/23 17:29*	*1*
Nitrobenzene-d5 (Surr)	*87*		*46 - 120*	*05/05/23 15:12*	*05/09/23 17:29*	*1*
Phenol-d5 (Surr)	*51*		*22 - 120*	*05/05/23 15:12*	*05/09/23 17:29*	*1*
p-Terphenyl-d14 (Surr)	*108*		*60 - 148*	*05/05/23 15:12*	*05/09/23 17:29*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.054	0.010	ug/L		05/08/23 09:11	05/08/23 15:54	1

Client Sample ID: RB-050223
Date Collected: 05/02/23 16:15
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.054	0.013	ug/L		05/08/23 09:11	05/08/23 15:54	1
4,4'-DDT	**0.022**	**J**	0.054	0.012	ug/L		05/08/23 09:11	05/08/23 15:54	1
Aldrin	ND		0.054	0.0088	ug/L		05/08/23 09:11	05/08/23 15:54	1
alpha-BHC	ND		0.054	0.0084	ug/L		05/08/23 09:11	05/08/23 15:54	1
beta-BHC	ND		0.054	0.027	ug/L		05/08/23 09:11	05/08/23 15:54	1
Chlordane (technical)	ND		0.54	0.32	ug/L		05/08/23 09:11	05/08/23 15:54	1
Chlorobenzilate	ND		5.4	0.098	ug/L		05/08/23 09:11	05/08/23 15:54	1
cis-Chlordane	ND		0.054	0.016	ug/L		05/08/23 09:11	05/08/23 15:54	1
delta-BHC	ND		0.054	0.011	ug/L		05/08/23 09:11	05/08/23 15:54	1
Dieldrin	ND		0.054	0.011	ug/L		05/08/23 09:11	05/08/23 15:54	1
Endosulfan I	ND		0.054	0.012	ug/L		05/08/23 09:11	05/08/23 15:54	1
Endosulfan II	ND		0.054	0.013	ug/L		05/08/23 09:11	05/08/23 15:54	1
Endosulfan sulfate	ND		0.054	0.017	ug/L		05/08/23 09:11	05/08/23 15:54	1
Endrin	ND		0.054	0.015	ug/L		05/08/23 09:11	05/08/23 15:54	1
Endrin aldehyde	ND		0.054	0.018	ug/L		05/08/23 09:11	05/08/23 15:54	1
Endrin ketone	ND		0.054	0.013	ug/L		05/08/23 09:11	05/08/23 15:54	1
gamma-BHC (Lindane)	ND		0.054	0.0087	ug/L		05/08/23 09:11	05/08/23 15:54	1
Heptachlor	ND		0.054	0.0092	ug/L		05/08/23 09:11	05/08/23 15:54	1
Heptachlor epoxide	ND		0.054	0.0080	ug/L		05/08/23 09:11	05/08/23 15:54	1
Methoxychlor	ND		0.054	0.015	ug/L		05/08/23 09:11	05/08/23 15:54	1
Toxaphene	ND		0.54	0.13	ug/L		05/08/23 09:11	05/08/23 15:54	1
trans-Chlordane	ND		0.054	0.012	ug/L		05/08/23 09:11	05/08/23 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*32*		*20 - 120*	*05/08/23 09:11*	*05/08/23 15:54*	*1*
DCB Decachlorobiphenyl	*37*		*20 - 120*	*05/08/23 09:11*	*05/08/23 15:54*	*1*
Tetrachloro-m-xylene	*92*		*44 - 120*	*05/08/23 09:11*	*05/08/23 15:54*	*1*
Tetrachloro-m-xylene	*77*		*44 - 120*	*05/08/23 09:11*	*05/08/23 15:54*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.63	0.22	ug/L		05/05/23 07:10	05/05/23 19:18	1
PCB-1221	ND		0.63	0.22	ug/L		05/05/23 07:10	05/05/23 19:18	1
PCB-1232	ND		0.63	0.22	ug/L		05/05/23 07:10	05/05/23 19:18	1
PCB-1242	**0.60**	**J**	0.63	0.22	ug/L		05/05/23 07:10	05/05/23 19:18	1
PCB-1248	ND		0.63	0.22	ug/L		05/05/23 07:10	05/05/23 19:18	1
PCB-1254	ND		0.63	0.31	ug/L		05/05/23 07:10	05/05/23 19:18	1
PCB-1260	ND		0.63	0.31	ug/L		05/05/23 07:10	05/05/23 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*39 - 121*	*05/05/23 07:10*	*05/05/23 19:18*	*1*
Tetrachloro-m-xylene	*61*		*39 - 121*	*05/05/23 07:10*	*05/05/23 19:18*	*1*
DCB Decachlorobiphenyl	*49*		*19 - 120*	*05/05/23 07:10*	*05/05/23 19:18*	*1*
DCB Decachlorobiphenyl	*43*		*19 - 120*	*05/05/23 07:10*	*05/05/23 19:18*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.56	0.076	ug/L		05/08/23 09:24	05/09/23 14:30	1
2,4-D	ND		0.56	0.19	ug/L		05/08/23 09:24	05/09/23 14:30	1
Silvex (2,4,5-TP)	ND		0.56	0.056	ug/L		05/08/23 09:24	05/09/23 14:30	1

Client Sample ID: RB-050223
Date Collected: 05/02/23 16:15
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-2
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*94*		*48 - 132*	*05/08/23 09:24*	*05/09/23 14:30*	*1*
2,4-Dichlorophenylacetic acid	*89*		*48 - 132*	*05/08/23 09:24*	*05/09/23 14:30*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		1.0	0.27	ug/L		05/08/23 06:40	05/10/23 19:26	1
Disulfoton	ND		1.0	0.42	ug/L		05/08/23 06:40	05/10/23 19:26	1
Famphur	ND		1.0	0.33	ug/L		05/08/23 06:40	05/10/23 19:26	1
Methyl parathion	ND		1.0	0.35	ug/L		05/08/23 06:40	05/10/23 19:26	1
Ethyl Parathion	ND		1.0	0.38	ug/L		05/08/23 06:40	05/10/23 19:26	1
Phorate	ND		1.0	0.39	ug/L		05/08/23 06:40	05/10/23 19:26	1
Sulfotepp	ND		1.0	0.42	ug/L		05/08/23 06:40	05/10/23 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*109*		*25 - 127*	*05/08/23 06:40*	*05/10/23 19:26*	*1*
Tributyl phosphate	*106*		*25 - 127*	*05/08/23 06:40*	*05/10/23 19:26*	*1*
Triphenylphosphate	*128*		*70 - 155*	*05/08/23 06:40*	*05/10/23 19:26*	*1*
Triphenylphosphate	*123*		*70 - 155*	*05/08/23 06:40*	*05/10/23 19:26*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.67	ng/L		05/08/23 08:43	05/08/23 21:12	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.4	1.1	ng/L		05/08/23 08:43	05/08/23 21:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	1.4	ng/L		05/08/23 08:43	05/08/23 21:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	1.7	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.54	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorobutanoic acid (PFBA)	ND		4.4	1.0	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.35	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.40	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.36	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.47	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.48	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.57	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.80	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.74	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.66	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.59	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.56	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.42	ng/L		05/08/23 08:43	05/08/23 21:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.48	ng/L		05/08/23 08:43	05/08/23 21:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*101*		*50 - 150*	*05/08/23 08:43*	*05/08/23 21:12*	*1*
13C2 PFDoA	*90*		*50 - 150*	*05/08/23 08:43*	*05/08/23 21:12*	*1*
13C2 PFHxA	*105*		*50 - 150*	*05/08/23 08:43*	*05/08/23 21:12*	*1*
13C2 PFTeDA	*87*		*50 - 150*	*05/08/23 08:43*	*05/08/23 21:12*	*1*

Client Sample ID: RB-050223
Date Collected: 05/02/23 16:15
Date Received: 05/04/23 10:00

Lab Sample ID: 480-208542-2
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	97		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C3 PFBS	93		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C4 PFBA	103		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C4 PFHpA	102		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C4 PFOA	99		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C4 PFOS	90		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C5 PFNA	97		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C5 PFPeA	95		50 - 150	05/08/23 08:43	05/08/23 21:12	1
13C8 FOSA	82		50 - 150	05/08/23 08:43	05/08/23 21:12	1
18O2 PFHxS	93		50 - 150	05/08/23 08:43	05/08/23 21:12	1
d3-NMeFOSAA	86		50 - 150	05/08/23 08:43	05/08/23 21:12	1
d5-NEtFOSAA	89		50 - 150	05/08/23 08:43	05/08/23 21:12	1
M2-6:2 FTS	89		50 - 150	05/08/23 08:43	05/08/23 21:12	1
M2-8:2 FTS	91		50 - 150	05/08/23 08:43	05/08/23 21:12	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	2.6	J B JNX	27	0.18	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,4,6,7,8-HpCDF	1.6	J I B	27	0.14	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,4,7,8,9-HpCDF	1.5	J B	27	0.31	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,4,7,8-HxCDD	0.70	J B	27	0.070	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,4,7,8-HxCDF	1.5	J I B	27	0.12	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,6,7,8-HxCDD	ND		27	0.068	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,6,7,8-HxCDF	1.3	J I JNX	27	0.11	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,7,8,9-HxCDD	ND		27	0.069	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,7,8,9-HxCDF	ND		27	0.16	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,7,8-PeCDD	ND		27	0.11	pg/L		05/24/23 10:15	06/05/23 15:08	1
1,2,3,7,8-PeCDF	1.3	J I JNX	27	0.24	pg/L		05/24/23 10:15	06/05/23 15:08	1
2,3,4,6,7,8-HxCDF	0.71	J I B JNX	27	0.11	pg/L		05/24/23 10:15	06/05/23 15:08	1
2,3,4,7,8-PeCDF	ND		27	0.15	pg/L		05/24/23 10:15	06/05/23 15:08	1
2,3,7,8-TCDD	ND		5.5	0.032	pg/L		05/24/23 10:15	06/05/23 15:08	1
2,3,7,8-TCDF	ND		5.5	0.14	pg/L		05/24/23 10:15	06/05/23 15:08	1
OCDD	2.5	J I B JNX	120	0.078	pg/L		05/24/23 10:15	06/05/23 15:08	1
OCDF	2.6	J B	55	0.25	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total HpCDD	3.2	J I B	27	0.18	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total HpCDF	3.2	J I B	27	0.23	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total HxCDD	3.9	J I B	27	0.069	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total HxCDF	3.5	J I B	27	0.13	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total PeCDD	1.6	J I B	27	0.11	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total PeCDF	1.8	J I B	27	0.19	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total TCDD	0.096	J I	5.5	0.032	pg/L		05/24/23 10:15	06/05/23 15:08	1
Total TCDF	0.52	J I B	5.5	0.14	pg/L		05/24/23 10:15	06/05/23 15:08	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	78		40 - 135	05/24/23 10:15	06/05/23 15:08	1
13C-1,2,3,4,6,7,8-HpCDF	77		40 - 135	05/24/23 10:15	06/05/23 15:08	1
13C-1,2,3,4,7,8,9-HpCDF	49		40 - 135	05/24/23 10:15	06/05/23 15:08	1
13C-1,2,3,4,7,8-HxCDD	76		40 - 135	05/24/23 10:15	06/05/23 15:08	1
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	05/24/23 10:15	06/05/23 15:08	1
13C-1,2,3,6,7,8-HxCDD	79		40 - 135	05/24/23 10:15	06/05/23 15:08	1

Client Sample ID: RB-050223
Lab Sample ID: 480-208542-2

Date Collected: 05/02/23 16:15
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDF	*88*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-1,2,3,7,8,9-HxCDD	*80*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-2,3,7,8-TCDD	*84*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-2,3,7,8-TCDF	*83*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-OCDD	*76*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*
13C-OCDF	*46*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:08*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/05/23 08:10	05/06/23 00:37	1
Arsenic	ND		0.015	0.0056	mg/L		05/05/23 08:10	05/06/23 00:37	1
Barium	ND		0.0020	0.00070	mg/L		05/05/23 08:10	05/06/23 00:37	1
Beryllium	ND		0.0020	0.00030	mg/L		05/05/23 08:10	05/06/23 00:37	1
Cadmium	ND		0.0020	0.00050	mg/L		05/05/23 08:10	05/06/23 00:37	1
Chromium	ND		0.0040	0.0010	mg/L		05/05/23 08:10	05/06/23 00:37	1
Cobalt	ND		0.0040	0.00063	mg/L		05/05/23 08:10	05/06/23 00:37	1
Copper	ND		0.010	0.0016	mg/L		05/05/23 08:10	05/06/23 00:37	1
Lead	ND		0.010	0.0030	mg/L		05/05/23 08:10	05/06/23 00:37	1
Nickel	**0.0027**	**J B**	0.010	0.0013	mg/L		05/05/23 08:10	05/06/23 00:37	1
Selenium	ND		0.025	0.0087	mg/L		05/05/23 08:10	05/06/23 00:37	1
Silver	ND		0.0060	0.0017	mg/L		05/05/23 08:10	05/06/23 00:37	1
Thallium	ND		0.020	0.010	mg/L		05/05/23 08:10	05/06/23 00:37	1
Tin	ND		0.010	0.0051	mg/L		05/05/23 08:10	05/06/23 00:37	1
Vanadium	ND		0.0050	0.0015	mg/L		05/05/23 08:10	05/06/23 00:37	1
Zinc	ND		0.010	0.0015	mg/L		05/05/23 08:10	05/06/23 00:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/05/23 11:10	05/05/23 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/15/23 12:39	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/09/23 14:00	1

Client Sample ID: TRIP BLANK 050223
Lab Sample ID: 480-208542-3

Date Collected: 05/02/23 00:00
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/08/23 17:11	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/08/23 17:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/08/23 17:11	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/08/23 17:11	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/08/23 17:11	1

Client Sample ID: TRIP BLANK 050223
Lab Sample ID: 480-208542-3

Date Collected: 05/02/23 00:00
Matrix: Water
Date Received: 05/04/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/08/23 17:11	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/08/23 17:11	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/08/23 17:11	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/08/23 17:11	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/08/23 17:11	1
2-Butanone (MEK)	ND		10	1.3	ug/L			05/08/23 17:11	1
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/08/23 17:11	1
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/08/23 17:11	1 R
2-Hexanone	ND		5.0	1.2	ug/L			05/08/23 17:11	1
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/08/23 17:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/08/23 17:11	1
Acetone	ND		10	3.0	ug/L			05/08/23 17:11	1
Acetonitrile	ND		15	4.9	ug/L			05/08/23 17:11	1
Acrolein	ND		20	0.91	ug/L			05/08/23 17:11	1
Acrylonitrile	ND		5.0	0.83	ug/L			05/08/23 17:11	1
Benzene	ND		1.0	0.41	ug/L			05/08/23 17:11	1
Bromoform	ND		1.0	0.26	ug/L			05/08/23 17:11	1
Bromomethane	ND		1.0	0.69	ug/L			05/08/23 17:11	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/08/23 17:11	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/08/23 17:11	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/08/23 17:11	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/08/23 17:11	1
Chloroethane	ND		1.0	0.32	ug/L			05/08/23 17:11	1
Chloroform	ND		1.0	0.34	ug/L			05/08/23 17:11	1
Chloromethane	ND		1.0	0.35	ug/L			05/08/23 17:11	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/08/23 17:11	1
Dibromomethane	ND		1.0	0.41	ug/L			05/08/23 17:11	1
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/08/23 17:11	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/08/23 17:11	1
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/08/23 17:11	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/08/23 17:11	1
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/08/23 17:11	1
Iodomethane	ND		1.0	0.30	ug/L			05/08/23 17:11	1
Methacrylonitrile	ND		5.0	0.69	ug/L			05/08/23 17:11	1
Methyl methacrylate	ND		1.0	0.61	ug/L			05/08/23 17:11	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/08/23 17:11	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/08/23 17:11	1
o-Xylene	ND		1.0	0.76	ug/L			05/08/23 17:11	1
Propionitrile	ND		10	5.8	ug/L			05/08/23 17:11	1
Styrene	ND		1.0	0.73	ug/L			05/08/23 17:11	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/08/23 17:11	1
Toluene	ND		1.0	0.51	ug/L			05/08/23 17:11	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/08/23 17:11	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/08/23 17:11	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/08/23 17:11	1
Trichloroethene	ND		1.0	0.46	ug/L			05/08/23 17:11	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/08/23 17:11	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/08/23 17:11	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/08/23 17:11	1

Client Sample ID: TRIP BLANK 050223
Lab Sample ID: 480-208542-3

Date Collected: 05/02/23 00:00
Matrix: Water
Date Received: 05/04/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		05/08/23 17:11	1
4-Bromofluorobenzene (Surr)	105		73 - 120		05/08/23 17:11	1
Dibromofluoromethane (Surr)	103		75 - 123		05/08/23 17:11	1
Toluene-d8 (Surr)	98		80 - 120		05/08/23 17:11	1

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-208620-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50619R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Calibration 10
3.2.1 Continuing Calibration 10
3.3 Laboratory Control Sample Analysis 11
3.4 System Performance and Overall Assessment 11
3.5 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 12
4.1 Holding Times 12
4.2 System Performance and Overall Assessment 12
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 13
5.2 System Performance and Overall Assessment 13
5.3 Data Validation Checklist 14
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 14
6.1 Holding Times 14
6.2 Blank Contamination 14
6.3 Compound Identification 16
6.4 System Performance and Overall Assessment 16
6.5 Data Validation Checklist 17
7 Perfluoroalkyl Substances Analyses 17
7.1 Holding Times 17
7.2 System Performance and Overall Assessment 17
7.3 Data Validation Checklist 18

8 Metals Analyses 18
8.1 Holding Times 18
8.2 System Performance and Overall Assessment 18
8.3 Data Validation Checklist 19
9 General Chemistry Analyses 19
9.1 Holding Times 19
9.2 Blank Contamination 19
9.3 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis 20
9.3.1 Matrix Spike/Matrix Spike Duplicate Analysis 20
9.4 System Performance and Overall Assessment 21
9.5 Data Validation Checklist for General Chemistry 21
10 Overall Data Usability 21

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 6
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Compounds Outside Specified Calibration Control Limits 10
Table 7. Continuing Calibration Evaluation Criteria and Qualifications 10
Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits 11
Table 9. Laboratory Control Sample Recovery Criteria and Qualifications 11
Table 10. Holding Time for Method SW-846 8082A 12
Table 11. Holding Time for Method SW-846 8081B/8141B/8151A 13
Table 12. Holding Time for Method SW-846 8290A 14
Table 13. Summary of Blank Contamination Qualifications 15
Table 14. Holding Time for Method 537 17
Table 15. Holding Time for Method SW-846 6010C/7470A 18
Table 16. Specified Holding Times 19
Table 17. Samples with Matrix Spike and Matrix Spike Duplicate Recoveries Outside Control Limits 20
Table 18. Matrix Spike and Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications 20
Table 19. Overall Summary of Data Usability 21

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208620-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-1D	480-208620-1	Water	05/03/2023		X	X	X	X	X	X	X
MW-2022-1S	480-208620-2	Water	05/03/2023		X	X	X	X	X	X	X
TRIP BLANK 05032023	480-208620-3	Water	05/03/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	2	0	1	0	0	0	3
SVOCs	2	0	0	0	0	0	2
PCBs	2	0	0	0	0	0	2
PEST	2	0	0	0	0	0	2
HERB	2	0	0	0	0	0	2
OPC	2	0	0	0	0	0	2
PCDD/PCDF	2	0	0	0	0	0	2
PFAS	2	0	0	0	0	0	2
Metals	2	0	0	0	0	0	2
MISC	2	0	0	0	0	0	2

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.2.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 6. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-1D	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0068

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 7. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Continuing Calibration Verification (CCV)	%D >25% (increase/decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

Note:

Continuing Calibration	Criteria	Sample Result	Qualification

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.3 Laboratory Control Sample Analysis

The laboratory control sample (LCS) analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 8. Samples with Laboratory Control Sample Recoveries Outside Control Limits

Sample ID	Batch	Compound	LCS Recovery
MW-2022-1D MW-2022-1S	Prep Batch: 668392	p-Phenylene diamine	<10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Table 9. Laboratory Control Sample Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.5 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Laboratory Control Sample (LCS) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 10. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 12. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 13. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-1D	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,7,8-TCDF (MB) OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL
MW-2022-1S	1,2,3,4,6,7,8-HpCDD (MB) 1,2,3,4,6,7,8-HpCDF (MB) 1,2,3,4,7,8,9-HpCDF (MB) 1,2,3,4,7,8-HxCDD (MB) 1,2,3,4,7,8-HxCDF (MB) 1,2,3,6,7,8-HxCDD (MB) 1,2,3,7,8,9-HxCDD (MB) 1,2,3,7,8-PeCDD (MB) 2,3,4,6,7,8-HxCDF (MB) 2,3,7,8-TCDF (MB)		

Sample ID	Compounds	Sample Result	Qualification
	OCDD (MB) OCDF (MB) Total HpCDD (MB) Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 14. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 15. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is

compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 669722 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

9.3.1 Matrix Spike/Matrix Spike Duplicate Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125% for water matrices and laboratory control limits for soils. The MS/MSD recovery control limits do not apply for MSMSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MSMSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis performed on sample MW-2022-1D for the analyte sulfide exhibiting recoveries outside of the control limits are presented in the following table.

Table 17. Samples with Matrix Spike and Matrix Spike Duplicate Recoveries Outside Control Limits

Sample ID	Analyte	MS Recovery	MSD Recovery
MW-2022-1D	Sulfide	<30%	<30%

The criteria used to evaluate MS recoveries are presented in the following table. In the case of an MS deviation, the sample results are qualified. The qualifications are applied to the parent sample result for the analyte sulfide associated with this SDG.

Table 18. Matrix Spike and Matrix Spike Duplicate Recovery Evaluation Criteria and Qualifications

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

9.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.5 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 19. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	97.2%	2
SVOCs	98.8%	3
PCBs	100%	0

Parameter	Percent Usability	Rejected Data
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	75.0%	1

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: August 1, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 2, 2023

Appendix A

Chain of Custody

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Thom McClenahan	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWS ID:			Job #:
Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No			
Phone: 315-671-9374(Tel)	PO #: 30150026.3000			
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-			
Project Name: GE Woods Pond Parcel	Project #: 48021970			
Site:	SSOW#: 30150026.3000			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N		
MW-2022-1D	5/3/23	1115	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
MW-2022-1D MS/MSD	5/3/23	1115	G	Water		Y	x	x	x	x	x	x	x	x	x	x	x	40	
MW-2022-1S	5/3/23	1520	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
TripBlank 050323	5/3/23	x	G	Water									x					2	

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

480-208620 Chain of Custody

5-4-23

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment
Relinquished by:	Date/Time: 5-4-23 1000	Company: ARCADIS	Received by:
Relinquished by:	Date/Time: 5-4-23 1500	Company: EETW	Received by:
Relinquished by:	Date/Time:	Company:	Received by:

Received by:	Date/Time: 5-4-23 1000	Company: EETW
	Date/Time: 5/5/23 1000	Company: TAS
	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.1, 2.4, 2.6, 2.8,

Ver: 01/16/2019

Page 6367 of 6375

6/9/2023 9:43 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

C141 33cc

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	Carrier Tracking No(s)	COC No: 480-80429 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John.Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208620-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 5/18/2023			
City: Pittsburgh	TAT Requested (days):			
State, Zip: PA, 15238				
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B/3510C Appendix IX Pesticides	Total Number of containers	Special In
			Preservation Code:						
MW-2022-1D (480-208620-1)	5/3/23	11:15 Eastern		Water			X	2	
MW-2022-1D (480-208620-1MS)	5/3/23	11:15 Eastern	MS	Water			X	2	
MW-2022-1D (480-208620-1MSD)	5/3/23	11.15 Eastern	MSD	Water			X	2	
MW-2022-1S (480-208620-2)	5/3/23	15:20 Eastern		Water			X	2	

480-208620 Chain of Custody

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
1		5-5-23 1800	THB		5-6-23 0930	EPHRE
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

6/9/2023 9:43 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-208620 Chain of Custody

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Schove, John R	COC No: 480-80411 1
Client Contact: Shipping/Receiving	Phone	E-Mail: John Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York, State - Massachusetts	Job #: 480-208620-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/18/2023		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email	WO #:		
Project Name: GE Woods Pond Parcel	Project #: 48024970		
Site	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-1D (480-208620-1)	5/3/23	11:15 Eastern		Water			X	2	
MW-2022-1D (480-208620-1MS)	5/3/23	11 15 Eastern	MS	Water			X	2	
MW-2022-1D (480-208620-1MSD)	5/3/23	11:15 Eastern	MSD	Water			X	2	
MW-2022-1S (480-208620-2)	5/3/23	15 20 Eastern		Water			X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	[signature]	5-5-23 1600	[signature]	[signature]	5/6/23 9:45	[signature]
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

6/9/2023 9:43 AM

Chain of Custody Record

eurofins | Environment Testing

Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80425.1
	Phone:	E-Mail: Jchn.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
		Accreditations Required (See note): NELAP - New York, State - Massachusetts		Job #: 480-208620-1

Due Date Requested: 5/18/2023

TAT Requested (days):

PO #:

WO #:

Project #: 48024970

SSOW#:

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
		Preservation Code:						
5/3/23	11:15 Eastern		Water			X	2	
5/3/23	11:15 Eastern	MS	Water			X	2	
5/3/23	11:15 Eastern	MSD	Water			X	2	
5/3/23	15:20 Eastern		Water			X	2	

...hange, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory ...of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation ...sting Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

...specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

	Date:	Time:	Method of Shipment:		
	Date/Time: 5-5-23 1800	Company: TAB	Received by:	Date/Time:	Company
	Date/Time:	Company:	Received by:	Date/Time:	Company
	Date/Time:	Company	Received by:	Date/Time: 5/6/23 9:45	Company: EUET

...o.:

Cooler Temperature(s) °C and Other Remarks: 1.2

Ver: 06/08/2021

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-208620-1

Date Collected: 05/03/23 11:15
Matrix: Water

Date Received: 05/05/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/09/23 18:18	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/23 18:18	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/09/23 18:18	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/09/23 18:18	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/09/23 18:18	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/09/23 18:18	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/09/23 18:18	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/09/23 18:18	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/09/23 18:18	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/09/23 18:18	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/09/23 18:18	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/09/23 18:18	1	
2-Chloroethyl vinyl ether	ND	F1	5.0	0.96	ug/L			05/09/23 18:18	1	R
2-Hexanone	ND		5.0	1.2	ug/L			05/09/23 18:18	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/09/23 18:18	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/09/23 18:18	1	
Acetone	ND		10	3.0	ug/L			05/09/23 18:18	1	
Acetonitrile	ND		15	4.9	ug/L			05/09/23 18:18	1	
Acrolein	ND		20	0.91	ug/L			05/09/23 18:18	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/09/23 18:18	1	
Benzene	ND		1.0	0.41	ug/L			05/09/23 18:18	1	
Bromoform	ND		1.0	0.26	ug/L			05/09/23 18:18	1	
Bromomethane	ND		1.0	0.69	ug/L			05/09/23 18:18	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/09/23 18:18	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/09/23 18:18	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/09/23 18:18	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/09/23 18:18	1	
Chloroethane	ND		1.0	0.32	ug/L			05/09/23 18:18	1	
Chloroform	ND		1.0	0.34	ug/L			05/09/23 18:18	1	
Chloromethane	ND		1.0	0.35	ug/L			05/09/23 18:18	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/09/23 18:18	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/09/23 18:18	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/09/23 18:18	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/09/23 18:18	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/09/23 18:18	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/23 18:18	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/09/23 18:18	1	
Iodomethane	ND	F1	1.0	0.30	ug/L			05/09/23 18:18	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/09/23 18:18	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/09/23 18:18	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/09/23 18:18	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/23 18:18	1	
o-Xylene	ND		1.0	0.76	ug/L			05/09/23 18:18	1	
Propionitrile	ND		10	5.8	ug/L			05/09/23 18:18	1	
Styrene	ND		1.0	0.73	ug/L			05/09/23 18:18	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/23 18:18	1	
Toluene	ND		1.0	0.51	ug/L			05/09/23 18:18	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/23 18:18	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/09/23 18:18	1	

Client Sample ID: MW-2022-1D
Date Collected: 05/03/23 11:15
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/09/23 18:18	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/23 18:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/09/23 18:18	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/09/23 18:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/23 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*77 - 120*		*05/09/23 18:18*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*05/09/23 18:18*	*1*
Dibromofluoromethane (Surr)	*112*		*75 - 123*		*05/09/23 18:18*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/09/23 18:18*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,3,5-Trinitrobenzene	ND	F1	10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,4-Dioxane	ND		10	1.1	ug/L		05/05/23 15:12	05/09/23 03:41	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/05/23 15:12	05/09/23 03:41	1
1-Naphthylamine	ND	*- F1	10	1.3	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/05/23 15:12	05/09/23 03:41	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Naphthylamine	ND	F1	10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Nitroaniline	ND		10	0.42	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Picoline	ND	F1	80	1.4	ug/L		05/05/23 15:12	05/09/23 03:41	1
2-Toluidine	ND	F1	10	1.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/05/23 15:12	05/09/23 03:41	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
3,3'-Dimethylbenzidine	ND	*- F1 F2	40	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
3-Methylcholanthrene	ND	F1	10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
3-Methylphenol	ND		10	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
3-Nitroaniline	ND		10	0.48	ug/L		05/05/23 15:12	05/09/23 03:41	1

Client Sample ID: MW-2022-1D
Lab Sample ID: 480-208620-1

Date Collected: 05/03/23 11:15
Matrix: Water

Date Received: 05/05/23 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Aminobiphenyl	ND	F1	10	0.81	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Methylphenol	ND		10	0.36	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Nitroaniline	ND		10	0.25	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Nitrophenol	ND		10	1.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
4-Nitroquinoline-1-oxide	ND	F1	10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1 R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/05/23 15:12	05/09/23 03:41	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		05/05/23 15:12	05/09/23 03:41	1
Acenaphthene	ND		5.0	0.41	ug/L		05/05/23 15:12	05/09/23 03:41	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/05/23 15:12	05/09/23 03:41	1
Acetophenone	ND		5.0	0.54	ug/L		05/05/23 15:12	05/09/23 03:41	1
Aniline	ND		10	0.61	ug/L		05/05/23 15:12	05/09/23 03:41	1
Anthracene	ND		5.0	0.28	ug/L		05/05/23 15:12	05/09/23 03:41	1
Aramite, Total	ND		20	1.6	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzidine	ND	F2	80	2.2	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/05/23 15:12	05/09/23 03:41	1
Benzyl alcohol	ND		20	2.0	ug/L		05/05/23 15:12	05/09/23 03:41	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/05/23 15:12	05/09/23 03:41	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/05/23 15:12	05/09/23 03:41	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/05/23 15:12	05/09/23 03:41	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/05/23 15:12	05/09/23 03:41	1
Chrysene	ND		5.0	0.33	ug/L		05/05/23 15:12	05/09/23 03:41	1
Diallate	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/05/23 15:12	05/09/23 03:41	1
Dibenzofuran	ND		10	0.51	ug/L		05/05/23 15:12	05/09/23 03:41	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/05/23 15:12	05/09/23 03:41	1
Dimethoate	ND		10	0.54	ug/L		05/05/23 15:12	05/09/23 03:41	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/05/23 15:12	05/09/23 03:41	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/05/23 15:12	05/09/23 03:41	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/05/23 15:12	05/09/23 03:41	1
Dinoseb	ND		10	2.9	ug/L		05/05/23 15:12	05/09/23 03:41	1
Diphenylamine	ND		10	0.82	ug/L		05/05/23 15:12	05/09/23 03:41	1
Disulfoton	ND		10	0.42	ug/L		05/05/23 15:12	05/09/23 03:41	1
Chlorobenzilate	ND		20	0.67	ug/L		05/05/23 15:12	05/09/23 03:41	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/05/23 15:12	05/09/23 03:41	1
Famphur	ND	*- F1 F2	40	1.9	ug/L		05/05/23 15:12	05/09/23 03:41	1
Fluoranthene	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 03:41	1
Fluorene	ND		5.0	0.36	ug/L		05/05/23 15:12	05/09/23 03:41	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/05/23 15:12	05/09/23 03:41	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/05/23 15:12	05/09/23 03:41	1

Client Sample ID: MW-2022-1D

Date Collected: 05/03/23 11:15
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-1

Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/05/23 15:12	05/09/23 03:41	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/05/23 15:12	05/09/23 03:41	1
Hexachloropropene	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/05/23 15:12	05/09/23 03:41	1
Isodrin	ND		10	0.18	ug/L		05/05/23 15:12	05/09/23 03:41	1
Isophorone	ND		5.0	0.43	ug/L		05/05/23 15:12	05/09/23 03:41	1
Isosafrole	ND		10	0.58	ug/L		05/05/23 15:12	05/09/23 03:41	1
Kepone	ND	*- F1 F2	50	1.8	ug/L		05/05/23 15:12	05/09/23 03:41	1
Methapyrilene	ND	F1 F2	50	1.8	ug/L		05/05/23 15:12	05/09/23 03:41	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
Naphthalene	ND		5.0	0.76	ug/L		05/05/23 15:12	05/09/23 03:41	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/05/23 15:12	05/09/23 03:41	1
Ethyl Parathion	ND	F1	10	0.64	ug/L		05/05/23 15:12	05/09/23 03:41	1
Methyl parathion	ND		10	0.37	ug/L		05/05/23 15:12	05/09/23 03:41	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/05/23 15:12	05/09/23 03:41	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/05/23 15:12	05/09/23 03:41	1
Pentachloronitrobenzene	ND	F1	10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
Pentachlorophenol	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 03:41	1
Phenacetin	ND		10	0.61	ug/L		05/05/23 15:12	05/09/23 03:41	1
Phenanthrene	ND		5.0	0.44	ug/L		05/05/23 15:12	05/09/23 03:41	1
Phenol	ND		5.0	0.39	ug/L		05/05/23 15:12	05/09/23 03:41	1
Phorate	ND		10	0.50	ug/L		05/05/23 15:12	05/09/23 03:41	1
p-Phenylene diamine	ND	*-	800	200	ug/L		05/05/23 15:12	05/09/23 03:41	1
Pronamide	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 03:41	1
Pyrene	ND		5.0	0.34	ug/L		05/05/23 15:12	05/09/23 03:41	1
Pyridine	ND	F1	25	0.41	ug/L		05/05/23 15:12	05/09/23 03:41	1
Safrole	ND		10	0.46	ug/L		05/05/23 15:12	05/09/23 03:41	1
Sulfotepp	ND		10	0.64	ug/L		05/05/23 15:12	05/09/23 03:41	1
Thionazin	ND		10	0.38	ug/L		05/05/23 15:12	05/09/23 03:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*41 - 120*	*05/05/23 15:12*	*05/09/23 03:41*	*1*
2-Fluorobiphenyl (Surr)	*81*		*48 - 120*	*05/05/23 15:12*	*05/09/23 03:41*	*1*
2-Fluorophenol (Surr)	*57*		*35 - 120*	*05/05/23 15:12*	*05/09/23 03:41*	*1*
Nitrobenzene-d5 (Surr)	*74*		*46 - 120*	*05/05/23 15:12*	*05/09/23 03:41*	*1*
Phenol-d5 (Surr)	*40*		*22 - 120*	*05/05/23 15:12*	*05/09/23 03:41*	*1*
p-Terphenyl-d14 (Surr)	*86*		*60 - 148*	*05/05/23 15:12*	*05/09/23 03:41*	*1*

Client Sample ID: MW-2022-1D
Date Collected: 05/03/23 11:15
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/09/23 14:57	05/10/23 18:38	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 18:38	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 18:38	1
Aldrin	ND		0.050	0.0081	ug/L		05/09/23 14:57	05/10/23 18:38	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/09/23 14:57	05/10/23 18:38	1
beta-BHC	ND		0.050	0.025	ug/L		05/09/23 14:57	05/10/23 18:38	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/09/23 14:57	05/10/23 18:38	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/09/23 14:57	05/10/23 18:38	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/09/23 14:57	05/10/23 18:38	1
delta-BHC	ND		0.050	0.010	ug/L		05/09/23 14:57	05/10/23 18:38	1
Dieldrin	ND		0.050	0.0098	ug/L		05/09/23 14:57	05/10/23 18:38	1
Endosulfan I	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 18:38	1
Endosulfan II	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 18:38	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 18:38	1
Endrin	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 18:38	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 18:38	1
Endrin ketone	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 18:38	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/09/23 14:57	05/10/23 18:38	1
Heptachlor	ND		0.050	0.0085	ug/L		05/09/23 14:57	05/10/23 18:38	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/09/23 14:57	05/10/23 18:38	1
Methoxychlor	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 18:38	1
Toxaphene	ND		0.50	0.12	ug/L		05/09/23 14:57	05/10/23 18:38	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*53*		*20 - 120*	*05/09/23 14:57*	*05/10/23 18:38*	*1*
DCB Decachlorobiphenyl	*65*		*20 - 120*	*05/09/23 14:57*	*05/10/23 18:38*	*1*
Tetrachloro-m-xylene	*92*		*44 - 120*	*05/09/23 14:57*	*05/10/23 18:38*	*1*
Tetrachloro-m-xylene	*77*		*44 - 120*	*05/09/23 14:57*	*05/10/23 18:38*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.18	ug/L		05/08/23 07:23	05/08/23 16:01	1
PCB-1221	ND		0.50	0.18	ug/L		05/08/23 07:23	05/08/23 16:01	1
PCB-1232	ND		0.50	0.18	ug/L		05/08/23 07:23	05/08/23 16:01	1
PCB-1242	ND		0.50	0.18	ug/L		05/08/23 07:23	05/08/23 16:01	1
PCB-1248	ND		0.50	0.18	ug/L		05/08/23 07:23	05/08/23 16:01	1
PCB-1254	ND		0.50	0.25	ug/L		05/08/23 07:23	05/08/23 16:01	1
PCB-1260	ND		0.50	0.25	ug/L		05/08/23 07:23	05/08/23 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*39 - 121*	*05/08/23 07:23*	*05/08/23 16:01*	*1*
Tetrachloro-m-xylene	*80*		*39 - 121*	*05/08/23 07:23*	*05/08/23 16:01*	*1*
DCB Decachlorobiphenyl	*72*		*19 - 120*	*05/08/23 07:23*	*05/08/23 16:01*	*1*
DCB Decachlorobiphenyl	*69*		*19 - 120*	*05/08/23 07:23*	*05/08/23 16:01*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.48	0.065	ug/L		05/09/23 09:20	05/10/23 16:25	1
2,4-D	ND		0.48	0.16	ug/L		05/09/23 09:20	05/10/23 16:25	1

Client Sample ID: MW-2022-1D
Date Collected: 05/03/23 11:15
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.48	0.048	ug/L		05/09/23 09:20	05/10/23 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*90*		*48 - 132*	*05/09/23 09:20*	*05/10/23 16:25*	*1*
2,4-Dichlorophenylacetic acid	*86*		*48 - 132*	*05/09/23 09:20*	*05/10/23 16:25*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.94	0.25	ug/L		05/10/23 01:30	05/12/23 21:22	1
Disulfoton	ND		0.94	0.38	ug/L		05/10/23 01:30	05/12/23 21:22	1
Famphur	ND		0.94	0.30	ug/L		05/10/23 01:30	05/12/23 21:22	1
Methyl parathion	ND		0.94	0.32	ug/L		05/10/23 01:30	05/12/23 21:22	1
Ethyl Parathion	ND		0.94	0.34	ug/L		05/10/23 01:30	05/12/23 21:22	1
Phorate	ND		0.94	0.36	ug/L		05/10/23 01:30	05/12/23 21:22	1
Sulfotepp	ND		0.94	0.38	ug/L		05/10/23 01:30	05/12/23 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*103*		*25 - 127*	*05/10/23 01:30*	*05/12/23 21:22*	*1*
Tributyl phosphate	*98*		*25 - 127*	*05/10/23 01:30*	*05/12/23 21:22*	*1*
Triphenylphosphate	*120*		*70 - 155*	*05/10/23 01:30*	*05/12/23 21:22*	*1*
Triphenylphosphate	*108*		*70 - 155*	*05/10/23 01:30*	*05/12/23 21:22*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.65	ng/L		05/11/23 09:20	05/11/23 19:22	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		05/11/23 09:20	05/11/23 19:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.3	ng/L		05/11/23 09:20	05/11/23 19:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorobutanesulfonic acid (PFBS)	**0.83**	**J**	1.7	0.52	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorobutanoic acid (PFBA)	ND		4.2	1.0	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.34	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.45	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorohexanesulfonic acid (PFHxS)	**9.6**		1.7	0.46	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.55	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.41	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.77	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorooctanesulfonic acid (PFOS)	**23**		1.7	0.71	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.64	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluoropentanoic acid (PFPeA)	**1.5**	**J**	1.7	0.57	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.54	ng/L		05/11/23 09:20	05/11/23 19:22	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.40	ng/L		05/11/23 09:20	05/11/23 19:22	1

Client Sample ID: MW-2022-1D
Date Collected: 05/03/23 11:15
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-1
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		05/11/23 09:20	05/11/23 19:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*101*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C2 PFDoA	*84*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C2 PFHxA	*108*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C2 PFUnA	*98*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C3 PFBS	*100*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C4 PFBA	*123*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C4 PFHpA	*112*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C4 PFOA	*110*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C4 PFOS	*98*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C5 PFNA	*103*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C5 PFPeA	*115*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
13C8 FOSA	*93*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
18O2 PFHxS	*102*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
M2-6:2 FTS	*102*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*
M2-8:2 FTS	*91*		*50 - 150*	*05/11/23 09:20*	*05/11/23 19:22*	*1*

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.6	J B 24 U	24	0.22	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,4,6,7,8-HpCDF	2.4	J B	24	0.10	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,4,7,8,9-HpCDF	1.0	J I B	24	0.14	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,4,7,8-HxCDD	ND		24	0.054	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,4,7,8-HxCDF	1.2	J I B 24 U	24	0.090	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,6,7,8-HxCDD	0.48	J I B 24 U	24	0.055	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,6,7,8-HxCDF	0.70	J	24	0.086	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,7,8,9-HxCDD	ND		24	0.054	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,7,8,9-HxCDF	ND		24	0.11	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,7,8-PeCDD	ND		24	0.049	pg/L		05/24/23 10:15	06/02/23 21:12	1
1,2,3,7,8-PeCDF	0.99	J I JNX	24	0.061	pg/L		05/24/23 10:15	06/02/23 21:12	1
2,3,4,6,7,8-HxCDF	0.71	J B 24 U	24	0.078	pg/L		05/24/23 10:15	06/02/23 21:12	1
2,3,4,7,8-PeCDF	0.46	J I JNX	24	0.041	pg/L		05/24/23 10:15	06/02/23 21:12	1
2,3,7,8-TCDD	ND		4.8	0.037	pg/L		05/24/23 10:15	06/02/23 21:12	1
2,3,7,8-TCDF	ND		4.8	0.026	pg/L		05/24/23 10:15	06/02/23 21:12	1
OCDD	5.0	J I B 110 U	110	0.23	pg/L		05/24/23 10:15	06/02/23 21:12	1
OCDF	7.7	J B 48 U	48	0.16	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total HpCDD	3.0	J B 24 U	24	0.22	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total HpCDF	3.4	J I B	24	0.12	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total HxCDD	2.9	J I B	24	0.054	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total HxCDF	3.2	J I B	24	0.091	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total PeCDD	0.94	J I B	24	0.049	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total PeCDF	2.3	J I B	24	0.051	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total TCDD	0.28	J I JNX	4.8	0.037	pg/L		05/24/23 10:15	06/02/23 21:12	1
Total TCDF	0.14	J I B 4.8 U	4.8	0.026	pg/L		05/24/23 10:15	06/02/23 21:12	1

Client Sample ID: MW-2022-1D
Date Collected: 05/03/23 11:15
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	93		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,4,6,7,8-HpCDF	92		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,4,7,8,9-HpCDF	96		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,4,7,8-HxCDD	79		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,4,7,8-HxCDF	81		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,6,7,8-HxCDD	85		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,6,7,8-HxCDF	93		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,7,8,9-HxCDD	87		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,7,8,9-HxCDF	87		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,7,8-PeCDD	74		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-1,2,3,7,8-PeCDF	78		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-2,3,4,6,7,8-HxCDF	86		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-2,3,4,7,8-PeCDF	85		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-2,3,7,8-TCDD	79		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-2,3,7,8-TCDF	82		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-OCDD	105		40 - 135	05/24/23 10:15	06/02/23 21:12	1
13C-OCDF	86		40 - 135	05/24/23 10:15	06/02/23 21:12	1

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/08/23 08:40	05/10/23 16:58	1
Arsenic	ND		0.015	0.0056	mg/L		05/08/23 08:40	05/10/23 16:58	1
Barium	**0.015**		0.0020	0.00070	mg/L		05/08/23 08:40	05/10/23 16:58	1
Beryllium	ND		0.0020	0.00030	mg/L		05/08/23 08:40	05/10/23 16:58	1
Cadmium	ND		0.0020	0.00050	mg/L		05/08/23 08:40	05/10/23 16:58	1
Chromium	ND		0.0040	0.0010	mg/L		05/08/23 08:40	05/10/23 16:58	1
Cobalt	**0.00090**	**J**	0.0040	0.00063	mg/L		05/08/23 08:40	05/10/23 16:58	1
Copper	ND		0.010	0.0016	mg/L		05/08/23 08:40	05/10/23 16:58	1
Lead	ND		0.010	0.0030	mg/L		05/08/23 08:40	05/10/23 16:58	1
Nickel	ND		0.010	0.0013	mg/L		05/08/23 08:40	05/10/23 16:58	1
Selenium	ND		0.025	0.0087	mg/L		05/08/23 08:40	05/10/23 16:58	1
Silver	ND		0.0060	0.0017	mg/L		05/08/23 08:40	05/10/23 16:58	1
Thallium	ND		0.020	0.010	mg/L		05/08/23 08:40	05/10/23 16:58	1
Tin	ND		0.010	0.0051	mg/L		05/08/23 08:40	05/10/23 16:58	1
Vanadium	ND		0.0050	0.0015	mg/L		05/08/23 08:40	05/10/23 16:58	1
Zinc	ND		0.010	0.0015	mg/L		05/08/23 08:40	05/10/23 16:58	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/08/23 11:24	05/09/23 09:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND	~~F1~~	0.010	0.0041	mg/L			05/16/23 12:35	1
~~Sulfide (SM 4500 S2 F)~~	~~ND~~	~~F1~~	~~1.0~~	~~0.67~~	~~mg/L~~			~~05/10/23 11:47~~	~~1~~ R

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-208620-2

Date Collected: 05/03/23 15:20
Matrix: Water

Date Received: 05/05/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/09/23 18:41	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/23 18:41	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/09/23 18:41	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/09/23 18:41	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/09/23 18:41	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/09/23 18:41	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/09/23 18:41	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/09/23 18:41	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/09/23 18:41	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/09/23 18:41	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/09/23 18:41	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/09/23 18:41	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/09/23 18:41	1	R
2-Hexanone	ND		5.0	1.2	ug/L			05/09/23 18:41	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/09/23 18:41	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/09/23 18:41	1	
Acetone	ND		10	3.0	ug/L			05/09/23 18:41	1	
Acetonitrile	ND		15	4.9	ug/L			05/09/23 18:41	1	
Acrolein	ND		20	0.91	ug/L			05/09/23 18:41	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/09/23 18:41	1	
Benzene	ND		1.0	0.41	ug/L			05/09/23 18:41	1	
Bromoform	ND		1.0	0.26	ug/L			05/09/23 18:41	1	
Bromomethane	ND		1.0	0.69	ug/L			05/09/23 18:41	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/09/23 18:41	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/09/23 18:41	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/09/23 18:41	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/09/23 18:41	1	
Chloroethane	ND		1.0	0.32	ug/L			05/09/23 18:41	1	
Chloroform	ND		1.0	0.34	ug/L			05/09/23 18:41	1	
Chloromethane	ND		1.0	0.35	ug/L			05/09/23 18:41	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/09/23 18:41	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/09/23 18:41	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/09/23 18:41	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/09/23 18:41	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/09/23 18:41	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/23 18:41	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/09/23 18:41	1	
Iodomethane	ND		1.0	0.30	ug/L			05/09/23 18:41	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/09/23 18:41	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/09/23 18:41	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/09/23 18:41	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/23 18:41	1	
o-Xylene	ND		1.0	0.76	ug/L			05/09/23 18:41	1	
Propionitrile	ND		10	5.8	ug/L			05/09/23 18:41	1	
Styrene	ND		1.0	0.73	ug/L			05/09/23 18:41	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/23 18:41	1	
Toluene	ND		1.0	0.51	ug/L			05/09/23 18:41	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/23 18:41	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/09/23 18:41	1	

Client Sample ID: MW-2022-1S
Date Collected: 05/03/23 15:20
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/09/23 18:41	1
Trichloroethene	ND		1.0	0.46	ug/L			05/09/23 18:41	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/09/23 18:41	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/09/23 18:41	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/23 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*77 - 120*		*05/09/23 18:41*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*05/09/23 18:41*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*05/09/23 18:41*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/09/23 18:41*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,4-Dioxane	ND		10	1.1	ug/L		05/05/23 15:12	05/09/23 16:33	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/05/23 15:12	05/09/23 16:33	1
1-Naphthylamine	ND	*-	10	1.3	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/05/23 15:12	05/09/23 16:33	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Naphthylamine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Nitroaniline	ND		10	0.42	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Picoline	ND		80	1.4	ug/L		05/05/23 15:12	05/09/23 16:33	1
2-Toluidine	ND		10	1.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/05/23 15:12	05/09/23 16:33	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
3,3'-Dimethylbenzidine	ND	*-	40	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
3-Methylphenol	ND		10	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
3-Nitroaniline	ND		10	0.48	ug/L		05/05/23 15:12	05/09/23 16:33	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-208620-2

Date Collected: 05/03/23 15:20
Matrix: Water
Date Received: 05/05/23 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Aminobiphenyl	ND		10	0.81	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Chloroaniline	ND		5.0	0.59	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Methylphenol	ND		10	0.36	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Nitroaniline	ND		10	0.25	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Nitrophenol	ND		10	1.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
4-Nitroquinoline-1-oxide	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/05/23 15:12	05/09/23 16:33	1
a,a-Dimethylphenethylamine	ND		100	40	ug/L		05/05/23 15:12	05/09/23 16:33	1
Acenaphthene	ND		5.0	0.41	ug/L		05/05/23 15:12	05/09/23 16:33	1
Acenaphthylene	ND		5.0	0.38	ug/L		05/05/23 15:12	05/09/23 16:33	1
Acetophenone	ND		5.0	0.54	ug/L		05/05/23 15:12	05/09/23 16:33	1
Aniline	ND		10	0.61	ug/L		05/05/23 15:12	05/09/23 16:33	1
Anthracene	ND		5.0	0.28	ug/L		05/05/23 15:12	05/09/23 16:33	1
Aramite, Total	ND		20	1.6	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzidine	ND		80	2.2	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/05/23 15:12	05/09/23 16:33	1
Benzyl alcohol	ND		20	2.0	ug/L		05/05/23 15:12	05/09/23 16:33	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/05/23 15:12	05/09/23 16:33	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/05/23 15:12	05/09/23 16:33	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/05/23 15:12	05/09/23 16:33	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/05/23 15:12	05/09/23 16:33	1
Chrysene	ND		5.0	0.33	ug/L		05/05/23 15:12	05/09/23 16:33	1
Diallate	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/05/23 15:12	05/09/23 16:33	1
Dibenzofuran	ND		10	0.51	ug/L		05/05/23 15:12	05/09/23 16:33	1
Diethyl phthalate	ND		5.0	0.22	ug/L		05/05/23 15:12	05/09/23 16:33	1
Dimethoate	ND		10	0.54	ug/L		05/05/23 15:12	05/09/23 16:33	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/05/23 15:12	05/09/23 16:33	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/05/23 15:12	05/09/23 16:33	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/05/23 15:12	05/09/23 16:33	1
Dinoseb	ND		10	2.9	ug/L		05/05/23 15:12	05/09/23 16:33	1
Diphenylamine	ND		10	0.82	ug/L		05/05/23 15:12	05/09/23 16:33	1
Disulfoton	ND		10	0.42	ug/L		05/05/23 15:12	05/09/23 16:33	1
Chlorobenzilate	ND		20	0.67	ug/L		05/05/23 15:12	05/09/23 16:33	1
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/05/23 15:12	05/09/23 16:33	1
Famphur	ND	*-	40	1.9	ug/L		05/05/23 15:12	05/09/23 16:33	1
Fluoranthene	ND		5.0	0.40	ug/L		05/05/23 15:12	05/09/23 16:33	1
Fluorene	ND		5.0	0.36	ug/L		05/05/23 15:12	05/09/23 16:33	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/05/23 15:12	05/09/23 16:33	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/05/23 15:12	05/09/23 16:33	1

Client Sample ID: MW-2022-1S
Date Collected: 05/03/23 15:20
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-2
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/05/23 15:12	05/09/23 16:33	1
Hexachloroethane	ND		5.0	0.59	ug/L		05/05/23 15:12	05/09/23 16:33	1
Hexachloropropene	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/05/23 15:12	05/09/23 16:33	1
Isodrin	ND		10	0.18	ug/L		05/05/23 15:12	05/09/23 16:33	1
Isophorone	ND		5.0	0.43	ug/L		05/05/23 15:12	05/09/23 16:33	1
Isosafrole	ND		10	0.58	ug/L		05/05/23 15:12	05/09/23 16:33	1
Kepone	ND	*	50	1.8	ug/L		05/05/23 15:12	05/09/23 16:33	1
Methapyrilene	ND		50	1.8	ug/L		05/05/23 15:12	05/09/23 16:33	1
Methyl methanesulfonate	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
Naphthalene	ND		5.0	0.76	ug/L		05/05/23 15:12	05/09/23 16:33	1
Nitrobenzene	ND		5.0	0.29	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/05/23 15:12	05/09/23 16:33	1
Ethyl Parathion	ND		10	0.64	ug/L		05/05/23 15:12	05/09/23 16:33	1
Methyl parathion	ND		10	0.37	ug/L		05/05/23 15:12	05/09/23 16:33	1
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/05/23 15:12	05/09/23 16:33	1
Pentachlorobenzene	ND		10	0.53	ug/L		05/05/23 15:12	05/09/23 16:33	1
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
Pentachlorophenol	ND		10	2.2	ug/L		05/05/23 15:12	05/09/23 16:33	1
Phenacetin	ND		10	0.61	ug/L		05/05/23 15:12	05/09/23 16:33	1
Phenanthrene	ND		5.0	0.44	ug/L		05/05/23 15:12	05/09/23 16:33	1
Phenol	ND		5.0	0.39	ug/L		05/05/23 15:12	05/09/23 16:33	1
Phorate	ND		10	0.50	ug/L		05/05/23 15:12	05/09/23 16:33	1
~~p-Phenylene diamine~~	~~ND~~	~~*~~	~~800~~	~~200~~	~~ug/L~~		~~05/05/23 15:12~~	~~05/09/23 16:33~~	~~1~~ R
Pronamide	ND		10	2.5	ug/L		05/05/23 15:12	05/09/23 16:33	1
Pyrene	ND		5.0	0.34	ug/L		05/05/23 15:12	05/09/23 16:33	1
Pyridine	ND		25	0.41	ug/L		05/05/23 15:12	05/09/23 16:33	1
Safrole	ND		10	0.46	ug/L		05/05/23 15:12	05/09/23 16:33	1
Sulfotepp	ND		10	0.64	ug/L		05/05/23 15:12	05/09/23 16:33	1
Thionazin	ND		10	0.38	ug/L		05/05/23 15:12	05/09/23 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*41 - 120*	*05/05/23 15:12*	*05/09/23 16:33*	*1*
2-Fluorobiphenyl (Surr)	*87*		*48 - 120*	*05/05/23 15:12*	*05/09/23 16:33*	*1*
2-Fluorophenol (Surr)	*58*		*35 - 120*	*05/05/23 15:12*	*05/09/23 16:33*	*1*
Nitrobenzene-d5 (Surr)	*78*		*46 - 120*	*05/05/23 15:12*	*05/09/23 16:33*	*1*
Phenol-d5 (Surr)	*39*		*22 - 120*	*05/05/23 15:12*	*05/09/23 16:33*	*1*
p-Terphenyl-d14 (Surr)	*77*		*60 - 148*	*05/05/23 15:12*	*05/09/23 16:33*	*1*

Client Sample ID: MW-2022-1S
Date Collected: 05/03/23 15:20
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-2
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.050	0.0092	ug/L		05/09/23 14:57	05/10/23 19:18	1
4,4'-DDE	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:18	1
4,4'-DDT	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:18	1
Aldrin	ND		0.050	0.0081	ug/L		05/09/23 14:57	05/10/23 19:18	1
alpha-BHC	ND		0.050	0.0077	ug/L		05/09/23 14:57	05/10/23 19:18	1
beta-BHC	ND		0.050	0.025	ug/L		05/09/23 14:57	05/10/23 19:18	1
Chlordane (technical)	ND		0.50	0.29	ug/L		05/09/23 14:57	05/10/23 19:18	1
Chlorobenzilate	ND		5.0	0.090	ug/L		05/09/23 14:57	05/10/23 19:18	1
cis-Chlordane	ND		0.050	0.015	ug/L		05/09/23 14:57	05/10/23 19:18	1
delta-BHC	ND		0.050	0.010	ug/L		05/09/23 14:57	05/10/23 19:18	1
Dieldrin	ND		0.050	0.0098	ug/L		05/09/23 14:57	05/10/23 19:18	1
Endosulfan I	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:18	1
Endosulfan II	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:18	1
Endosulfan sulfate	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 19:18	1
Endrin	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 19:18	1
Endrin aldehyde	ND		0.050	0.016	ug/L		05/09/23 14:57	05/10/23 19:18	1
Endrin ketone	ND		0.050	0.012	ug/L		05/09/23 14:57	05/10/23 19:18	1
gamma-BHC (Lindane)	ND		0.050	0.0080	ug/L		05/09/23 14:57	05/10/23 19:18	1
Heptachlor	ND		0.050	0.0085	ug/L		05/09/23 14:57	05/10/23 19:18	1
Heptachlor epoxide	ND		0.050	0.0074	ug/L		05/09/23 14:57	05/10/23 19:18	1
Methoxychlor	ND		0.050	0.014	ug/L		05/09/23 14:57	05/10/23 19:18	1
Toxaphene	ND		0.50	0.12	ug/L		05/09/23 14:57	05/10/23 19:18	1
trans-Chlordane	ND		0.050	0.011	ug/L		05/09/23 14:57	05/10/23 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*55*		*20 - 120*	*05/09/23 14:57*	*05/10/23 19:18*	*1*
DCB Decachlorobiphenyl	*62*		*20 - 120*	*05/09/23 14:57*	*05/10/23 19:18*	*1*
Tetrachloro-m-xylene	*88*		*44 - 120*	*05/09/23 14:57*	*05/10/23 19:18*	*1*
Tetrachloro-m-xylene	*76*		*44 - 120*	*05/09/23 14:57*	*05/10/23 19:18*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.52	0.18	ug/L		05/08/23 07:23	05/08/23 19:49	1
PCB-1221	ND		0.52	0.18	ug/L		05/08/23 07:23	05/08/23 19:49	1
PCB-1232	ND		0.52	0.18	ug/L		05/08/23 07:23	05/08/23 19:49	1
PCB-1242	ND		0.52	0.18	ug/L		05/08/23 07:23	05/08/23 19:49	1
PCB-1248	ND		0.52	0.18	ug/L		05/08/23 07:23	05/08/23 19:49	1
PCB-1254	ND		0.52	0.26	ug/L		05/08/23 07:23	05/08/23 19:49	1
PCB-1260	ND		0.52	0.26	ug/L		05/08/23 07:23	05/08/23 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*39 - 121*	*05/08/23 07:23*	*05/08/23 19:49*	*1*
Tetrachloro-m-xylene	*75*		*39 - 121*	*05/08/23 07:23*	*05/08/23 19:49*	*1*
DCB Decachlorobiphenyl	*71*		*19 - 120*	*05/08/23 07:23*	*05/08/23 19:49*	*1*
DCB Decachlorobiphenyl	*67*		*19 - 120*	*05/08/23 07:23*	*05/08/23 19:49*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.53	0.072	ug/L		05/09/23 09:20	05/10/23 17:58	1
2,4-D	ND		0.53	0.18	ug/L		05/09/23 09:20	05/10/23 17:58	1

Client Sample ID: MW-2022-1S
Date Collected: 05/03/23 15:20
Date Received: 05/05/23 10:00

Lab Sample ID: 480-208620-2
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.53	0.053	ug/L		05/09/23 09:20	05/10/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*97*		*48 - 132*	*05/09/23 09:20*	*05/10/23 17:58*	*1*
2,4-Dichlorophenylacetic acid	*82*		*48 - 132*	*05/09/23 09:20*	*05/10/23 17:58*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.98	0.26	ug/L		05/10/23 01:30	05/13/23 00:00	1
Disulfoton	ND		0.98	0.40	ug/L		05/10/23 01:30	05/13/23 00:00	1
Famphur	ND		0.98	0.32	ug/L		05/10/23 01:30	05/13/23 00:00	1
Methyl parathion	ND		0.98	0.34	ug/L		05/10/23 01:30	05/13/23 00:00	1
Ethyl Parathion	ND		0.98	0.36	ug/L		05/10/23 01:30	05/13/23 00:00	1
Phorate	ND		0.98	0.37	ug/L		05/10/23 01:30	05/13/23 00:00	1
Sulfotepp	ND		0.98	0.40	ug/L		05/10/23 01:30	05/13/23 00:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*107*		*25 - 127*	*05/10/23 01:30*	*05/13/23 00:00*	*1*
Tributyl phosphate	*100*		*25 - 127*	*05/10/23 01:30*	*05/13/23 00:00*	*1*
Triphenylphosphate	*122*		*70 - 155*	*05/10/23 01:30*	*05/13/23 00:00*	*1*
Triphenylphosphate	*112*		*70 - 155*	*05/10/23 01:30*	*05/13/23 00:00*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.65	ng/L		05/11/23 09:20	05/11/23 19:47	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		05/11/23 09:20	05/11/23 19:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.4	ng/L		05/11/23 09:20	05/11/23 19:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.53	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorobutanoic acid (PFBA)	ND		4.2	1.0	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.42	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.52**	**J**	1.7	0.35	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.46	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorohexanesulfonic acid (PFHxS)	**21**		1.7	0.47	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.55	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.78	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorooctanesulfonic acid (PFOS)	**180**		1.7	0.72	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.64	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.58	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.54	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.41	ng/L		05/11/23 09:20	05/11/23 19:47	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.47	ng/L		05/11/23 09:20	05/11/23 19:47	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-208620-2

Date Collected: 05/03/23 15:20
Matrix: Water

Date Received: 05/05/23 10:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	93		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C2 PFDoA	86		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C2 PFHxA	102		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C2 PFTeDA	78		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C2 PFUnA	87		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C3 PFBS	92		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C4 PFBA	102		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C4 PFHpA	99		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C4 PFOA	105		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C4 PFOS	87		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C5 PFNA	86		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C5 PFPeA	106		50 - 150	05/11/23 09:20	05/11/23 19:47	1
13C8 FOSA	84		50 - 150	05/11/23 09:20	05/11/23 19:47	1
18O2 PFHxS	91		50 - 150	05/11/23 09:20	05/11/23 19:47	1
d3-NMeFOSAA	74		50 - 150	05/11/23 09:20	05/11/23 19:47	1
d5-NEtFOSAA	80		50 - 150	05/11/23 09:20	05/11/23 19:47	1
M2-6:2 FTS	90		50 - 150	05/11/23 09:20	05/11/23 19:47	1
M2-8:2 FTS	89		50 - 150	05/11/23 09:20	05/11/23 19:47	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	1.1	J B 25 U	25	0.13	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,4,6,7,8-HpCDF	2.8	J B	25	0.077	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,4,7,8,9-HpCDF	1.5	J B	25	0.11	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,4,7,8-HxCDD	0.31	J I B	25	0.037	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,4,7,8-HxCDF	1.6	J I B	25	0.14	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,6,7,8-HxCDD	0.37	J I B	25	0.039	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,6,7,8-HxCDF	0.97	J	25	0.12	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,7,8,9-HxCDD	~~0.36~~ ~~J I B~~ 25 U		25	0.040	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,7,8,9-HxCDF	ND		25	0.16	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,7,8-PeCDD	~~0.29~~ ~~J I B~~ 25 U		25	0.034	pg/L		05/24/23 10:15	06/05/23 15:57	1
1,2,3,7,8-PeCDF	1.2	J	25	0.16	pg/L		05/24/23 10:15	06/05/23 15:57	1
2,3,4,6,7,8-HxCDF	~~0.73~~ ~~J B~~ 25 U		25	0.12	pg/L		05/24/23 10:15	06/05/23 15:57	1
2,3,4,7,8-PeCDF	0.45 ~~J I~~ JNX		25	0.11	pg/L		05/24/23 10:15	06/05/23 15:57	1
2,3,7,8-TCDD	ND		5.0	0.018	pg/L		05/24/23 10:15	06/05/23 15:57	1
2,3,7,8-TCDF	0.19	J B 5.0 U	5.0	0.052	pg/L		05/24/23 10:15	06/05/23 15:57	1
OCDD	3.2	J I B 110 U	110	0.11	pg/L		05/24/23 10:15	06/05/23 15:57	1
OCDF	9.9	J B 50 U	50	0.078	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total HpCDD	2.0	J I B 25 U	25	0.13	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total HpCDF	4.9	J B	25	0.092	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total HxCDD	3.5	J I B	25	0.039	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total HxCDF	3.3	J I B	25	0.13	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total PeCDD	1.0	J I B	25	0.034	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total PeCDF	1.6	J I B	25	0.13	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total TCDD	0.20 ~~J I~~ JNX		5.0	0.018	pg/L		05/24/23 10:15	06/05/23 15:57	1
Total TCDF	~~0.97~~ ~~J I B~~ 5.0 U		5.0	0.052	pg/L		05/24/23 10:15	06/05/23 15:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	93		40 - 135	05/24/23 10:15	06/05/23 15:57	1
13C-1,2,3,4,6,7,8-HpCDF	92		40 - 135	05/24/23 10:15	06/05/23 15:57	1
13C-1,2,3,4,7,8,9-HpCDF	92		40 - 135	05/24/23 10:15	06/05/23 15:57	1

Client Sample ID: MW-2022-1S
Lab Sample ID: 480-208620-2

Date Collected: 05/03/23 15:20
Matrix: Water
Date Received: 05/05/23 10:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*83*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,6,7,8-HxCDF	*96*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,7,8,9-HxCDD	*88*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,7,8,9-HxCDF	*88*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-2,3,4,6,7,8-HxCDF	*87*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-2,3,4,7,8-PeCDF	*94*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-2,3,7,8-TCDD	*88*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-2,3,7,8-TCDF	*87*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-OCDD	*105*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*
13C-OCDF	*103*		*40 - 135*	*05/24/23 10:15*	*06/05/23 15:57*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/08/23 08:40	05/10/23 17:28	1
Arsenic	ND		0.015	0.0056	mg/L		05/08/23 08:40	05/10/23 17:28	1
Barium	**0.0085**		0.0020	0.00070	mg/L		05/08/23 08:40	05/10/23 17:28	1
Beryllium	ND		0.0020	0.00030	mg/L		05/08/23 08:40	05/10/23 17:28	1
Cadmium	ND		0.0020	0.00050	mg/L		05/08/23 08:40	05/10/23 17:28	1
Chromium	ND		0.0040	0.0010	mg/L		05/08/23 08:40	05/10/23 17:28	1
Cobalt	ND		0.0040	0.00063	mg/L		05/08/23 08:40	05/10/23 17:28	1
Copper	ND		0.010	0.0016	mg/L		05/08/23 08:40	05/10/23 17:28	1
Lead	ND		0.010	0.0030	mg/L		05/08/23 08:40	05/10/23 17:28	1
Nickel	ND		0.010	0.0013	mg/L		05/08/23 08:40	05/10/23 17:28	1
Selenium	ND		0.025	0.0087	mg/L		05/08/23 08:40	05/10/23 17:28	1
Silver	ND		0.0060	0.0017	mg/L		05/08/23 08:40	05/10/23 17:28	1
Thallium	ND		0.020	0.010	mg/L		05/08/23 08:40	05/10/23 17:28	1
Tin	ND		0.010	0.0051	mg/L		05/08/23 08:40	05/10/23 17:28	1
Vanadium	ND		0.0050	0.0015	mg/L		05/08/23 08:40	05/10/23 17:28	1
Zinc	ND		0.010	0.0015	mg/L		05/08/23 08:40	05/10/23 17:28	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/08/23 11:24	05/09/23 09:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/16/23 12:22	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/10/23 11:47	1

Client Sample ID: TRIP BLANK 050323
Lab Sample ID: 480-208620-3

Date Collected: 05/03/23 00:00
Matrix: Water
Date Received: 05/05/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/09/23 19:03	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/23 19:03	1

Client Sample ID: TRIP BLANK 050323
Lab Sample ID: 480-208620-3

Date Collected: 05/03/23 00:00
Matrix: Water
Date Received: 05/05/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/09/23 19:03	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/09/23 19:03	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/09/23 19:03	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/09/23 19:03	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/09/23 19:03	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/09/23 19:03	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/09/23 19:03	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/09/23 19:03	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/09/23 19:03	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/09/23 19:03	1	
~~2-Chloroethyl vinyl ether~~	~~ND~~		~~5.0~~	~~0.96~~	~~ug/L~~			~~05/09/23 19:03~~	~~1~~	R
2-Hexanone	ND		5.0	1.2	ug/L			05/09/23 19:03	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/09/23 19:03	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/09/23 19:03	1	
Acetone	**4.6**	**J**	10	3.0	ug/L			05/09/23 19:03	1	
Acetonitrile	ND		15	4.9	ug/L			05/09/23 19:03	1	
Acrolein	ND		20	0.91	ug/L			05/09/23 19:03	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/09/23 19:03	1	
Benzene	ND		1.0	0.41	ug/L			05/09/23 19:03	1	
Bromoform	ND		1.0	0.26	ug/L			05/09/23 19:03	1	
Bromomethane	ND		1.0	0.69	ug/L			05/09/23 19:03	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/09/23 19:03	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/09/23 19:03	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/09/23 19:03	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/09/23 19:03	1	
Chloroethane	ND		1.0	0.32	ug/L			05/09/23 19:03	1	
Chloroform	ND		1.0	0.34	ug/L			05/09/23 19:03	1	
Chloromethane	ND		1.0	0.35	ug/L			05/09/23 19:03	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/09/23 19:03	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/09/23 19:03	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/09/23 19:03	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/09/23 19:03	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/09/23 19:03	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/23 19:03	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/09/23 19:03	1	
Iodomethane	ND		1.0	0.30	ug/L			05/09/23 19:03	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/09/23 19:03	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/09/23 19:03	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/09/23 19:03	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/23 19:03	1	
o-Xylene	ND		1.0	0.76	ug/L			05/09/23 19:03	1	
Propionitrile	ND		10	5.8	ug/L			05/09/23 19:03	1	
Styrene	ND		1.0	0.73	ug/L			05/09/23 19:03	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/09/23 19:03	1	
Toluene	ND		1.0	0.51	ug/L			05/09/23 19:03	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/09/23 19:03	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/09/23 19:03	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/09/23 19:03	1	
Trichloroethene	ND		1.0	0.46	ug/L			05/09/23 19:03	1	

Client Sample ID: TRIP BLANK 050323
Lab Sample ID: 480-208620-3
Date Collected: 05/03/23 00:00
Matrix: Water
Date Received: 05/05/23 10:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/09/23 19:03	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/09/23 19:03	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/09/23 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*77 - 120*		*05/09/23 19:03*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*05/09/23 19:03*	*1*
Dibromofluoromethane (Surr)	*117*		*75 - 123*		*05/09/23 19:03*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/09/23 19:03*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

General Electric Company

Data Validation Report

PDI Summary Report for Upland Disposal Facility Area

GE-Pittsfield/Housatonic River Site
Pittsfield, Massachusetts

Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses

SDG # 480-208715-1

Analyses Performed By:
Eurofins Buffalo
Amherst, New York, USA

Eurofins Burlington, South Burlington, Vermont, USA

Eurofins Pittsburgh, Pennsylvania, USA

Eurofins Lancaster Laboratories Environmental Testing, LLC
Pennsylvania, USA

Report #50620R
Review Level: Tier I
Project: 30181915 Task 0003

Contents

1 Summary 5
1.1 Analytical Data Package Documentation 5
1.2 Data Validation Procedures 6
2 Volatile Organic Compound Analyses 8
2.1 Holding Times 8
2.2 System Performance and Overall Assessment 9
2.3 Data Validation Checklist 9
3 Semi-volatile Organic Compound Analyses 9
3.1 Holding Times 9
3.2 Blank Contamination 10
3.3 Calibration 10
3.3.1 Continuing Calibration 10
3.4 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis 11
3.5 System Performance and Overall Assessment 12
3.6 Data Validation Checklist 12
4 Polychlorinated Biphenyl Analyses 13
4.1 Holding Times 13
4.2 System Performance and Overall Assessment 13
4.3 Data Validation Checklist 13
5 Pesticide/Herbicide Analyses 13
5.1 Holding Times 14
5.2 System Performance and Overall Assessment 14
5.3 Data Validation Checklist 14
6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis 15
6.1 Holding Times 15
6.2 Blank Contamination 15
6.3 Compound Identification 16
6.4 System Performance and Overall Assessment 16
6.5 Data Validation Checklist 16
7 Perfluoroalkyl Substances Analyses 17
7.1 Holding Times 17
7.2 System Performance and Overall Assessment 17

7.3 Data Validation Checklist 18
8 Metals Analyses 18
8.1 Holding Times 18
8.2 System Performance and Overall Assessment 18
8.3 Data Validation Checklist 19
9 General Chemistry Analyses 19
9.1 Holding Times 19
9.2 Blank Contamination 19
9.3 System Performance and Overall Assessment 20
9.4 Data Validation Checklist for General Chemistry 20
10 Overall Data Usability 20

Tables

Table 1. Summary of Samples Subjected to Tier I Data Validation 5
Table 2. Evaluation of Data Package Completeness 5
Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation 8
Table 4. Holding Time for Method SW-846 8260C 8
Table 5. Holding Time for Method SW-846 8270D 9
Table 6. Summary of Blank Contamination Qualifications 10
Table 7. Summary of Compounds Outside Specified Calibration Control Limits 10
Table 8. Continuing Calibration Evaluation Criteria and Qualifications 11
Table 9. Samples with Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries Outside Control Limits 11
Table 10. Laboratory Control Sample and Laboratory Control Sample Duplicate Recovery Criteria and Qualifications 12
Table 11. Holding Time for Method SW-846 8082A 13
Table 12. Holding Time for Method SW-846 8081B/8141B/8151A 14
Table 13. Holding Time for Method SW-846 8290A 15
Table 14. Summary of Blank Contamination Qualifications 15
Table 15. Holding Time for Method 537 17
Table 16. Holding Time for Method SW-846 6010C/7470A 18
Table 17. Specified Holding Times 19
Table 18. Overall Summary of Data Usability 20

Appendices

Appendix A **Chain of Custody**

Appendix B **Annotated Sample Analysis Data Sheets**

1 Summary

This document summarizes the data validation review of Sample Delivery Group (SDG) 480-208715-1 performed on behalf of the General Electric Company (GE) for water sampling activities conducted as part of the Pre-Design Investigation for the Upland Disposal Facility associated with the Rest of River Remedial Action at the GE Company/Housatonic River Site in Pittsfield, Massachusetts. The review was conducted at Tier I levels and included review of data package completeness. Field documentation was not included in this review. Included with this assessment are the chain of custody (Appendix A) and the validation annotated sample analysis data sheets (Appendix B). Analyses were performed on the samples listed in Table 1 for the following parameters as noted: Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Polychlorinated Biphenyls (PCBs), Pesticides, Herbicides, Organophosphorous Compounds, Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans (PCDD/PCDF), Perfluoroalkyl Substances (PFAS), Metals, and Miscellaneous Analyses.

Table 1. Summary of Samples Subjected to Tier I Data Validation

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis						
					VOCs	SVOCs	PEST/PCBs /HERB/OPC	PCDD/ PCDF	PFAS	MET	MISC
MW-2022-6	480-208715-1	Water	05/05/2023		X	X	X	X	X	X	X
TRIP BLANK 05052023	480-208715-2	Water	05/05/2023		X						

Notes:
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PEST = Pesticides
PCBs = Polychlorinated Biphenyls
HERB = Herbicides
OPC = Organophosphorous Compounds
PCDD/PCDFs = Polychlorinated Dibenzodioxins/Polychlorinated Dibenzofurans
PFAS = Perfluoroalkyl Substances
MET = Metals
MISC = Miscellaneous analyses (cyanide, sulfide)

1.1 Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Table 2. Evaluation of Data Package Completeness

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

Note:
QA = Quality Assurance

1.2 Data Validation Procedures

Analyses were performed according to United States Environmental Protection Agency (EPA) SW-846 Methods 8260C, 8270D, 8081B, 8141B, 8151A, 8082A, 8290A, 6010C, 7470A, 9012B, 537 (modified) and Standard Method 4500 S2 F. Data were reviewed in accordance with the following documents:

- Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (Revision 5 submitted by GE on July 2, 2013, and approved by EPA on July 23, 2013);
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017, and approved by EPA on August 28, 2017;
- EPA Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (July 1996, revised December 1996) (EPA Region I Guidelines); and
- Revised Pre-Design Investigation Work Plan for Reach 5A Floodplain Residential properties (submitted by GE on July 9, 2020, and approved by EPA on July 23, 2020).

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- Concentration I Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
  - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
  - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
  - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
  - U Compound considered non-detect at the listed value due to associated blank contamination.
  - N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
  - R The sample results are rejected.

Two facts should be noted by all data users. First, the “R” flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. “R” values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the EPA Region I CSF Completeness Evidence Audit Program (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

The analytical results described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance (QA)/QC deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A

tabulated summary of the number of sample analyses subject to Tier I and Tier II data review is presented in the following table.

Table 3. Summary of Sample Analyses Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	1	0	1	0	0	0	2
SVOCs	1	0	0	0	0	0	1
PCBs	1	0	0	0	0	0	1
PEST	1	0	0	0	0	0	1
HERB	1	0	0	0	0	0	1
OPC	1	0	0	0	0	0	1
PCDD/PCDF	1	0	0	0	0	0	1
PFAS	1	0	0	0	0	0	1
Metals	1	0	0	0	0	0	1
MISC	1	0	0	0	0	0	1

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. The annotated sample analysis data sheets attached to this validation report (Appendix B) reflect any added data qualifiers.

2 Volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

2.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 4. Holding Time for Method SW-846 8260C

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.

Note:
s.u. standard units

Note: The target compound 2-chloroethyl vinyl ether degrades in the presence of acid used to preserve the aqueous samples. Therefore, all sample results for 2-chloroethyl vinyl ether have been qualified as rejected.

All samples were analyzed within the specified holding time criterion.

2.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

2.3 Data Validation Checklist

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

3 Semi-volatile Organic Compound Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

3.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 5. Holding Time for Method SW-846 8270D

Method	Matrix	Holding Time	Preservation
SW-846 8270D	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

3.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 6. Summary of Blank Contamination Qualifications

Sample ID	Compound	Sample Result	Qualification
MW-2022-6	Pyridine (MB)	Detected sample results <RL and <BAL	“U” at the RL

Notes:
MB Method blank
RL Reporting limit

3.3 Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

3.3.1 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (25%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Table 7. Summary of Compounds Outside Specified Calibration Control Limits

Sample ID	Continuing Calibration	Compound	Criteria
MW-2022-6	Continuing Calibration RRF	4-Nitroquinoline-1-oxide	0.0061

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Table 8. Continuing Calibration Evaluation Criteria and Qualifications

Continuing Calibration	Criteria	Sample Result	Qualification
Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	

Note:

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

3.4 Laboratory Control Sample / Laboratory Control Sample Duplicate Analysis

The laboratory control sample/laboratory control sample (LCS/LCSD) analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Samples associated with LCS/LCSD analysis exhibiting recoveries outside of the control limits presented in the following table.

Table 9. Samples with Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries Outside Control Limits

Sample ID	Batch	Compounds	LCS Recovery	LCSD Recovery
MW-2022-6	Prep Batch: 669158	a,a-Dimethylphenethylamine	<10%	AC
		Kepone	<10%	<10%
		p-Phenylene diamine	<10%	<10%

Note:
AC Acceptable

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Table 10. Laboratory Control Sample and Laboratory Control Sample Duplicate Recovery Criteria and Qualifications

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

3.5 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

3.6 Data Validation Checklist

SVOCs: SW-846 8270D	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Laboratory Control Sample (LCS) %R		X	X		
Laboratory Control Sample Duplicate (LCSD) %R		X	X		
Dilution Factor		X		X	
Continuing calibration RRFs		X	X		

Note:
%R Percent recovery

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

4 Polychlorinated Biphenyl Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

4.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 11. Holding Time for Method SW-846 8082A

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Water	One year from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

4.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

4.3 Data Validation Checklist

PCBs; SW-846 8082A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

5 Pesticide/Herbicide Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

5.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 12. Holding Time for Method SW-846 8081B/8141B/8151A

Method	Matrix	Holding Time	Preservation
SW-846 8081B/8151A	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.
SW-846 8141B	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C.

Note: The holding time for method SW-846 8141B is stated in the QAPP as 14 days; however, the method technical holding time is 7 days to extraction. The technical holding time of 7 days will be applied for this data review.

All samples were analyzed within the specified holding time criterion.

5.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

5.3 Data Validation Checklist

SW-846 8081B/8141B/8151A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/ECD)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

6 Polychlorinated Dibenzodioxins And Polychlorinated Dibenzofurans Analysis

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

6.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 13. Holding Time for Method SW-846 8290A

Method	Matrix	Holding Time	Preservation
SW-846 8290A	Water	30 days from collection to extraction (one year if kept frozen) and 45 days from extraction to analysis	Cool to <6 °C.

All samples were prepared and analyzed within the specified holding time criterion.

6.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (ten times for OCDD/F & total homologues) is calculated for QA blanks containing concentrations greater than the estimated detection limit (EDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the EDL, with the exception of the compounds listed in the following table. Sample results associated with QA blank contamination that were greater than the BAL resulted in the removal of the laboratory qualifier (B). The equipment blank is not subject to method blank contamination evaluation, and the “B” qualifiers were maintained. No other qualification of the sample results was required. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Table 14. Summary of Blank Contamination Qualifications

Sample ID	Compounds	Sample Result	Qualification
MW-2022-6	1,2,3,4,6,7,8-HpCDF (MB) OCDD (MB) OCDF (MB)	Detected sample results <RL and <BAL	“U” at the RL

Sample ID	Compounds	Sample Result	Qualification
	Total HpCDF (MB) Total HxCDD (MB) Total HxCDF (MB) Total PeCDD (MB) Total PeCDF (MB) Total TCDF (MB)		

Notes:
MB Method blank
RL Reporting limit

6.3 Compound Identification

PCDD/PCDF compounds are identified by using the compound's ion abundance ratios, signal-to-noise values, and relative retention times.

An EMPC or "estimated maximum possible concentration" designation is given to compounds which have signals eluting within the established retention time window which would, if positively identified, be above the detection limit. The signals do not, however, meet the ion abundance ratio criteria and cannot be identified as the compound of interest. The EMPC value is the estimated concentration of the interferant quantitated "as the compound of interest." This value should be considered an elevated detection limit based on potential compound identification and quantitation interference.

Sample results qualified by the laboratory as "I" (Value is EMPC (estimated maximum possible concentration)) have been qualified as estimated, tentatively identified. The reported qualifier will be JNX.

6.4 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

6.5 Data Validation Checklist

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier I Validation					
Holding times		X		X	

PCDD/PCDF: SW-846 8290A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

7 Perfluoroalkyl Substances Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

7.1 Holding Times

The specified holding times for the following methods are presented in the table below.

Table 15. Holding Time for Method 537

Method	Matrix	Holding Time	Preservation
USEPA Method 537 (Modified)	Water	28 days from collection to extraction and 28 days from extraction to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

7.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

7.3 Data Validation Checklist

PFAS: USEPA MODIFIED 537	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)					
Tier I Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Dilution Factor		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

8 Metals Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

8.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 16. Holding Time for Method SW-846 6010C/7470A

Method	Matrix	Holding Time	Preservation
SW-846 6010C	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
SW-846 7470A	Water	28 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding time criterion.

8.2 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

8.3 Data Validation Checklist

METALS; SW-846 6010C/7470A	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Atomic Absorption – Manual Cold Vapor (CV)					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

9 General Chemistry Analyses

The Tier I evaluation consisted of data package completeness, chain of custody/sample analysis, laboratory case narrative, and holding times. Any deviations identified in the laboratory case narrative that would result in potential data use limitations are evaluated below and qualification applied accordingly.

9.1 Holding Times

The specified holding times for the following methods are presented in the following table.

Table 17. Specified Holding Times

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012B	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Sulfide by SM 4500 S2 F	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9.

All samples were analyzed within the specified holding time criterion.

9.2 Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is

compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Cyanide was detected in the associated method blank batch- 668997 and associated calibration blanks; however, the associated sample results were non-detect. No qualification of the sample results was required.

9.3 System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

9.4 Data Validation Checklist for General Chemistry

General Chemistry: SW-846 9012B / SM 4500 S2 F	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X	X		

When the laboratory case narrative outlines a quality issue beyond Tier I, it will be added to the checklist above and the usability of the data will be addressed.

10 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under the Tier I data validation review. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Table 18. Overall Summary of Data Usability

Parameter	Percent Usability	Rejected Data
VOCs	96.3%	2
SVOCs	96.8%	4
PCBs	100%	0

Parameter	Percent Usability	Rejected Data
PEST	100%	0
HERB	100%	0
OPC	100%	0
PCDD/PCDF	100%	0
PFAS	100%	0
Metals	100%	0
MISC	100%	0

The data package completeness, as determined from the Tier I data review, was used to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I data review were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses (discussed in this report) to provide a measure of compliance of the analytical data with the Data Quality Objectives specified in the FSP/QAPP.

VALIDATION PERFORMED BY: Pruthvi Kumar C

SIGNATURE: 

DATE: August 1, 2023

PEER REVIEW: Andrew Korycinski

DATE: August 2, 2023

Appendix A

Chain of Custody

6/9/2023 10:25 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
	Thom McClenahan	Schove, John R		480-174956-37668.1
Client Contact: Mr. David Knutsen	Phone: 518-526-5697	E-Mail: John.Schove@et.eurofinsus.com	State of Origin	Page: Page 1 of 1
Company: ARCADIS U.S. Inc	PWSID			Job #

Address: One Lincoln Center 110 West Fayette St, Suite 300	Due Date Requested:	
City: Syracuse	TAT Requested (days): Standard	
State, Zip: NY, 13202	Compliance Project: Δ Yes Δ No	
Phone: 315-671-9374(Tel)	PO #: 30150026.3000	
Email: david.knutsen@arcadis.com	WO #: WA-EUROFINS-30103563-2022-	
Project Name: GE Woods Pond Parcel	Project #: 48021970	
Site:	SSOW#: 30150026.3000	

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141B - Appendix IX Pesticides	8290A - Dioxin & Furans - 17 Isomers + Totals	8082A - Appendix IX PCBs	8081B - Appendix IX Pesticides	8270D - Appendix IX Semi-Volatiles	6010C Appendix IX Metals, 7470A - Mercury	8260C - Appendix IX Volatiles	8151A - Appendix IX Herbicides	SM4500_S2_F - Sulfide, Total	9012B - Cyanide, Total	PFC_IDA - NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	D	A	N	CB	B	N		
MW-2022-6	5/5/23	1035	G	Water			x	x	x	x	x	x	x	x	x	x	x	20	
TripBlank 050523	5/5/23	x	G	Water									x					2	

TM 5.5.23

TM 5.5.23

480-208715 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Date/Time	Company		Date/Time	Company
Relinquished by: Thom McClenahan	5-8-23 1000	ARCADIS	Received by: Tim Keller	5-8-23 1000	EETN
Relinquished by: Tim Keller	5-8-23 1500	EETN	Received by:		
Relinquished by:			Received by:	5/9/23 1100	TMB

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: UPS 3.4 #1 ICE

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone. 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-208715 Chain of Custody

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		COC No: 480-80499 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John Schove@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - New York, State - Massachusetts		Job #: 480-208715-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 5/22/2023			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT NY 21 PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-6 (480-208715-1)	5/5/23	10 35 Eastern		Water			X	2	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:		Date		Time.		Method of Shipment:
Relinquished by:	Date/Time: 5-9-23 1800	Company: TAL	Received by:	Date/Time: 5/10/23 1030	Company: ETA BUFL	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No..	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

6/9/2023 10:25 AM

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-80508.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - New York; State - Massachusetts		Job #: 480-208715-1
Address: 2425 New Holland Pike, , -	Due Date Requested: 5/22/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: GE Woods Pond Parcel	Project #: 48024970			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep Dioxin & Furans - 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2022-6 (480-208715-1)	5/5/23	10:35 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-9-23 1800	Company: TAB	Received by:	Date/Time:	Company:
~~Relinquished by:~~	~~Date/Time:~~	~~Company:~~	~~Received by:~~	~~Date/Time:~~	~~Company:~~
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 5/10/23 09:55	Company: ELLET
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: RAW: 3.8, 0.8 COR: 3.1, 0.1		

Ver: 06/08/2021

6/9/2023 10:25 AM

Appendix B

Annotated Sample Analysis Data Sheets

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: MW-2022-6
Lab Sample ID: 480-208715-1

Date Collected: 05/05/23 10:35
Matrix: Water

Date Received: 05/09/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/11/23 06:47	1	
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/11/23 06:47	1	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/11/23 06:47	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/11/23 06:47	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/11/23 06:47	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/11/23 06:47	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/11/23 06:47	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/11/23 06:47	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/11/23 06:47	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/11/23 06:47	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/11/23 06:47	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/11/23 06:47	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/11/23 06:47	1	R
2-Hexanone	ND		5.0	1.2	ug/L			05/11/23 06:47	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/11/23 06:47	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/11/23 06:47	1	
Acetone	ND		10	3.0	ug/L			05/11/23 06:47	1	
Acetonitrile	ND		15	4.9	ug/L			05/11/23 06:47	1	
Acrolein	ND		20	0.91	ug/L			05/11/23 06:47	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/11/23 06:47	1	
Benzene	ND		1.0	0.41	ug/L			05/11/23 06:47	1	
Bromoform	ND		1.0	0.26	ug/L			05/11/23 06:47	1	
Bromomethane	ND		1.0	0.69	ug/L			05/11/23 06:47	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/11/23 06:47	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/11/23 06:47	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/11/23 06:47	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/11/23 06:47	1	
Chloroethane	ND		1.0	0.32	ug/L			05/11/23 06:47	1	
Chloroform	ND		1.0	0.34	ug/L			05/11/23 06:47	1	
Chloromethane	ND		1.0	0.35	ug/L			05/11/23 06:47	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/11/23 06:47	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/11/23 06:47	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/11/23 06:47	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/11/23 06:47	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/11/23 06:47	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/11/23 06:47	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/11/23 06:47	1	
Iodomethane	ND		1.0	0.30	ug/L			05/11/23 06:47	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/11/23 06:47	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/11/23 06:47	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/11/23 06:47	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/11/23 06:47	1	
o-Xylene	ND		1.0	0.76	ug/L			05/11/23 06:47	1	
Propionitrile	ND		10	5.8	ug/L			05/11/23 06:47	1	
Styrene	ND		1.0	0.73	ug/L			05/11/23 06:47	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/23 06:47	1	
Toluene	ND		1.0	0.51	ug/L			05/11/23 06:47	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/23 06:47	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/11/23 06:47	1	

Client Sample ID: MW-2022-6
Lab Sample ID: 480-208715-1

Date Collected: 05/05/23 10:35
Matrix: Water
Date Received: 05/09/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/11/23 06:47	1
Trichloroethene	ND		1.0	0.46	ug/L			05/11/23 06:47	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/11/23 06:47	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/11/23 06:47	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/23 06:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*05/11/23 06:47*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*05/11/23 06:47*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*05/11/23 06:47*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/11/23 06:47*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		5.0	0.58	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,2,4-Trichlorobenzene	ND		10	0.44	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,2-Dichlorobenzene	ND		10	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,2-Diphenylhydrazine	ND		10	0.35	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,3,5-Trinitrobenzene	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,3-Dinitrobenzene	ND		20	0.82	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,4-Dioxane	ND		10	1.1	ug/L		05/11/23 14:48	05/12/23 16:43	1
1,4-Naphthoquinone	ND		10	0.24	ug/L		05/11/23 14:48	05/12/23 16:43	1
1-Naphthylamine	ND	*	10	1.3	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,3,4,6-Tetrachlorophenol	ND		5.0	0.32	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,6-Dichlorophenol	ND		10	0.46	ug/L		05/11/23 14:48	05/12/23 16:43	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Acetylaminofluorene	ND		10	2.3	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Chlorophenol	ND		5.0	0.53	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Methylphenol	ND		5.0	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Naphthylamine	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Nitroaniline	ND		10	0.42	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Nitrophenol	ND		5.0	0.48	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Picoline	ND		80	1.4	ug/L		05/11/23 14:48	05/12/23 16:43	1
2-Toluidine	ND		10	1.5	ug/L		05/11/23 14:48	05/12/23 16:43	1
3 & 4 Methylphenol	ND		10	0.36	ug/L		05/11/23 14:48	05/12/23 16:43	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1
3,3'-Dimethylbenzidine	ND	*	40	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1
3-Methylcholanthrene	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1
3-Methylphenol	ND		10	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1
3-Nitroaniline	ND		10	0.48	ug/L		05/11/23 14:48	05/12/23 16:43	1

Client Sample ID: MW-2022-6
Lab Sample ID: 480-208715-1

Date Collected: 05/05/23 10:35
Matrix: Water

Date Received: 05/09/23 11:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Aminobiphenyl	ND		10	0.81	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Chloroaniline	ND		5.0	0.59	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Methylphenol	ND		10	0.36	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Nitroaniline	ND		10	0.25	ug/L		05/11/23 14:48	05/12/23 16:43	1	
4-Nitrophenol	ND		10	1.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
~~4-Nitroquinoline-1-oxide~~	~~ND~~		~~10~~	~~2.5~~	~~ug/L~~		~~05/11/23 14:48~~	~~05/12/23 16:43~~	~~1~~	R
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		05/11/23 14:48	05/12/23 16:43	1	
~~a,a-Dimethylphenethylamine~~	~~ND~~	~~*~~	~~100~~	~~40~~	~~ug/L~~		~~05/11/23 14:48~~	~~05/12/23 16:43~~	~~1~~	R
Acenaphthene	ND		5.0	0.41	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Acenaphthylene	ND		5.0	0.38	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Acetophenone	ND		5.0	0.54	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Aniline	ND		10	0.61	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Anthracene	ND		5.0	0.28	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Aramite, Total	ND		20	1.6	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzidine	ND		80	2.2	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzo[a]anthracene	ND		5.0	0.36	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzo[a]pyrene	ND		5.0	0.47	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Benzyl alcohol	ND		20	2.0	ug/L		05/11/23 14:48	05/12/23 16:43	1	
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Chrysene	ND		5.0	0.33	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Diallate	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Dibenzofuran	ND		10	0.51	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Diethyl phthalate	ND		5.0	0.22	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Dimethoate	ND		10	0.54	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Dimethyl phthalate	ND		5.0	0.36	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Dinoseb	ND		10	2.9	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Diphenylamine	ND		10	0.82	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Disulfoton	ND		10	0.42	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Chlorobenzilate	ND		20	0.67	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Ethyl methanesulfonate	ND		10	0.39	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Famphur	ND	*	40	1.9	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Fluoranthene	ND		5.0	0.40	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Fluorene	ND		5.0	0.36	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Hexachlorobenzene	ND		5.0	0.51	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Hexachlorobutadiene	ND		5.0	0.68	ug/L		05/11/23 14:48	05/12/23 16:43	1	

Client Sample ID: MW-2022-6
Date Collected: 05/05/23 10:35
Date Received: 05/09/23 11:00

Lab Sample ID: 480-208715-1
Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Hexachloroethane	ND		5.0	0.59	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Hexachloropropene	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Isodrin	ND		10	0.18	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Isophorone	ND		5.0	0.43	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Isosafrole	ND		10	0.58	ug/L		05/11/23 14:48	05/12/23 16:43	1	
~~Kepone~~	~~ND~~	~~*-~~	~~50~~	~~1.8~~	~~ug/L~~		~~05/11/23 14:48~~	~~05/12/23 16:43~~	~~1~~	R
Methapyrilene	ND		50	1.8	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Methyl methanesulfonate	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Naphthalene	ND		5.0	0.76	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Nitrobenzene	ND		5.0	0.29	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitro-o-toluidine	ND		10	0.66	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosodiethylamine	ND		10	0.36	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosodimethylamine	ND		10	2.2	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosodi-n-butylamine	ND		10	0.60	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosomethylethylamine	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosomorpholine	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosopiperidine	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
N-Nitrosopyrrolidine	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
o,o',o''-Triethylphosphorothioate	ND		10	0.43	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Ethyl Parathion	ND		10	0.64	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Methyl parathion	ND		10	0.37	ug/L		05/11/23 14:48	05/12/23 16:43	1	
p-Dimethylamino azobenzene	ND		10	0.75	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Pentachlorobenzene	ND		10	0.53	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Pentachloronitrobenzene	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Pentachlorophenol	ND		10	2.2	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Phenacetin	ND		10	0.61	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Phenanthrene	ND		5.0	0.44	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Phenol	ND		5.0	0.39	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Phorate	ND	~~*+~~	10	0.50	ug/L		05/11/23 14:48	05/12/23 16:43	1	
~~p-Phenylene diamine~~	~~ND~~	~~*-~~	~~800~~	~~200~~	~~ug/L~~		~~05/11/23 14:48~~	~~05/12/23 16:43~~	~~1~~	R
Pronamide	ND		10	2.5	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Pyrene	ND		5.0	0.34	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Pyridine	~~1.0 J B~~	25 U	25	0.41	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Safrole	ND		10	0.46	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Sulfotepp	ND		10	0.64	ug/L		05/11/23 14:48	05/12/23 16:43	1	
Thionazin	ND		10	0.38	ug/L		05/11/23 14:48	05/12/23 16:43	1	

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*41 - 120*	*05/11/23 14:48*	*05/12/23 16:43*	*1*
2-Fluorobiphenyl (Surr)	*89*		*48 - 120*	*05/11/23 14:48*	*05/12/23 16:43*	*1*
2-Fluorophenol (Surr)	*63*		*35 - 120*	*05/11/23 14:48*	*05/12/23 16:43*	*1*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*	*05/11/23 14:48*	*05/12/23 16:43*	*1*
Phenol-d5 (Surr)	*46*		*22 - 120*	*05/11/23 14:48*	*05/12/23 16:43*	*1*
p-Terphenyl-d14 (Surr)	*93*		*60 - 148*	*05/11/23 14:48*	*05/12/23 16:43*	*1*

Client Sample ID: MW-2022-6
Date Collected: 05/05/23 10:35
Date Received: 05/09/23 11:00

Lab Sample ID: 480-208715-1
Matrix: Water

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.054	0.010	ug/L		05/09/23 14:57	05/10/23 21:55	1
4,4'-DDE	ND		0.054	0.013	ug/L		05/09/23 14:57	05/10/23 21:55	1
4,4'-DDT	ND		0.054	0.012	ug/L		05/09/23 14:57	05/10/23 21:55	1
Aldrin	ND		0.054	0.0088	ug/L		05/09/23 14:57	05/10/23 21:55	1
alpha-BHC	ND		0.054	0.0084	ug/L		05/09/23 14:57	05/10/23 21:55	1
beta-BHC	ND		0.054	0.027	ug/L		05/09/23 14:57	05/10/23 21:55	1
Chlordane (technical)	ND		0.54	0.32	ug/L		05/09/23 14:57	05/10/23 21:55	1
Chlorobenzilate	ND		5.4	0.098	ug/L		05/09/23 14:57	05/10/23 21:55	1
cis-Chlordane	ND		0.054	0.016	ug/L		05/09/23 14:57	05/10/23 21:55	1
delta-BHC	ND		0.054	0.011	ug/L		05/09/23 14:57	05/10/23 21:55	1
Dieldrin	ND		0.054	0.011	ug/L		05/09/23 14:57	05/10/23 21:55	1
Endosulfan I	ND		0.054	0.012	ug/L		05/09/23 14:57	05/10/23 21:55	1
Endosulfan II	ND		0.054	0.013	ug/L		05/09/23 14:57	05/10/23 21:55	1
Endosulfan sulfate	ND		0.054	0.017	ug/L		05/09/23 14:57	05/10/23 21:55	1
Endrin	ND		0.054	0.015	ug/L		05/09/23 14:57	05/10/23 21:55	1
Endrin aldehyde	ND		0.054	0.018	ug/L		05/09/23 14:57	05/10/23 21:55	1
Endrin ketone	ND		0.054	0.013	ug/L		05/09/23 14:57	05/10/23 21:55	1
gamma-BHC (Lindane)	ND		0.054	0.0087	ug/L		05/09/23 14:57	05/10/23 21:55	1
Heptachlor	ND		0.054	0.0092	ug/L		05/09/23 14:57	05/10/23 21:55	1
Heptachlor epoxide	ND		0.054	0.0080	ug/L		05/09/23 14:57	05/10/23 21:55	1
Methoxychlor	ND		0.054	0.015	ug/L		05/09/23 14:57	05/10/23 21:55	1
Toxaphene	ND		0.54	0.13	ug/L		05/09/23 14:57	05/10/23 21:55	1
trans-Chlordane	ND		0.054	0.012	ug/L		05/09/23 14:57	05/10/23 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*48*		*20 - 120*	*05/09/23 14:57*	*05/10/23 21:55*	*1*
DCB Decachlorobiphenyl	*56*		*20 - 120*	*05/09/23 14:57*	*05/10/23 21:55*	*1*
Tetrachloro-m-xylene	*91*		*44 - 120*	*05/09/23 14:57*	*05/10/23 21:55*	*1*
Tetrachloro-m-xylene	*80*		*44 - 120*	*05/09/23 14:57*	*05/10/23 21:55*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.54	0.19	ug/L		05/10/23 09:42	05/10/23 18:03	1
PCB-1221	ND		0.54	0.19	ug/L		05/10/23 09:42	05/10/23 18:03	1
PCB-1232	ND		0.54	0.19	ug/L		05/10/23 09:42	05/10/23 18:03	1
PCB-1242	ND		0.54	0.19	ug/L		05/10/23 09:42	05/10/23 18:03	1
PCB-1248	ND		0.54	0.19	ug/L		05/10/23 09:42	05/10/23 18:03	1
PCB-1254	ND		0.54	0.27	ug/L		05/10/23 09:42	05/10/23 18:03	1
PCB-1260	ND		0.54	0.27	ug/L		05/10/23 09:42	05/10/23 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*80*		*39 - 121*	*05/10/23 09:42*	*05/10/23 18:03*	*1*
Tetrachloro-m-xylene	*81*		*39 - 121*	*05/10/23 09:42*	*05/10/23 18:03*	*1*
DCB Decachlorobiphenyl	*69*		*19 - 120*	*05/10/23 09:42*	*05/10/23 18:03*	*1*
DCB Decachlorobiphenyl	*65*		*19 - 120*	*05/10/23 09:42*	*05/10/23 18:03*	*1*

Method: SW846 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		0.54	0.073	ug/L		05/10/23 09:49	05/11/23 12:39	1
2,4-D	ND		0.54	0.18	ug/L		05/10/23 09:49	05/11/23 12:39	1

Client Sample ID: MW-2022-6
Date Collected: 05/05/23 10:35
Date Received: 05/09/23 11:00

Lab Sample ID: 480-208715-1
Matrix: Water

Method: SW846 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	ND		0.54	0.054	ug/L		05/10/23 09:49	05/11/23 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*68*		*48 - 132*	*05/10/23 09:49*	*05/11/23 12:39*	*1*
2,4-Dichlorophenylacetic acid	*66*		*48 - 132*	*05/10/23 09:49*	*05/11/23 12:39*	*1*

Method: SW846 EPA 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND		0.95	0.25	ug/L		05/11/23 00:30	05/17/23 10:01	1
Disulfoton	ND		0.95	0.39	ug/L		05/11/23 00:30	05/17/23 10:01	1
Famphur	ND		0.95	0.31	ug/L		05/11/23 00:30	05/17/23 10:01	1
Methyl parathion	ND		0.95	0.33	ug/L		05/11/23 00:30	05/17/23 10:01	1
Ethyl Parathion	ND		0.95	0.35	ug/L		05/11/23 00:30	05/17/23 10:01	1
Phorate	ND		0.95	0.36	ug/L		05/11/23 00:30	05/17/23 10:01	1
Sulfotepp	ND		0.95	0.38	ug/L		05/11/23 00:30	05/17/23 10:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*110*		*25 - 127*	*05/11/23 00:30*	*05/17/23 10:01*	*1*
Tributyl phosphate	*100*		*25 - 127*	*05/11/23 00:30*	*05/17/23 10:01*	*1*
Triphenylphosphate	*128*		*70 - 155*	*05/11/23 00:30*	*05/17/23 10:01*	*1*
Triphenylphosphate	*120*		*70 - 155*	*05/11/23 00:30*	*05/17/23 10:01*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.65	ng/L		05/15/23 08:52	05/17/23 19:59	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	1.1	ng/L		05/15/23 08:52	05/17/23 19:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	1.4	ng/L		05/15/23 08:52	05/17/23 19:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	1.6	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.7	0.52	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorobutanoic acid (PFBA)	**6.4**		4.2	1.0	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.34	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.39	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.41	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.35	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluoroheptanoic acid (PFHpA)	**7.6**		1.7	0.46	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.47	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorohexanoic acid (PFHxA)	**10**		1.7	0.55	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.41	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.78	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.72	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorooctanoic acid (PFOA)	**0.87**	**J**	1.7	0.64	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluoropentanoic acid (PFPeA)	**6.8**		1.7	0.58	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.54	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.41	ng/L		05/15/23 08:52	05/17/23 19:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.47	ng/L		05/15/23 08:52	05/17/23 19:59	1

Client Sample ID: MW-2022-6
Date Collected: 05/05/23 10:35
Date Received: 05/09/23 11:00

Lab Sample ID: 480-208715-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	93		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C2 PFDoA	90		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C2 PFHxA	107		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C2 PFTeDA	87		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C2 PFUnA	94		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C3 PFBS	97		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C4 PFBA	102		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C4 PFHpA	107		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C4 PFOA	109		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C4 PFOS	86		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C5 PFNA	101		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C5 PFPeA	110		50 - 150	05/15/23 08:52	05/17/23 19:59	1
13C8 FOSA	87		50 - 150	05/15/23 08:52	05/17/23 19:59	1
18O2 PFHxS	98		50 - 150	05/15/23 08:52	05/17/23 19:59	1
d3-NMeFOSAA	88		50 - 150	05/15/23 08:52	05/17/23 19:59	1
d5-NEtFOSAA	90		50 - 150	05/15/23 08:52	05/17/23 19:59	1
M2-6:2 FTS	86		50 - 150	05/15/23 08:52	05/17/23 19:59	1
M2-8:2 FTS	87		50 - 150	05/15/23 08:52	05/17/23 19:59	1

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		26	0.25	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,4,6,7,8-HpCDF	~~0.75~~	~~J I B~~ 26 U	26	0.095	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,4,7,8,9-HpCDF	ND		26	0.12	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,4,7,8-HxCDD	ND		26	0.11	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,4,7,8-HxCDF	ND		26	0.15	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,6,7,8-HxCDD	ND		26	0.11	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,6,7,8-HxCDF	ND		26	0.16	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,7,8,9-HxCDD	0.29	~~J I~~ JNX	26	0.097	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,7,8,9-HxCDF	ND		26	0.18	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,7,8-PeCDD	ND		26	0.17	pg/L		06/03/23 00:25	06/07/23 01:04	1
1,2,3,7,8-PeCDF	0.48	J	26	0.17	pg/L		06/03/23 00:25	06/07/23 01:04	1
2,3,4,6,7,8-HxCDF	0.52	~~J I~~ JNX	26	0.14	pg/L		06/03/23 00:25	06/07/23 01:04	1
2,3,4,7,8-PeCDF	ND		26	0.12	pg/L		06/03/23 00:25	06/07/23 01:04	1
2,3,7,8-TCDD	ND		5.2	0.18	pg/L		06/03/23 00:25	06/07/23 01:04	1
2,3,7,8-TCDF	ND		5.2	0.12	pg/L		06/03/23 00:25	06/07/23 01:04	1
OCDD	~~2.6~~	~~J B~~ 110 U	110	0.16	pg/L		06/03/23 00:25	06/07/23 01:04	1
OCDF	~~1.7~~	~~J B~~ 52 U	52	0.13	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total HpCDD	ND		26	0.25	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total HpCDF	0.75	J I B 26 U	26	0.11	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total HxCDD	2.0	J I B	26	0.11	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total HxCDF	1.3	J I B	26	0.16	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total PeCDD	0.81	J I B	26	0.17	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total PeCDF	1.4	J I B	26	0.15	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total TCDD	ND		5.2	0.18	pg/L		06/03/23 00:25	06/07/23 01:04	1
Total TCDF	~~0.24~~	~~J I B~~ 26 U	5.2	0.12	pg/L		06/03/23 00:25	06/07/23 01:04	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	104		40 - 135	06/03/23 00:25	06/07/23 01:04	1
13C-1,2,3,4,6,7,8-HpCDF	104		40 - 135	06/03/23 00:25	06/07/23 01:04	1
13C-1,2,3,4,7,8,9-HpCDF	104		40 - 135	06/03/23 00:25	06/07/23 01:04	1

Client Sample ID: MW-2022-6
Lab Sample ID: 480-208715-1
Date Collected: 05/05/23 10:35
Matrix: Water
Date Received: 05/09/23 11:00

Method: SW846 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,7,8-HxCDD	*86*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,4,7,8-HxCDF	*95*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,6,7,8-HxCDD	*99*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,6,7,8-HxCDF	*103*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,7,8,9-HxCDD	*105*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,7,8,9-HxCDF	*100*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,7,8-PeCDD	*82*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-2,3,4,6,7,8-HxCDF	*98*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-2,3,7,8-TCDD	*88*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-2,3,7,8-TCDF	*94*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-OCDD	*92*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*
13C-OCDF	*94*		*40 - 135*	*06/03/23 00:25*	*06/07/23 01:04*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/10/23 08:16	05/11/23 02:14	1
Arsenic	ND		0.015	0.0056	mg/L		05/10/23 08:16	05/11/23 02:14	1
Barium	**0.016**		0.0020	0.00070	mg/L		05/10/23 08:16	05/11/23 02:14	1
Beryllium	ND		0.0020	0.00030	mg/L		05/10/23 08:16	05/11/23 02:14	1
Cadmium	ND		0.0020	0.00050	mg/L		05/10/23 08:16	05/11/23 02:14	1
Chromium	ND		0.0040	0.0010	mg/L		05/10/23 08:16	05/11/23 02:14	1
Cobalt	ND		0.0040	0.00063	mg/L		05/12/23 08:13	05/12/23 21:27	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		05/10/23 08:16	05/11/23 02:14	1
Lead	ND		0.010	0.0030	mg/L		05/10/23 08:16	05/11/23 02:14	1
Nickel	ND		0.010	0.0013	mg/L		05/10/23 08:16	05/11/23 02:14	1
Selenium	ND		0.025	0.0087	mg/L		05/10/23 08:16	05/11/23 02:14	1
Silver	ND		0.0060	0.0017	mg/L		05/10/23 08:16	05/11/23 02:14	1
Thallium	ND		0.020	0.010	mg/L		05/10/23 08:16	05/11/23 02:14	1
Tin	ND		0.010	0.0051	mg/L		05/10/23 08:16	05/11/23 02:14	1
Vanadium	ND		0.0050	0.0015	mg/L		05/10/23 08:16	05/11/23 02:14	1
Zinc	ND		0.010	0.0015	mg/L		05/10/23 08:16	05/11/23 02:14	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		05/10/23 11:19	05/10/23 14:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (SW846 9012B)	ND		0.010	0.0041	mg/L			05/16/23 15:30	1
Sulfide (SM 4500 S2 F)	ND		1.0	0.67	mg/L			05/10/23 11:47	1

Client Sample ID: TRIP BLANK 050523
Lab Sample ID: 480-208715-2
Date Collected: 05/05/23 00:00
Matrix: Water
Date Received: 05/09/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			05/11/23 07:11	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/11/23 07:11	1

Client Sample ID: TRIP BLANK 050523
Lab Sample ID: 480-208715-2

Date Collected: 05/05/23 00:00
Matrix: Water
Date Received: 05/09/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/11/23 07:11	1	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/11/23 07:11	1	
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/11/23 07:11	1	
1,1-Dichloroethene	ND		1.0	0.29	ug/L			05/11/23 07:11	1	
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			05/11/23 07:11	1	
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			05/11/23 07:11	1	
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/11/23 07:11	1	
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/11/23 07:11	1	
2-Butanone (MEK)	ND		10	1.3	ug/L			05/11/23 07:11	1	
2-Chloro-1,3-butadiene	ND		1.0	0.49	ug/L			05/11/23 07:11	1	
2-Chloroethyl vinyl ether	ND		5.0	0.96	ug/L			05/11/23 07:11	1	R
2-Hexanone	ND		5.0	1.2	ug/L			05/11/23 07:11	1	
3-Chloro-1-propene	ND		1.0	0.44	ug/L			05/11/23 07:11	1	
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			05/11/23 07:11	1	
Acetone	ND		10	3.0	ug/L			05/11/23 07:11	1	
Acetonitrile	ND		15	4.9	ug/L			05/11/23 07:11	1	
Acrolein	ND		20	0.91	ug/L			05/11/23 07:11	1	
Acrylonitrile	ND		5.0	0.83	ug/L			05/11/23 07:11	1	
Benzene	ND		1.0	0.41	ug/L			05/11/23 07:11	1	
Bromoform	ND		1.0	0.26	ug/L			05/11/23 07:11	1	
Bromomethane	ND		1.0	0.69	ug/L			05/11/23 07:11	1	
Carbon disulfide	ND		1.0	0.19	ug/L			05/11/23 07:11	1	
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/11/23 07:11	1	
Chlorobenzene	ND		1.0	0.75	ug/L			05/11/23 07:11	1	
Chlorodibromomethane	ND		1.0	0.32	ug/L			05/11/23 07:11	1	
Chloroethane	ND		1.0	0.32	ug/L			05/11/23 07:11	1	
Chloroform	ND		1.0	0.34	ug/L			05/11/23 07:11	1	
Chloromethane	ND		1.0	0.35	ug/L			05/11/23 07:11	1	
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/11/23 07:11	1	
Dibromomethane	ND		1.0	0.41	ug/L			05/11/23 07:11	1	
Dichlorobromomethane	ND		1.0	0.39	ug/L			05/11/23 07:11	1	
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			05/11/23 07:11	1	
Ethyl methacrylate	ND		1.0	0.59	ug/L			05/11/23 07:11	1	
Ethylbenzene	ND		1.0	0.74	ug/L			05/11/23 07:11	1	
Ethylene Dibromide	ND		1.0	0.73	ug/L			05/11/23 07:11	1	
Iodomethane	ND		1.0	0.30	ug/L			05/11/23 07:11	1	
Methacrylonitrile	ND		5.0	0.69	ug/L			05/11/23 07:11	1	
Methyl methacrylate	ND		1.0	0.61	ug/L			05/11/23 07:11	1	
Methylene Chloride	ND		1.0	0.44	ug/L			05/11/23 07:11	1	
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/11/23 07:11	1	
o-Xylene	ND		1.0	0.76	ug/L			05/11/23 07:11	1	
Propionitrile	ND		10	5.8	ug/L			05/11/23 07:11	1	
Styrene	ND		1.0	0.73	ug/L			05/11/23 07:11	1	
Tetrachloroethene	ND		1.0	0.36	ug/L			05/11/23 07:11	1	
Toluene	ND		1.0	0.51	ug/L			05/11/23 07:11	1	
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/11/23 07:11	1	
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/11/23 07:11	1	
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			05/11/23 07:11	1	
Trichloroethene	ND		1.0	0.46	ug/L			05/11/23 07:11	1	

Client: ARCADIS U.S. Inc
Job ID: 480-208715-1
Project/Site: GE Woods Pond Parcel

Client Sample ID: TRIP BLANK 050523
Lab Sample ID: 480-208715-2
Date Collected: 05/05/23 00:00
Matrix: Water
Date Received: 05/09/23 11:00

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.88	ug/L			05/11/23 07:11	1
Vinyl acetate	ND		5.0	0.85	ug/L			05/11/23 07:11	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/11/23 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*05/11/23 07:11*	*1*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*05/11/23 07:11*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*05/11/23 07:11*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*05/11/23 07:11*	*1*

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Appendix K

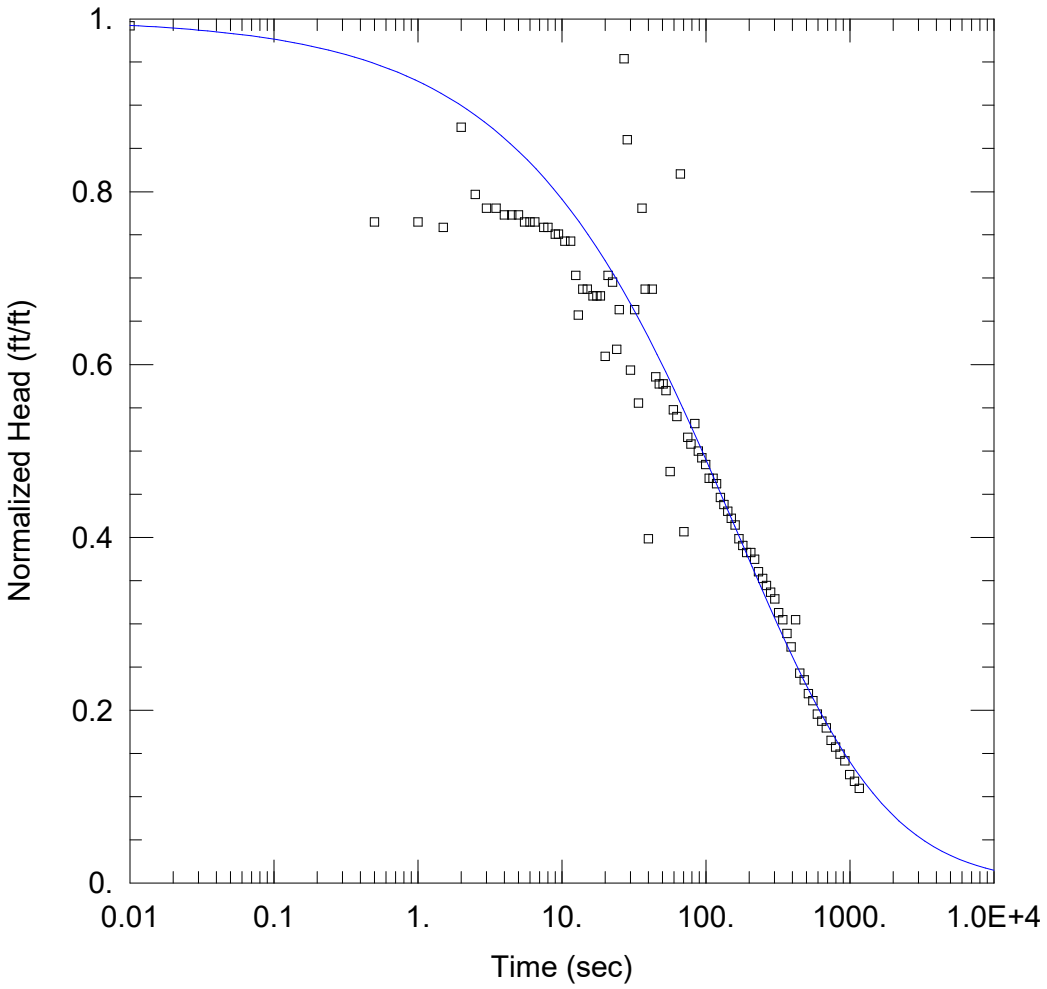
Slug Tests Reports

Appendix K

Slug Tests Reports

MW-2022-1S Falling Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.34 ft/day Ss = 0.046 ft^{-1}
Kz/Kr = 1.

AQUIFER DATA

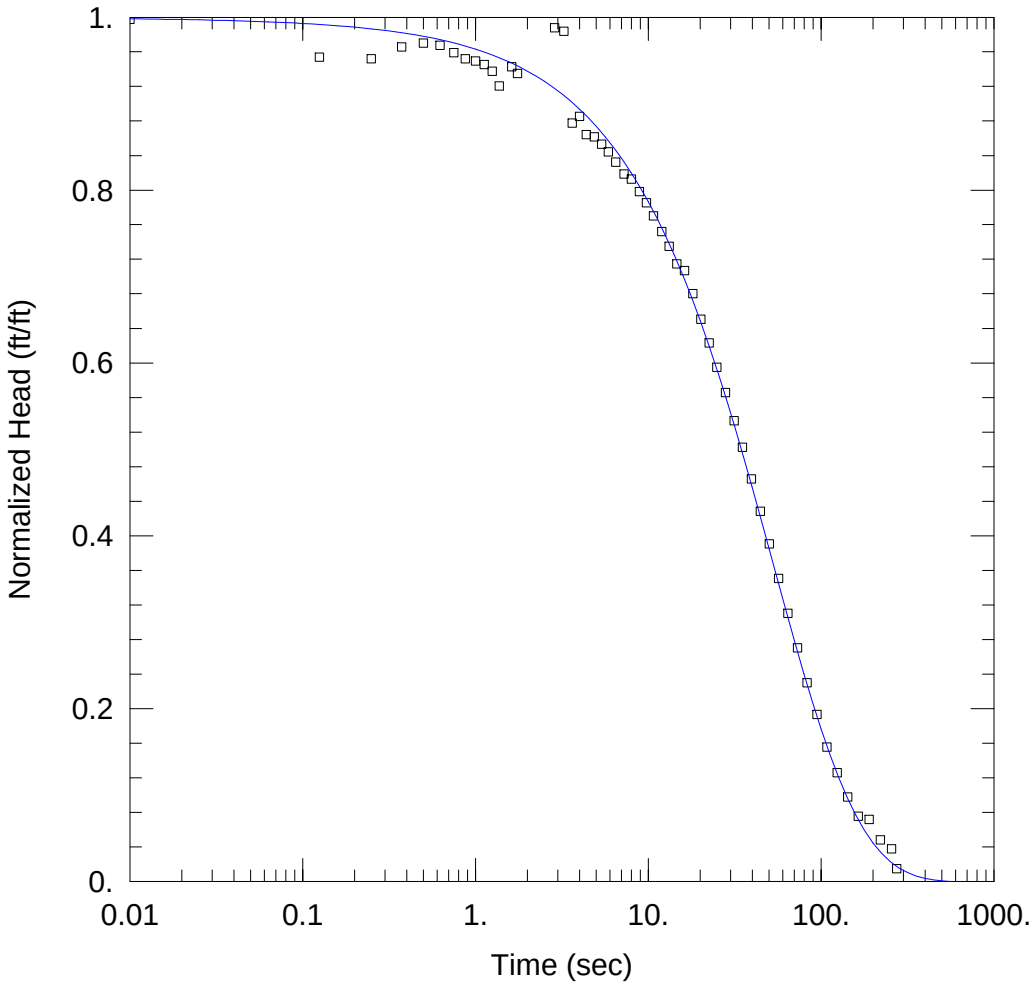
Saturated Thickness: 3.75 ft

WELL DATA (MW-2022-1S)

Initial Displacement: 0.63 ft
Static Water Column Height: 3.75 ft
Total Well Penetration Depth: 3.75 ft
Screen Length: 3.75 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

MW-2022-1D Rising Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 2.3 ft/day Ss = 1.6E-5 ft^{-1}
Kz/Kr = 1.

AQUIFER DATA

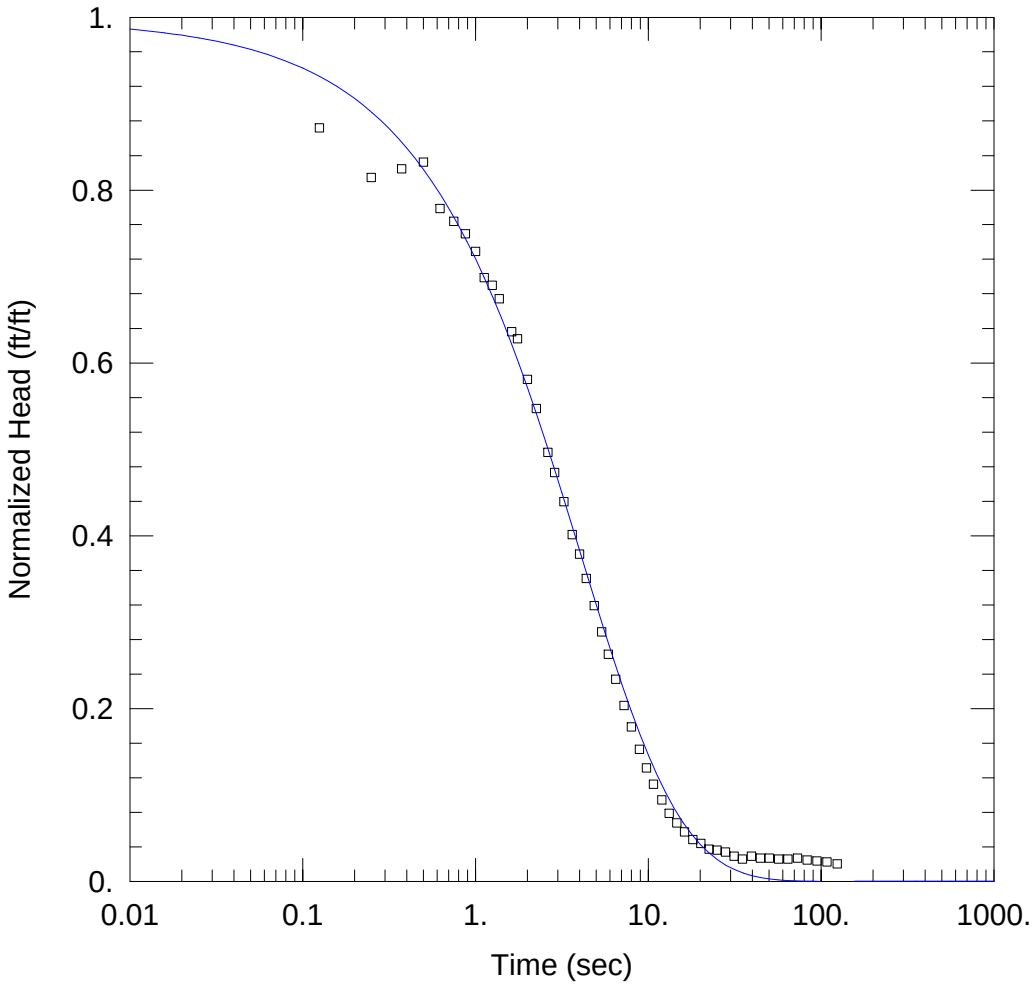
Saturated Thickness: 21.96 ft

WELL DATA (MW-2022-1D)

Initial Displacement: 1.17 ft
Static Water Column Height: 21.96 ft
Total Well Penetration Depth: 21.96 ft
Screen Length: 8.27 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

MW-2022-2 Rising Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 30. ft/day Ss = 0.00011 ft^{-1}
Kz/Kr = 1.

AQUIFER DATA

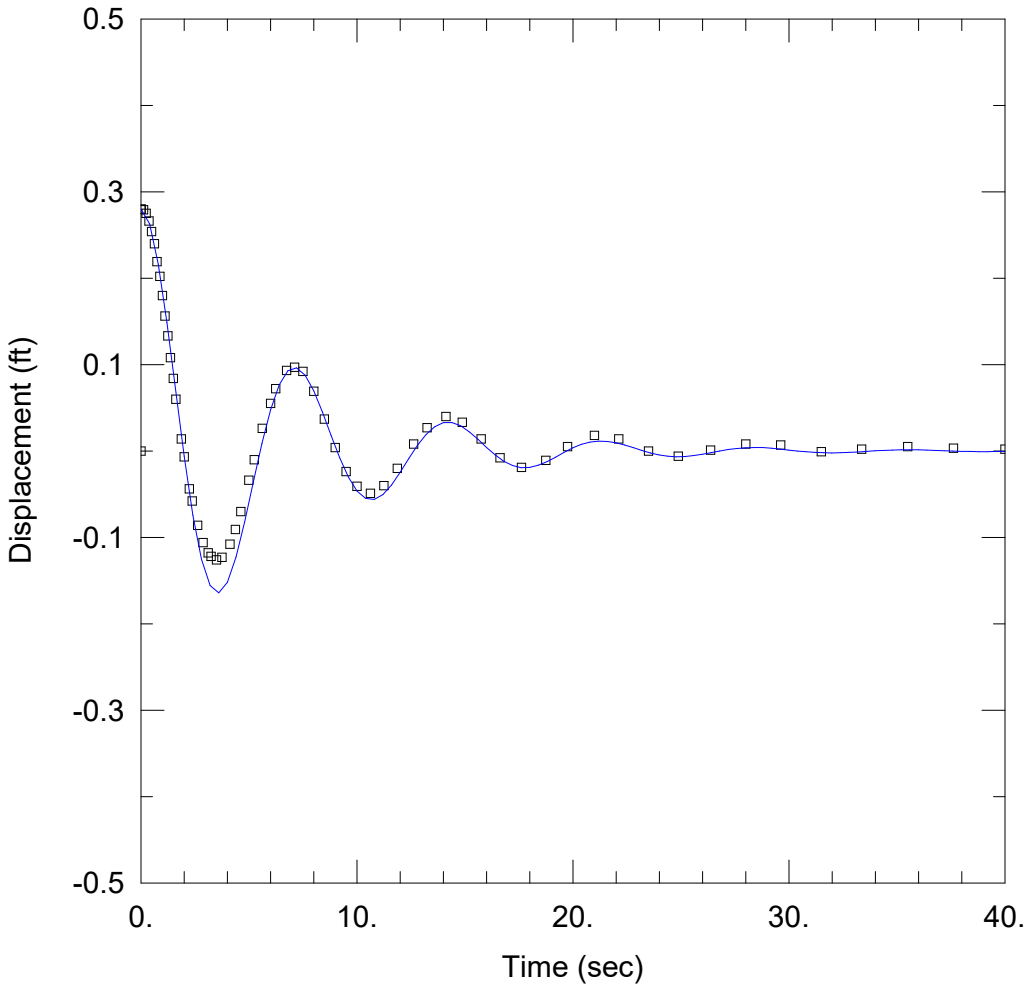
Saturated Thickness: 12.45 ft

WELL DATA (MW-2022-2)

Initial Displacement: 0.89 ft
Static Water Column Height: 12.45 ft
Total Well Penetration Depth: 12.45 ft
Screen Length: 9.48 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

MW-2022-4D Rising Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
K = 400. ft/day Le = 40. ft

AQUIFER DATA

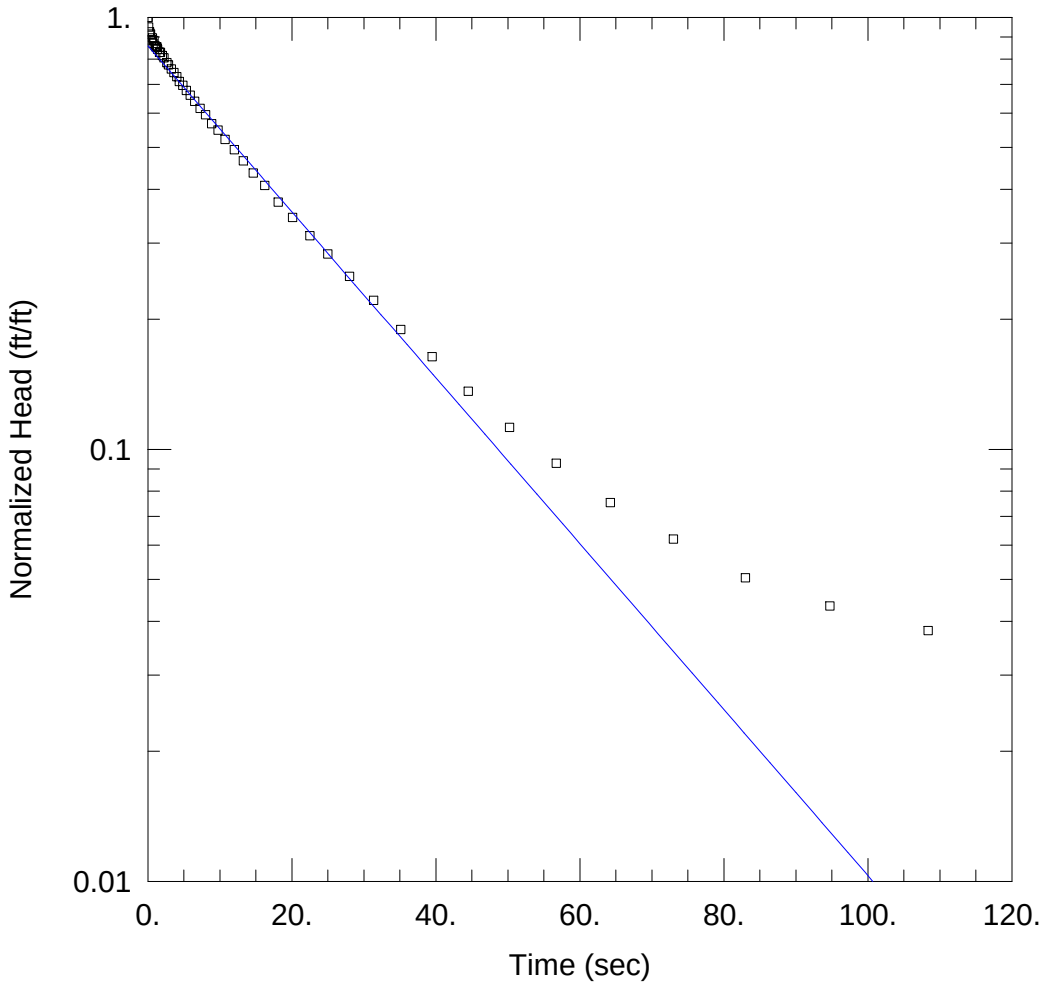
Saturated Thickness: 40.65 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-2022-4D)

Initial Displacement: 0.28 ft
Static Water Column Height: 40.65 ft
Total Well Penetration Depth: 40.65 ft
Screen Length: 7.38 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

MW-2022-5 Rising Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 5.3 ft/day y0 = 0.97 ft

AQUIFER DATA

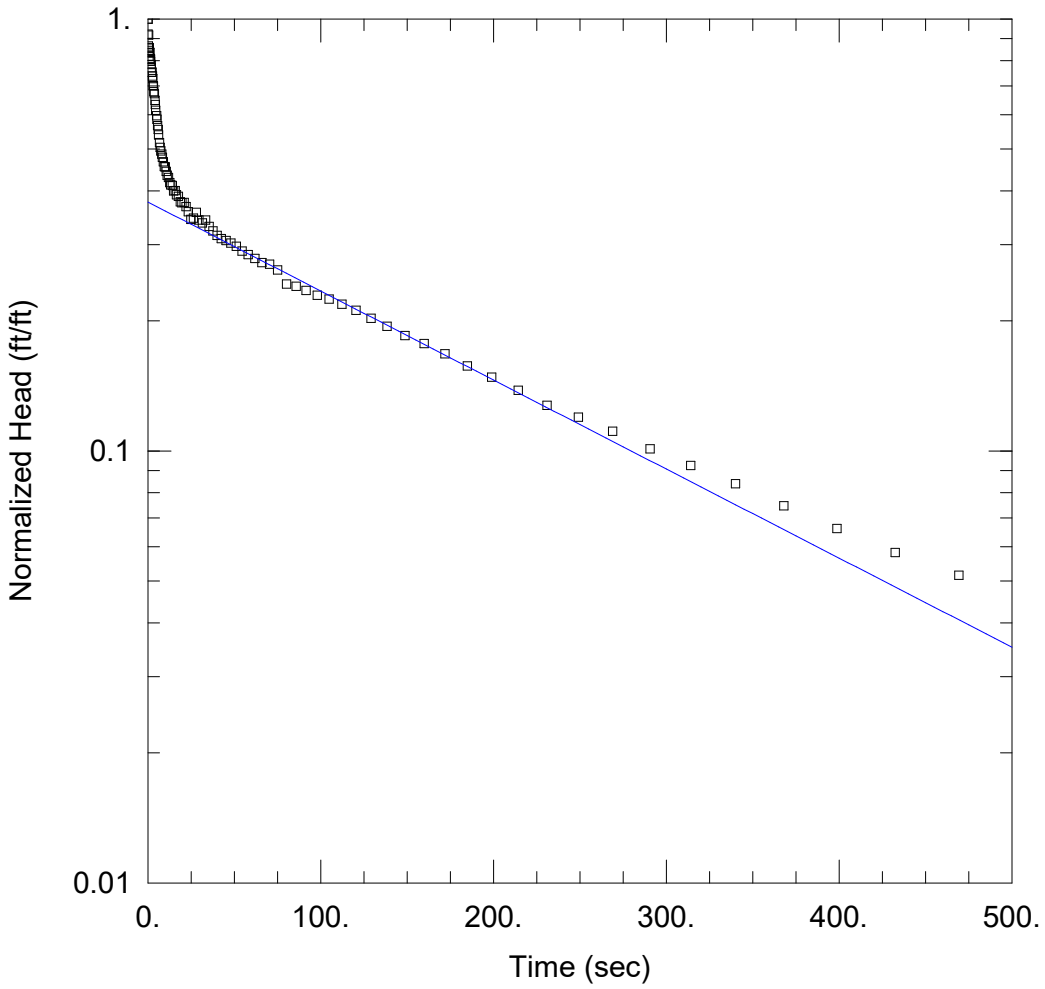
Saturated Thickness: 11.1 ft (Kz/Kr): 1.

WELL DATA (MW-2022-5)

Initial Displacement: 1.13 ft
Static Water Column Height: 11.1 ft
Total Well Penetration Depth: 11.1 ft
Screen Length: 9.31 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

MW-2022-7 Rising Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.48 ft/day y0 = 0.57 ft

AQUIFER DATA

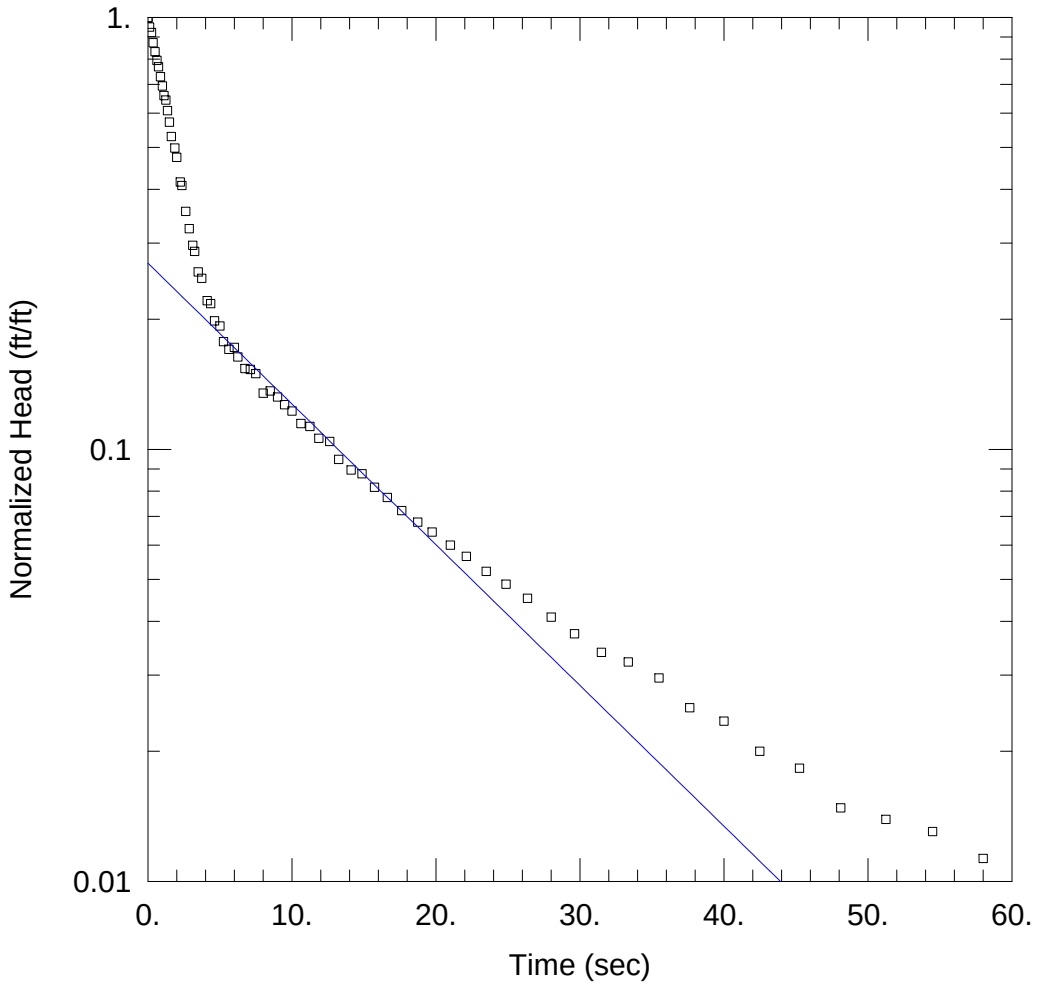
Saturated Thickness: 6.27 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-2022-7)

Initial Displacement: 1.513 ft
Static Water Column Height: 6.27 ft
Total Well Penetration Depth: 6.27 ft
Screen Length: 6.27 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

MW-2022-9 Rising Head

Prepared By:	Prepared For:
Arcadis	General Electric
Project:	**Location:**
30132437	Lee, MA



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 38. ft/day y0 = 0.31 ft

AQUIFER DATA

Saturated Thickness: 5.57 ft (Kz/Kr): 1.

WELL DATA (MW-2022-9)

Initial Displacement: 1.15 ft
Static Water Column Height: 5.57 ft
Total Well Penetration Depth: 5.57 ft
Screen Length: 5.57 ft
Casing Radius: 0.083 ft
Well Radius: 0.25 ft

ARCADIS

ARCADIS

SLUG TEST LOG

Site Name: GE UDF | Project No: 30181915 | Page: 1 of 3

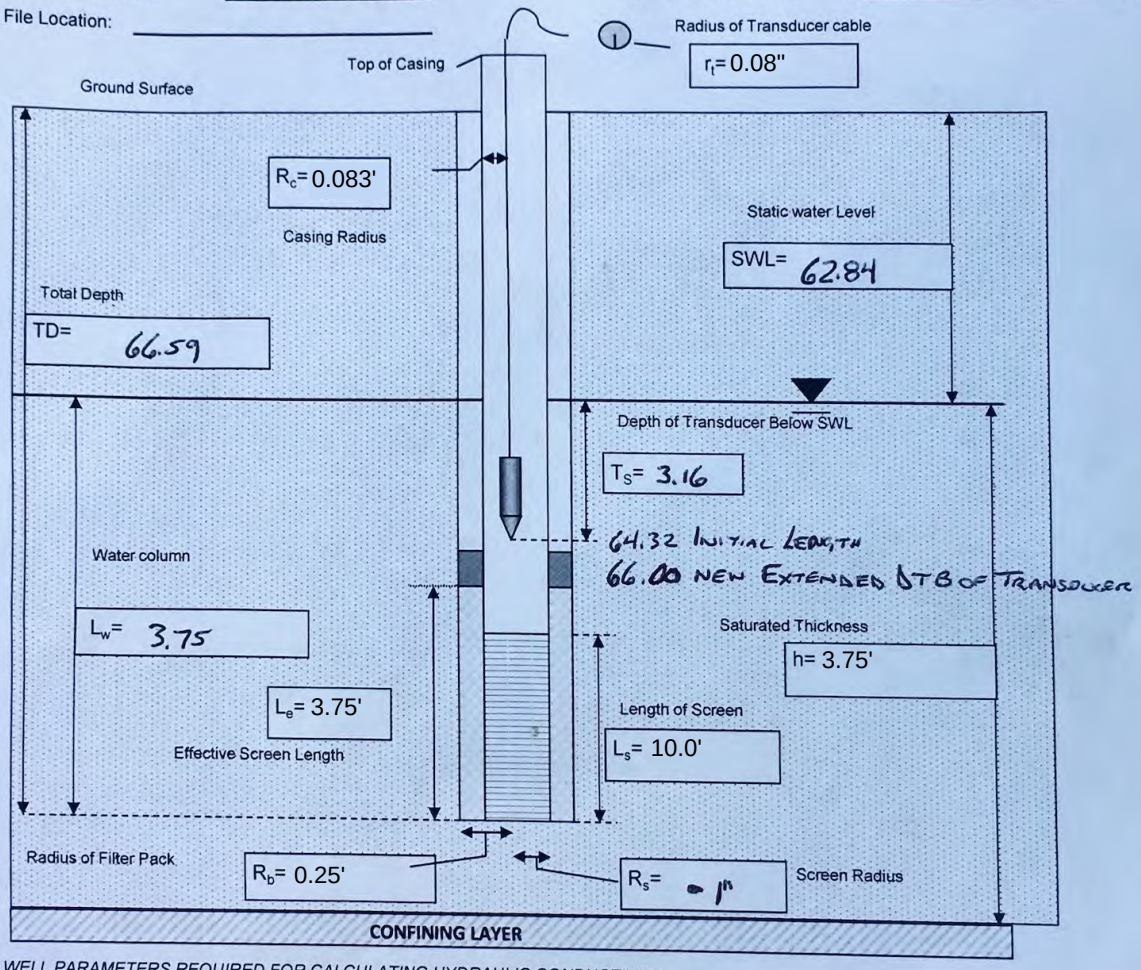
Test Well ID: MW-2022-15 | Observation Well ID (if different): — | Date: 7.20.23

Completed By: T. McCLENAHAN | Weather: SUN, LT. WIND 80°

Test Type & No: Rising 2, 4 Falling 1, 3 | Pressure Transducer SN: 2144226

Data File Name(s): MW15 072023 | Barologger Serial No (if used):

File Location:



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)

T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA 7.20.23 PAGE 2

MW-15

Test Number:	1	Test Duration:	19 MIN
Start Test Time:	1552	End Time:	1611
Rising / Falling (circle)	Falling	Slug Volume/ Length & Diameter:	1.5" x 1.81' .165G
SWL Time / Depth (ft)	~~3.16~~ 62.84 1545		
T_s Baseline Depth & Pressure:	3.16		
Max. Displacement (H_0) :	N/A		

Test Number:	2	Test Duration:	15 MIN
Start Test Time:	1614	End Time:	1629
Rising / Falling (circle)	Rising	Slug Volume/ Length & Diameter:	1.5" x 1.81' .165G
SWL Time / Depth (ft)	~~62.84~~ — N/A		
T_s Baseline Depth & Pressure:	(TM) 3.16 N/A		
Max. Displacement (H_0) :	N/A		

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
15:53:10	
WATER LEVEL IS NOT ABOVE TOP OF SLUG AT FIRST READING	

Time	Depth to Water (ft)
NO MANUAL READINGS - LEFT SLUG IN WELL FOR THESE ATTEMPTS	

NOTES: G = GALLONS

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA 7.20.23 PAGE 3

MW-15

Test Number: 3	Test Duration: 15 MIN
Start Test Time: 1631	End Time: 1646
Rising (Falling) (circle)	Slug Volume/ Length & Diameter: 1.5"x1.81' .165G
SWL Time / Depth (ft)	N/A
T_s Baseline Depth & Pressure:	N/A
Max. Displacement (H_0) :	N/A

Test Number: 4	Test Duration: 15 MIN
Start Test Time: 1648	End Time: 1703
(Rising) Falling (circle)	Slug Volume/ Length & Diameter: 1.5"x 1.81' .165G
SWL Time / Depth (ft)	N/A
T_s Baseline Depth & Pressure:	N/A
Max. Displacement (H_0) :	N/A

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
16:32:00	
NO WATER ON TOP OF SLUG	
CHECKED ELEV OF TOP OF SLUG = 61.92/1.93	
CANNOT GET MANUAL READINGS	

Time	Depth to Water (ft)
NO MANUAL READINGS - LEFT SLUG IN WELL	

NOTES: G = GALLONS

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST LOG

Site Name: GE UDF - Nec, MA Project No: 30150026 Page: 1 of 4

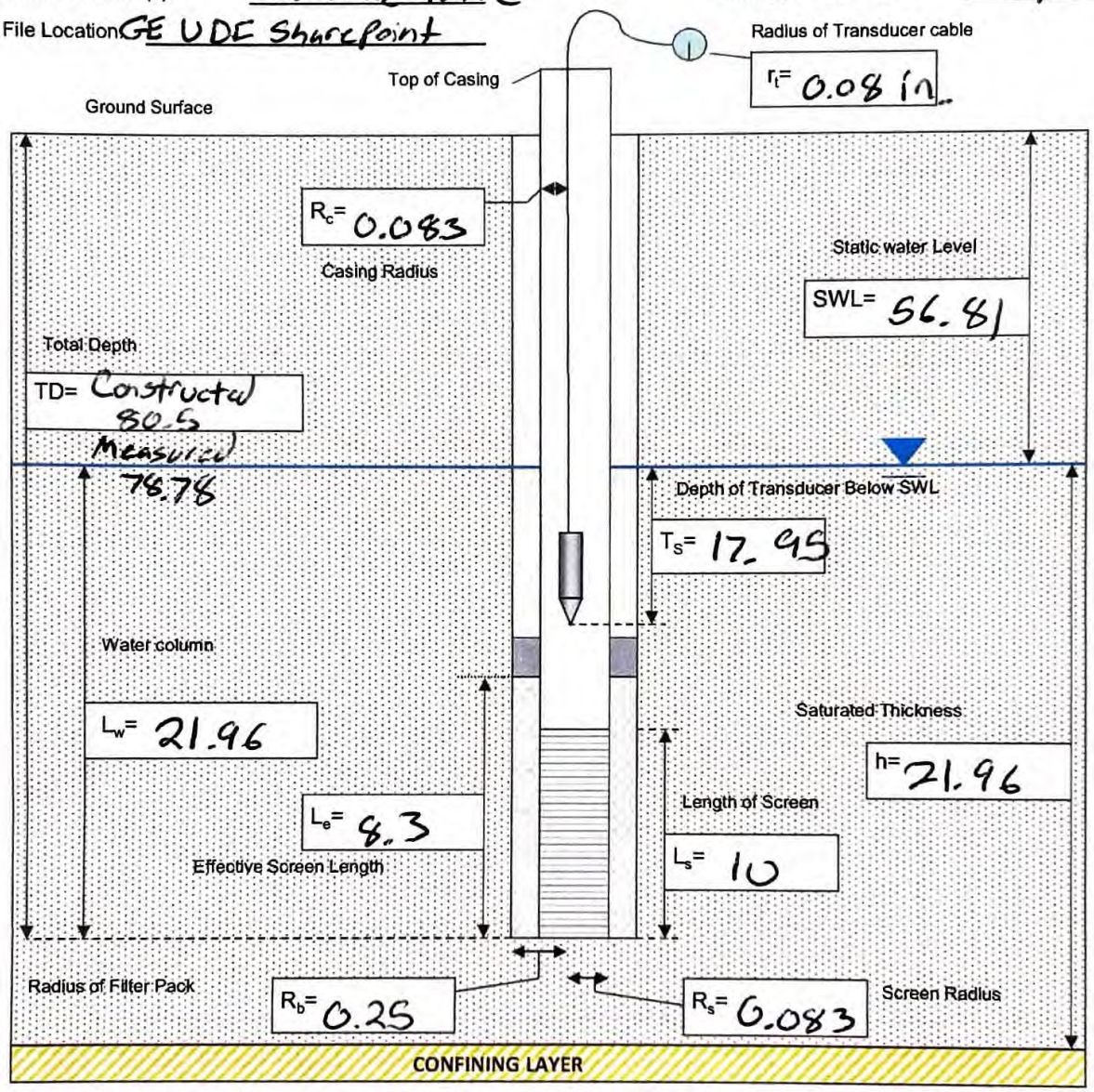
Test Well ID: MW-2022-1 Observation Well ID (if different): N/A Date: 6/2/22

Completed By: E Green Weather: 60's, Cloudy

Test Type & No: Rising 3 Falling 3 Pressure Transducer SN: 2057253

Data File Name(s): MW-2022-1.xle Barologger Serial No (if used): N/A

File Location: GE UDF Sharepoint



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)
T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA MW-2022-1

Test Number: 1	Test Duration: 5 min
Start Test Time: 10:10:00	End Time: 10:15:00
Rising / Falling (circle)	Slug Volume: 0.02 ft³
SWL Time / Depth (ft)	59.59 10:05:00
T_s Baseline Depth & Pressure:	GL 48.05
Max. Displacement (H_0) :	1.97'

Test Number: 1	Test Duration: 5min
Start Test Time: 10:15:00	End Time: 10:20:00
Rising / Falling (circle)	Slug Volume:
SWL Time / Depth (ft)	59.61 10:14:45
T_s Baseline Depth & Pressure:	48.52
Max. Displacement (H_0) :	1.17'

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
10:10:12	58.79
10:10:45	59.15
10:11:30	59.44
10:12:00	59.5
10:13:00	59.55
10:14:00	59.6
10:14:30	59.61
10:15:00	End of Test

Time	Depth to Water (ft)
10:15:20	60.37
10:16:00	59.99
10:16:55	59.75
10:18:00	59.66
10:19:00	59.64
10:19:30	59.63
10:20:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA MW-2022-1

Test Number:	2	Test Number:	2
Test Duration:	5min	Test Duration:	5min
Start Test Time:	10:20:00	Start Test Time:	10:25:00
End Time:	10:25:00	End Time:	10:30:00
Rising / (Falling) (circle)		(Rising) / Falling (circle)	
Slug Volume:	0.02 ft³	Slug Volume:	0.02 ft³
SWL Time / Depth (ft)	10:19:30 59.63	SWL Time / Depth (ft)	10:24:45 59.55
T_s Baseline Depth & Pressure:	49.05	T_s Baseline Depth & Pressure:	48.4
Max. Displacement (H_0) :	0.61'	Max. Displacement (H_0) :	1.66'

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
10:20:25	59.13	10:25:30	59.61
10:23:00	59.50	10:29:00	59.55
10:24:30	59.54	10:30:00	End of Test
10:25:00	End of Test		

NOTES: Slug Out Test #2 likely not usable

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA MW-2022-1

Test Number: 3	Test Duration: 5min
Start Test Time: 10:30:00	End Time: 10:35:00
Rising / Falling (circle)	Slug Volume: 0.02 ft³
SWL Time / Depth (ft)	10:29 59.55
T_s Baseline Depth & Pressure:	48.59
Max. Displacement (H_0) :	0.68'

Test Number: 3	Test Duration: 5min
Start Test Time: 10:35:00	End Time: 10:40:00
Rising / Falling (circle)	Slug Volume: 0.02 ft³
SWL Time / Depth (ft)	10:34:30 59.54
T_s Baseline Depth & Pressure:	48.82
Max. Displacement (H_0) :	1.61'

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
10:30:26	59.01
10:33:00	59.53
10:34:30	59.54
10:35:00	End of Test

Time	Depth to Water (ft)
10:35:20	60.23
10:37:00	59.64
10:34:30	59.55
10:40:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST LOG

Site Name: GEUDF - Lec, MA Project No: 30150026 Page: 1 of 4

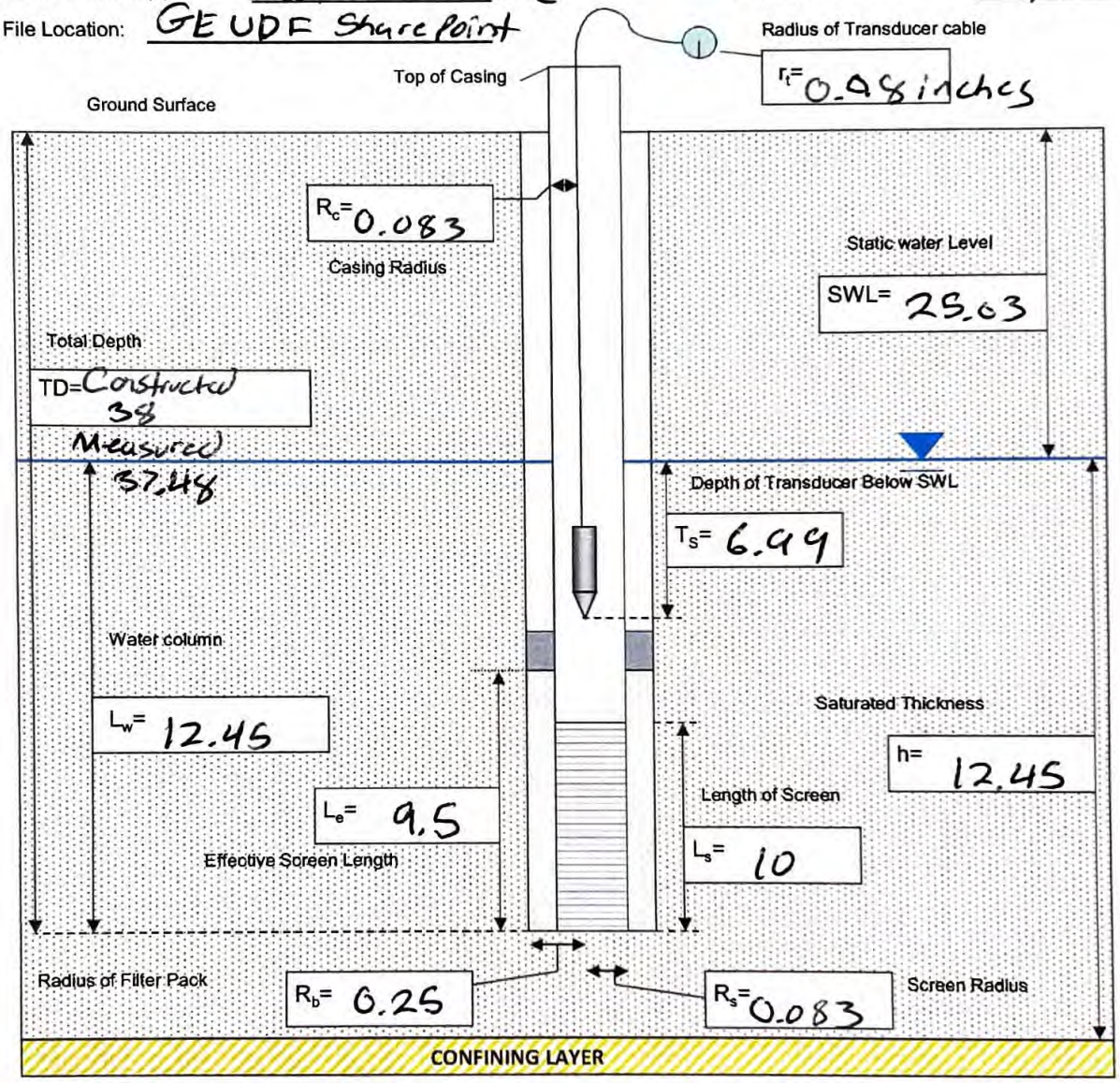
Test Well ID: MW-2022-2 Observation Well ID (if different): N/A Date: 6/1/22

Completed By: E Green Weather: 60's, Cloudy

Test Type & No: Rising 3 Falling 3 Pressure Transducer SN: 2057253

Data File Name(s): MW-2022-2_X14 Barologger Serial No (if used): N/A

File Location: GE UDF SharePoint



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)
T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA MW-2022-2

Test Number: 1	Test Duration: 5min
Start Test Time: 10:27:00	End Time: 10:32:00
Rising / Falling (circle)	Slug Volume: 0.02 ft³
SWL Time / Depth (ft)	28.46 10:25:00
T_s Baseline Depth & Pressure:	40.47
Max. Displacement (H_0) :	1.578

Test Number: 1	Test Duration: 5min
Start Test Time: 10:32:00	End Time: 10:37:00
(Rising) / Falling (circle)	Slug Volume: 0.02 ft³
SWL Time / Depth (ft)	10:31:30 28.44
T_s Baseline Depth & Pressure:	40.29
Max. Displacement (H_0) :	0.60

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
10:27:25	28.44
10:28:00	28.45
10:31:30	28.44
10:32:00	End of Test

Time	Depth to Water (ft)
10:32:25	28.48
10:36:30	28.46
10:37:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST DATA MW-2022-2

Test Number: 2 Test Duration: 5min

Start Test Time: 10:37:00 End Time: 10:42:00

Rising / Falling (circle) Slug Volume: 0.02 ft³

SWL Time / Depth (ft) 10:36:30 28.46

T_s Baseline Depth & Pressure: 40.50

Max. Displacement (H_0) : 0.67

Test Number: 2 Test Duration: 5min

Start Test Time: 10:42:00 End Time: 10:47:00

Rising / Falling (circle) Slug Volume: 0.02

SWL Time / Depth (ft) 10:41:30 28.43

T_s Baseline Depth & Pressure: 40.54

Max. Displacement (H_0) : 0.89

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
10:37:24	28.45	10:42:14	28.50
10:41:30	28.43	10:46:30	28.44
10:42:00	End of Test	10:47:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA MW-2022-2

Test Number: 3	Test Duration: 5min
Start Test Time: 10:47:00	End Time: 10:52:00
Rising / Falling (circle)	Slug Volume: 0.02 ft3
SWL Time / Depth (ft)	10:46:30 28.44
T_s Baseline Depth & Pressure:	40.51
Max. Displacement (H_0) :	0.49

Test Number: 3	Test Duration: 5min
Start Test Time: 10:52:00	End Time: 10:57:00
(Rising) / Falling (circle)	Slug Volume: 0.02 ft3
SWL Time / Depth (ft)	10:51:30 28.39
T_s Baseline Depth & Pressure:	40.62
Max. Displacement (H_0) :	0.50

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
10:47:25	28.36
10:51:30	28.39
10:52:00	End of Test

Time	Depth to Water (ft)
10:52:15	28.45
10:56:30	28.39
10:57:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST LOG

Site Name: GE USF | Project No: 30181915 | Page: 1 of 5

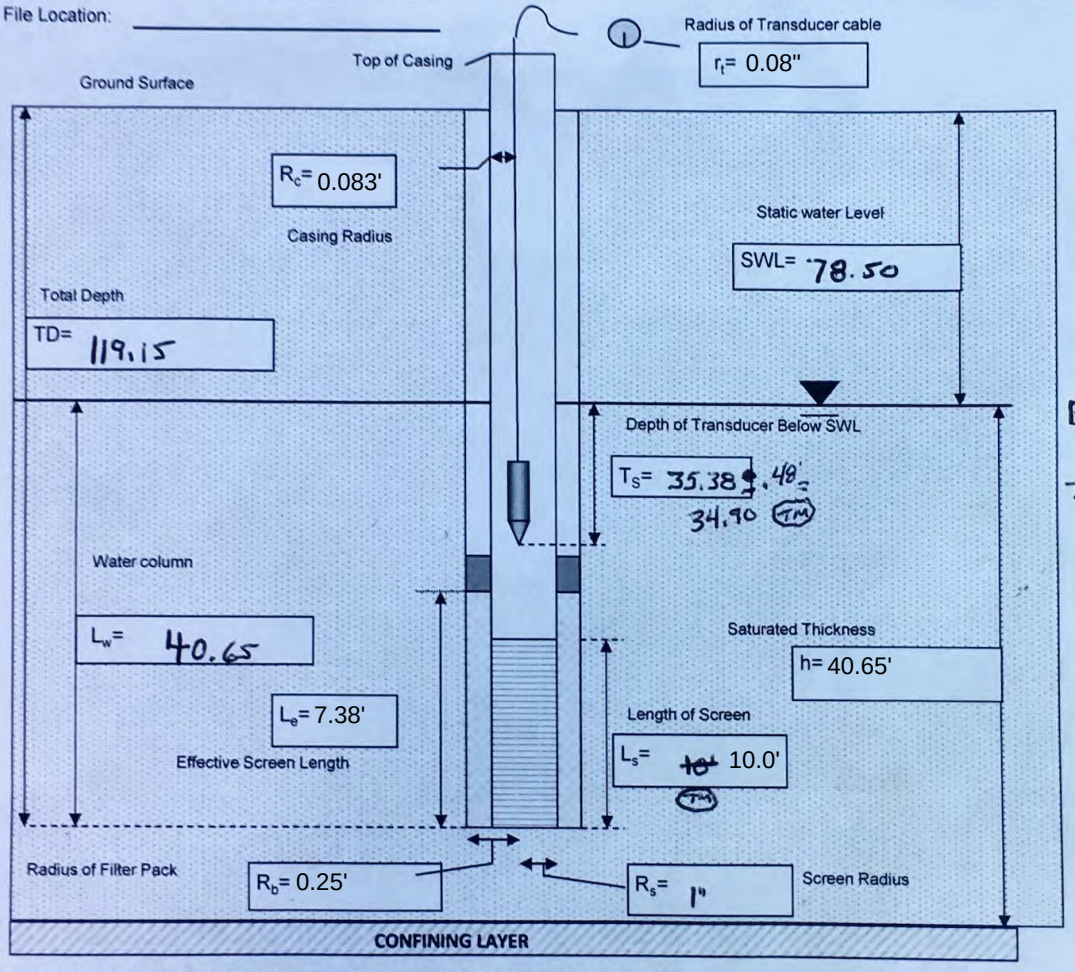
Test Well ID: MW-2022-4D | Observation Well ID (if different): — | Date: 7.20.23

Completed By: T. McClenahan | Weather: SUN, 75°

Test Type & No: Rising 2,4,6,8 Falling 1,3,5,7 | Pressure Transducer SN: 215767

Data File Name(s): MW4D 072023 | Barologger Serial No (if used):

File Location:



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)

T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 = 7.48 gallons
1 gallon = 3.785 Liters
1 psi = 2.3 feet of water

ARCADIS

SLUG TEST DATA 7.20.23 PAGE 2

MW-4D

Test Number:	1	Test Duration:	17 MIN
Start Test Time:	~~1115~~ 1106	End Time:	1123
Rising (Falling) (circle)	Slug Volume/ Length & Diameter:	1.5" x 2.72' .25 G	
SWL Time / Depth (ft)	78.50	1045	
T_s Baseline Depth & Pressure:	34.90		
Max. Displacement (H_0) :	.01		

Test Number:	2	Test Duration:	11 MINS
Start Test Time:	1143	End Time:	1154
(Rising) Falling (circle)	Slug Volume/ Length & Diameter:	1.5" x 2.72' .25 G	
SWL Time / Depth (ft)	78.50	1140	
T_s Baseline Depth & Pressure:	34.90		
Max. Displacement (H_0) :	0.00		

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
11:07:30	78.51	1145:00	78.50
11:07:45	78.51	1145:15	78.50
11:08:00	78.51	1145:30	78.50
11:08:15	78.50	1145:45	78.50
11:08:30	78.50	1146:00	78.50
11:08:45	78.50	1146:30	78.50
11:09:00	78.50	1147:00	78.50
11:09:30	78.50	1148:00	78.50
11:10:00	78.50	1149:00	78.50
11:10:30	78.50	1151:00	78.50
11:11:00	78.51	11:53:00	78.50
11:12:00	78.51	11:54:00	78.50
11:12:30	78.51		
11:13:00	78.51		
11:14:00	78.50		
11:17:30	78.50		
11:18:30	78.50		
11:20:00	78.50		
11:23:00	78.50		

* USED NEW BRAIDED LINE

* BRAIDED LINE

NOTES: G = GALLONS

TEST 2: TD LINE WRAPPED AROUND SLUG DURING PULL - HAD TO STOP + UNWIND A FEW TIMES, LIKELY INTERFERED W/ QUICK RECOVERY DATA

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$\text{Displacement} = \frac{\text{Slug Volume}}{\text{Casing Area}}$$

$$\text{Slug Volume}_{(\text{cylinder})} = h\pi r^2$$

$$\text{Casing Area} = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

SEE NOTES PAGE

1059- TOP OF SLUG SET AT 75.48

DROP IN TO 78.88 TOSLUG

11:17:30 7850
11:18:30 7850
20 7850

ARCADIS

SLUG TEST DATA 7.20.23 PAGE 3

MW-4D

Test Number: 3	Test Duration: 6 MINS
Start Test Time: 1224 (TM)	End Time: 1230
Rising (Falling) (circle)	Slug Volume/ Length & Diameter: 1.5"x2.72' .25G
SWL Time / Depth (ft)	78.50 1214
T_s Baseline Depth & Pressure:	34.90
Max. Displacement (H_0) :	.02

Test Number: 4	Test Duration: 6 MIN
Start Test Time: 1241	End Time: 1247
(Rising) Falling (circle)	Slug Volume/ Length & Diameter: 1.5"x 2.72' .15G 0.25G (TM)
SWL Time / Depth (ft)	1238 78.50
T_s Baseline Depth & Pressure:	34.90
Max. Displacement (H_0) :	N/A

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
12:24:40	78.52
12:24:55	78.51
12:25:15	78.50
12:25:35	78.50
12:25:45	78.50
12:26:00	78.50
12:26:30	78.50
12:27:00	78.50
12:27:30	78.50
12:28:00	78.50
12:29:00	78.50
12:30:00	78.50

Top of SLUG SET AT 75.48

DROP TOP OF SLUG TO 78.88

Time	Depth to Water (ft)
- NO MANUAL READINGS TAKEN	
RAISED SLUG JUST OUT OF	
WATER HOPING TO AVOID TANGLING	

(TM) "SLUG [redacted] TIN TOP OF SLUG IS 79.50

NOTES: G=GALLONS

* NO MANUAL READINGS TO AVOID TANGLES. JUST RAISING IT SLIGHTLY OUT OF WATER TO TOP OF SLUG 75.40

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST DATA 7.20.23 PAGE 4

MW-4D

Test Number: 5	Test Duration: 6 MIN
Start Test Time: 1251	End Time: 1257
Rising (Falling) (circle)	Slug Volume/ Length & Diameter: 1.5"x2.72' .25G
SWL Time / Depth (ft)	~ 78.50 (SLUG IN WELL)
T_s Baseline Depth & Pressure:	34.90
Max. Displacement (H_0) :	.01

Test Number: 6	Test Duration: 6 MINS
Start Test Time: 1259	End Time: 1305
(Rising) / Falling (circle)	Slug Volume/ Length & Diameter: 1.5"x2.72' .25G
SWL Time / Depth (ft)	78.50 1258
T_s Baseline Depth & Pressure:	34.90
Max. Displacement (H_0) :	N/A

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
12:51:40	78.51
12:52:00	78.50
12:52:30	78.50
NO MORE MANUALS TAKEN UNTIL END	
12:57:00	78.50

Top of SLUG OUT IS 72.30

Top of SLUG IN IS ~~78.88~~ TM 79.50

Time	Depth to Water (ft)
NO MANUALS TAKEN	

Top of SLUG IN IS ~~78.88~~ TM 79.50

Top of SLUG OUT IS 72.30

NOTES: G=GALLONS

SLUG PULLED JUST OUT OF WATER TO AVOID TANGLING TO CORD

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST DATA 7.20.23. PAGE 5

MW-4D

Test Number:	7	Test Duration:	6MIN
Start Test Time:	1310	End Time:	1316
Rising (Falling) (circle)		Slug Volume/ Length & Diameter:	1.5"x2.72' .25G
SWL Time / Depth (ft)	78.50 (SLUG IN WELL)		
T_s Baseline Depth & Pressure:	34.90		
Max. Displacement (H_0) :	.02		

Test Number:	8	Test Duration:	6MIN
Start Test Time:	1320	End Time:	1326
(Rising) Falling (circle)		Slug Volume/ Length & Diameter:	1.5"x2.72' 0.25G
SWL Time / Depth (ft)	78.50 13:17		
T_s Baseline Depth & Pressure:	34.90		
Max. Displacement (H_0) :	N/A		

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
13:10:35	78.52
13:10:45	78.51
13:11:00	78.50
13:11:15	78.50
13:11:30	78.50
13:12:00	78.50
13:13:00	78.50
13:15:00	78.50
13:16:00	78.50

Top of SLUG "OUT" IS 72.30

Top of SLUG "IN" IS 79.50

Time	Depth to Water (ft)
NO MANUAL READINGS COLLECTED	
* LIKELY INTERFERED WITH WLM - WAS (TD cable) TANGLED AROUND WLM LINE UPON REMOVAL ATTEMPT.	

Top of SLUG IN 79.50

Top of SLUG OUT 72.30

* No MANUAL READINGS TAKEN AS SLUG REMAINED IN THE WELL

NOTES: G = GALLONS

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$\text{Displacement} = \frac{\text{Slug Volume}}{\text{Casing Area}}$$

$$\text{Slug Volume}_{(\text{cylinder})} = h\pi r^2$$

$$\text{Casing Area} = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π = 3.1416

SLUG TEST DATA 7.20.23. PAGE 5

ARCADIS

MW-4D

Test Number: 7	Test Duration: 6MIN
Start Test Time: 1310	End Time: 1316
Rising (Falling) (circle)	Slug Volume/ Length & Diameter: 1.5"x2.72' .25G
SWL Time / Depth (ft)	~78.50 (SLUG IN WELL)
T_s Baseline Depth & Pressure:	34.90
Max. Displacement (H_0) :	.02

Test Number: 8	Test Duration: 6MIN
Start Test Time: 1320	End Time: 1326
(Rising) Falling (circle)	Slug Volume/ Length & Diameter: 1.5"x2.72' 0.25G
SWL Time / Depth (ft)	78.50 13:17
T_s Baseline Depth & Pressure:	34.90
Max. Displacement (H_0) :	N/A

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
13:10:35	78.52
13:10:45	78.51
13:11:00	78.50
13:11:15	78.50
13:11:30	78.50
13:12:00	78.50
13:13:00	78.50
13:15:00	78.50
13:16:00	78.50

Top of SLUG "OUT" IS 72.30

Top of SLUG "IN" IS 79.50

Time	Depth to Water (ft)
NO MANUAL READINGS COLLECTED	
* LIKELY INTERFERED WITH WLM - (TD CORD WAS TANGLED AROUND WLM LINE UPON REMOVAL ATTEMPT.	

Top of SLUG IN 79.50

Top of SLUG OUT 72.30

NOTES: G = GALLONS

* NO MANUAL READINGS TAKEN AS SLUG REMAINED IN THE WELL

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST LOG

Site Name: GE UDF - Lee, MA Project No: 30150026 Page: 1 of 4

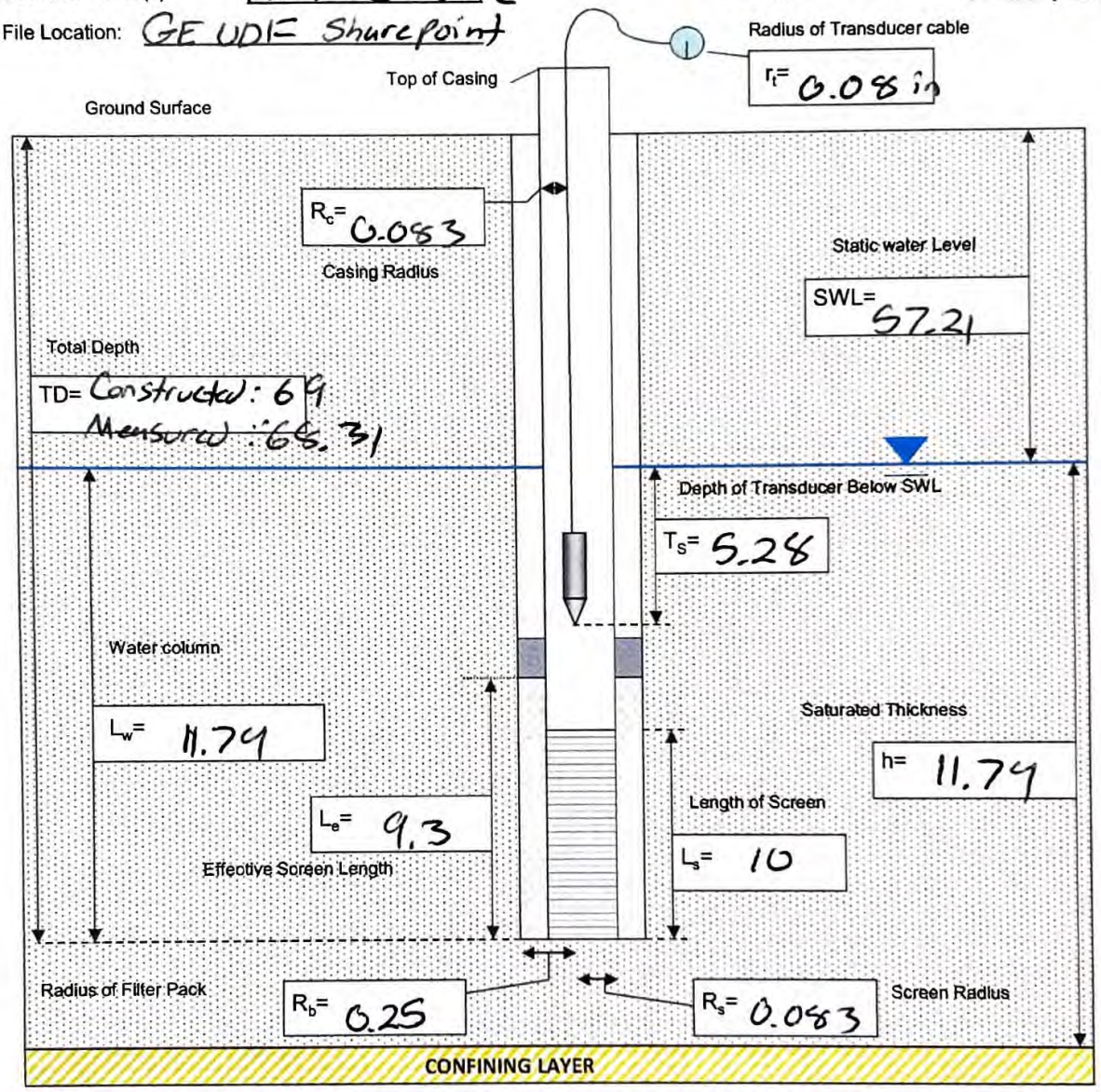
Test Well ID: MW-2022-S Observation Well ID (if different): N/A Date: 6/1/22

Completed By: E Green Weather: 60's Cloudy

Test Type & No: Rising 3 Falling 3 Pressure Transducer SN: 2057253

Data File Name(s): MW-2022-S.xle Barologger Serial No (if used): N/A

File Location: GE UDF Sharepoint



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)
T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA MW-2022-S

Test Number: 2 Test Duration: 5min
Start Test Time: 14:31:00 End Time: 14:36:00
Rising / Falling (circle) Slug Volume: 0.02 ft3
SWL Time / Depth (ft) 14:25:00
T_s Baseline Depth & Pressure: 35.88
Max. Displacement (H_0) : 0.73

Test Number: 1 Test Duration: 5min
Start Test Time: 14:36:00 End Time: 14:40:00
Rising / Falling (circle) Slug Volume: 0.02 ft3
SWL Time / Depth (ft) 14:35:30 60.35
T_s Baseline Depth & Pressure: 35.85
Max. Displacement (H_0) : 1.11

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
14:31:28	60.05
14:32:12	60.31
14:35:30	60.35
14:36:00	End of Test

Time	Depth to Water (ft)
14:36:27	60.72
14:38:32	60.39
14:40:30	60.37
14:41:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST DATA MW-2022-5

Test Number: 2	Test Duration: 5min
Start Test Time: 14:41:00	End Time: 14:46:00
Rising / Falling (circle)	Slug Volume: 0.02ft3
SWL Time / Depth (ft)	14:40:30 60.37
T_s Baseline Depth & Pressure:	38.82
Max. Displacement (H_0) :	1.02

Test Number: 3	Test Duration: 5min
Start Test Time: 14:46:00	End Time: 14:51:00
Rising / Falling (circle)	Slug Volume: 0.02ft3
SWL Time / Depth (ft)	14:45:40 60.33
T_s Baseline Depth & Pressure:	38.89
Max. Displacement (H_0) :	1.13

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
14:41:22	59.94
14:42:46	60.35
14:45:40	60.33
14:46:00	End of Test

Time	Depth to Water (ft)
14:46:17	60.67
14:48:06	66.34
14:50:20	60.34
14:50:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST DATA MW-2022-5

Test Number: 3	Test Duration: 5min
Start Test Time: 14:51:00	End Time: 14:56:00
Rising / Falling (circle)	Slug Volume: 0.02 ft3
SWL Time / Depth (ft)	14:50:20 60.34
T_s Baseline Depth & Pressure:	34.56
Max. Displacement (H_0) :	1.11

Test Number: 3	Test Duration: 5min
Start Test Time: 14:56:00	End Time: 15:01:00
Rising / Falling (circle)	Slug Volume: 0.02 ft3
SWL Time / Depth (ft)	14:55:10 60.32
T_s Baseline Depth & Pressure:	36.40
Max. Displacement (H_0) :	0.94

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
14:51:40	60.20
14:52:45	60.31
14:55:10	60.32
14:56:00	End of Test

Time	Depth to Water (ft)
14:56:30	60.47
15:00:45	60.32
15:01:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST LOG

Site Name: GE UDF - Lee, MA Project No: 30130026 Page: 1 of 3

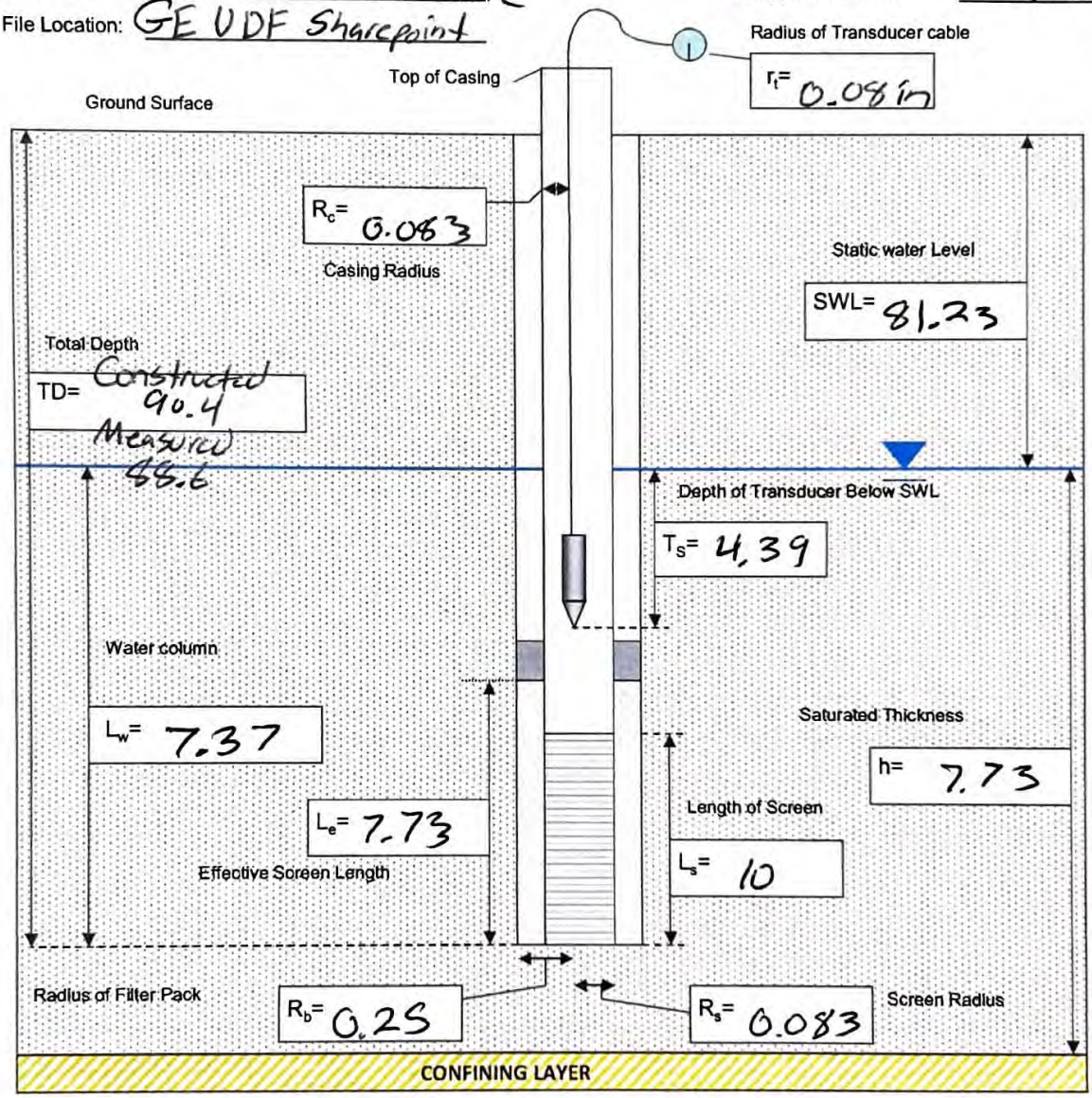
Test Well ID: MW-2022-7 Observation Well ID (if different): N/A Date: 6/2/22

Completed By: E Greco Weather: 60's Cloudy

Test Type & No: Rising 3 Falling 0 Pressure Transducer SN: 2057253

Data File Name(s): MW-2022-7.xle Barologger Serial No (if used): N/A

File Location: GE UDF Sharepoint



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)
T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA MW-2022-7

Test Number: 1	Test Duration: ~13min
Start Test Time: 8:01:53	End Time: 8:15:00
(Rising) / Falling (circle)	Slug Volume: 0.03
SWL Time / Depth (ft)	84.32 07:55:00
T_s Baseline Depth & Pressure:	~~84.45~~ 33.31
Max. Displacement (H_0) :	1.40

Test Number: 2	Test Duration: ~10min
Start Test Time: 8:21:45	End Time: 08:31:30
(Rising) / Falling (circle)	Slug Volume: 0.03
SWL Time / Depth (ft)	8:20:00 84.31
T_s Baseline Depth & Pressure:	33.31
Max. Displacement (H_0) :	1.44

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
8:02:10	84.71
8:03:14	84.60
8:04:07	84.58
8:07:10	84.48
8:10:24	84.44
8:14:52	84.40
8:15:00	End of Test

Time	Depth to Water (ft)
08:22:01	84.75
8:22:54	84.65
8:24:00	84.60
8:25:00	84.55
8:27:00	84.51
8:29:30	84.46
8:31:30	84.42
8:31:45	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA MW-2022-7

Test Number:	3	Test Number:	
Test Duration:	~11.5 min	Test Duration:	
Start Test Time:	9:06:30	Start Test Time:	
End Time:	9:18:00	End Time:	
Rising / Falling (circle)	(Falling)	Rising / Falling (circle)	
Slug Volume:	0.03	Slug Volume:	
SWL Time / Depth (ft)	9:05:00 84.31	SWL Time / Depth (ft)	
T_s Baseline Depth & Pressure:	38.02	T_s Baseline Depth & Pressure:	
Max. Displacement (H_0) :	1.60	Max. Displacement (H_0) :	

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
09:07:00	84.88		
09:10:00	84.59		
09:14:00	84.45		
09:17:30	84.39		
09:18:00	End of Test		

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST LOG

INITIAL SHEET PRE-TRANSDUCER ADJUSTMENT- CREATED NEW SHEET.

Site Name: GE-UBF | Project No: 30181915 | Page: 1 of —

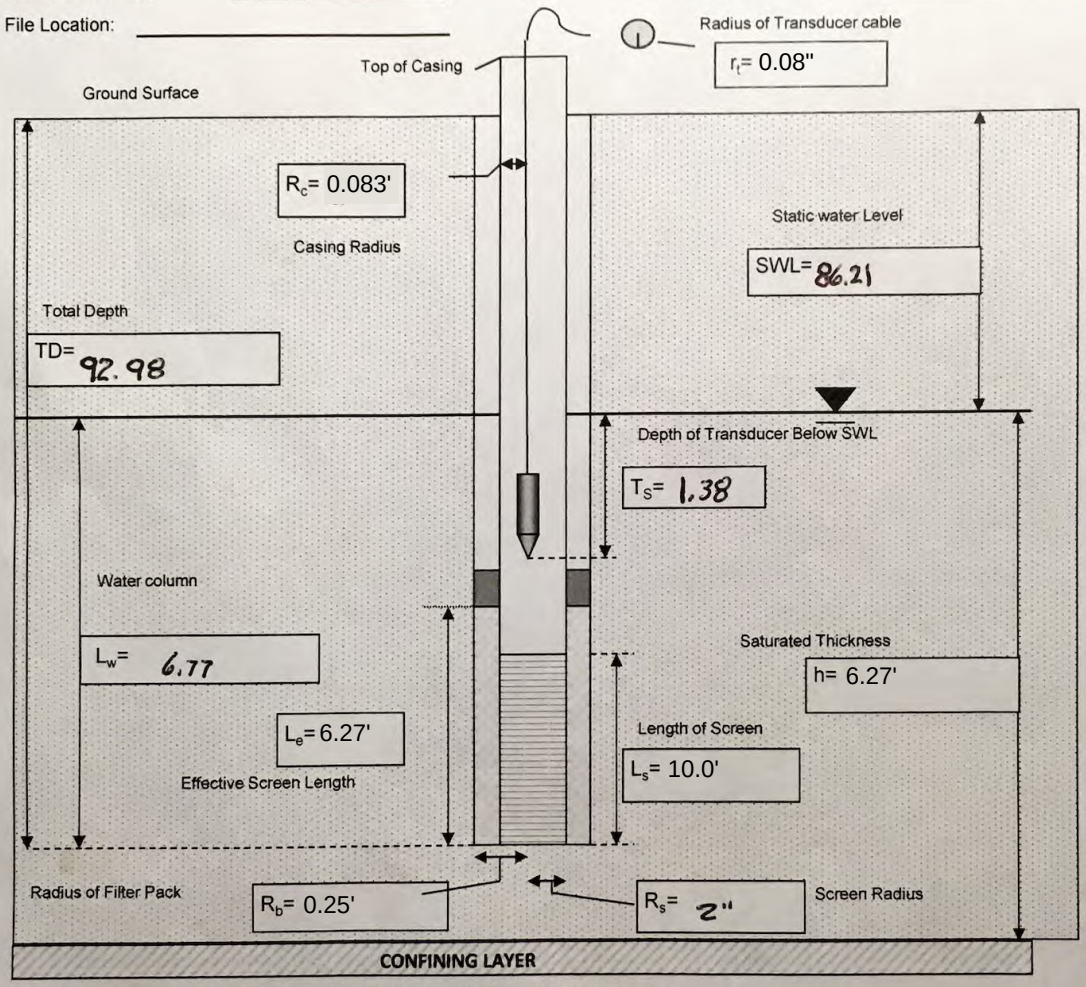
Test Well ID: MW-2022-7 | Observation Well ID (if different): N/A | Date: 6.19.23

Completed By: T. McCLENAHAN | Weather: SUN, WIND, 75°

Test Type & No: Rising _____ Falling _____ | Pressure Transducer SN: 2157667

Data File Name(s): _____ | Barologger Serial No (if used): _____

File Location: _____



TOP OF TRANS = 87.07
- .10 - TOP OF CASING OFFSET FOR SLUG
86.97

WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)
T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST LOG

Site Name: GE UDF | Project No: 3081915 | Page: 1 of 7

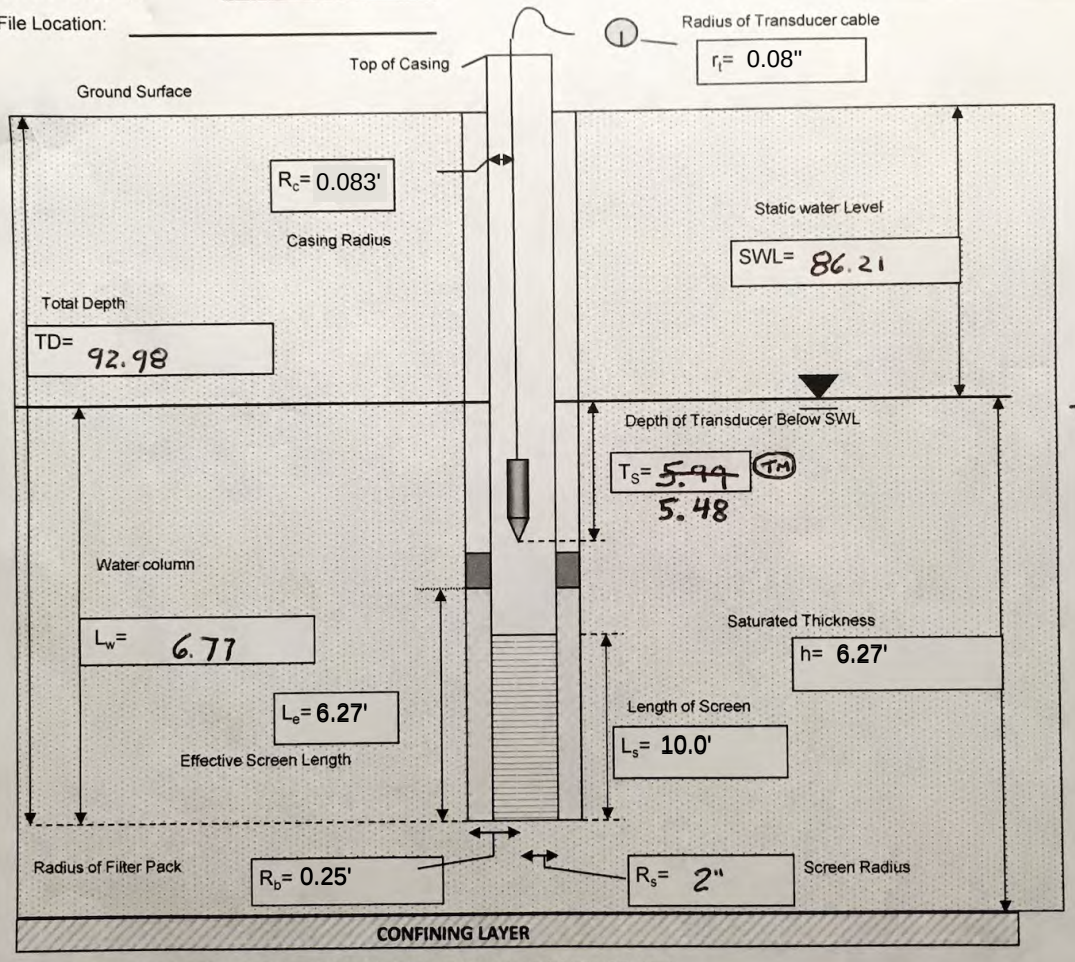
Test Well ID: MW-2022-7 | Observation Well ID (if different): N/A | Date: 7.19.2023 (TM)

Completed By: T. McClenahan | Weather: Sun, Wind, 80°

Test Type & No: Rising – | Falling 1+2 | Pressure Transducer SN: 2157667

Data File Name(s): MW7 071923 | Barologger Serial No (if used):

File Location:



Top of TD = 91.~~97~~17

WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)

T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA 7.19.23 PAGE 2

Test Number:	1	Test Duration:	30M 50S
Start Test Time:	14:14:10	End Time:	1445
Rising / Falling (circle)	Falling	Slug Volume/ Length & Diameter:	~~.25 G~~ .24 G (TM) 1.5" x 2.72'
SWL Time / Depth (ft)	1327 - 86.18		
T_s Baseline Depth & Pressure:	5.48		
Max. Displacement (H_0) :	.23'		

Test Number:		Test Duration:	
Start Test Time:		End Time:	
Rising / Falling (circle)		Slug Volume/ Length & Diameter:	
SWL Time / Depth (ft)			
T_s Baseline Depth & Pressure:			
Max. Displacement (H_0) :			

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
~~1413 Drop Slug in~~ (TM)			
SLUG IN - 14:14:10	14:14:10		
PROPERLY IN (A)	14:16:20		
14:16:45	85.95		
14:17:10	85.96		
14:17:30	85.98		
14:17:45	86.00		
14:18:00	86.01		
14:18:15	86.02		
14:18:30	86.03		
14:18:45	86.04		
14:19:00	86.05		
14:19:15	86.06		
14:19:30	86.07		
14:19:45	86.08		
14:20:00	86.10		
14:20:30	86.10		
14:21:00	TOP OF SLUG @ 86.10		

NOTES: TOP OF SLUG ABOVE SWL TEST 1 - REVISED SLUG VOLUME - SLUG WAS ~~1.5~~ .08' ABOVE SWL (.01G) (TM)

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
π ≈ 3.1416

ARCADIS

SLUG TEST LOG

Site Name: GE UDF Project No: 30181915 Page: 4 of 7

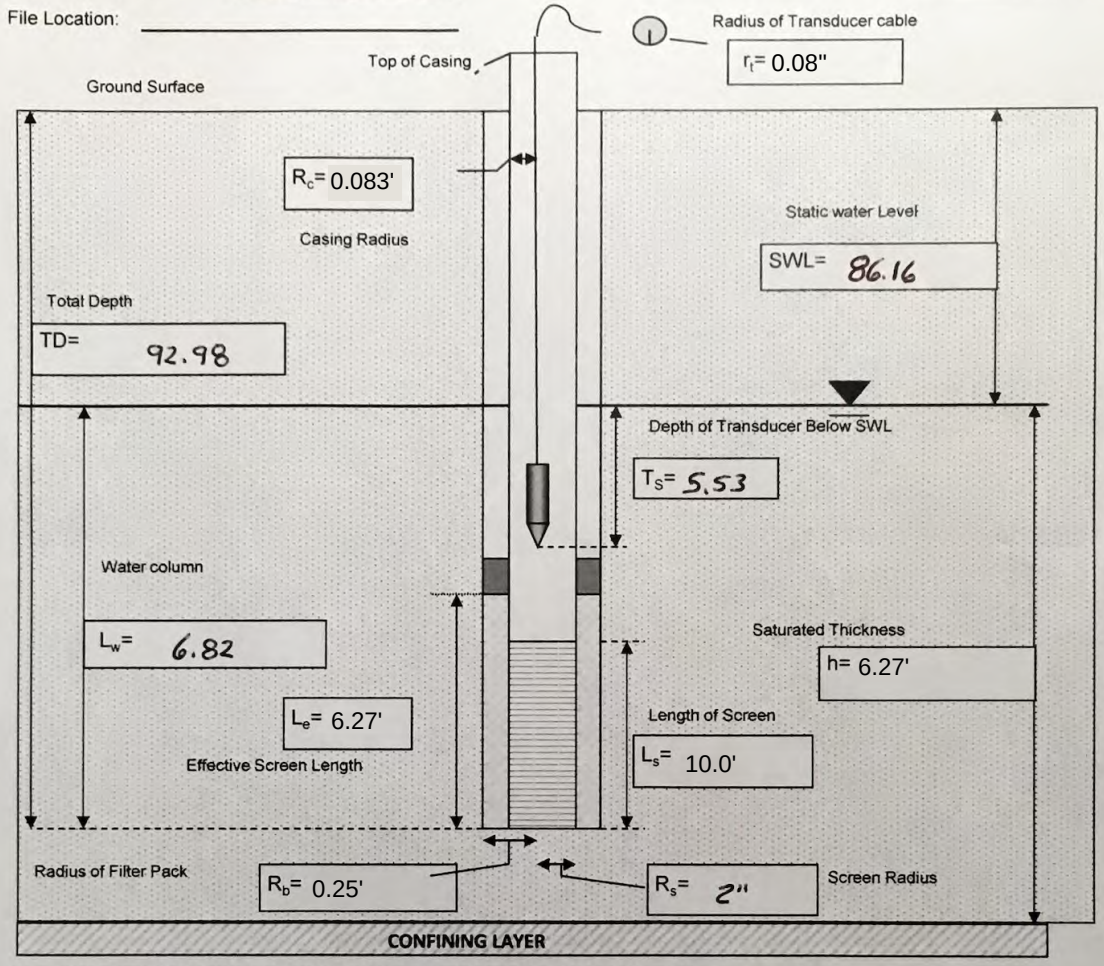
Test Well ID: MW-2022-7 Observation Well ID (if different): NA Date: 7.19.23 1545

Completed By: T. McCLENAHAN Weather: SUN, WIND, 75°

Test Type & No: Rising 3+5 Falling 4 Pressure Transducer SN: 2157667

Data File Name(s): MW7 071923 Barologger Serial No (if used):

File Location:



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)

T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA 7.19.23 PAGE 3

Test Number:	2	Test Duration:	17 MIN
Start Test Time:	15:23:00	End Time:	1540
Rising / Falling (circle)	Falling	Slug Volume/ Length & Diameter:	.15' 2" x 1.5" .016 (TM)
SWL Time / Depth (ft)	~ 86.18		1523
T_s Baseline Depth & Pressure:			5.48
Max. Displacement (H_0) :			.02

Test Number:		Test Duration:	
Start Test Time:		End Time:	
Rising / Falling (circle)		Slug Volume/ Length & Diameter:	
SWL Time / Depth (ft)			
T_s Baseline Depth & Pressure:			
Max. Displacement (H_0) :			

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
15:23:00			
(TM) 15:~~23~~:15	86.14		
15:23:30	86.14		
15:23:45	86.14		
15:24:00	86.14		
15:24:30	86.15		
15:25:00	86.15		
15:25:30	86.16		
15:26:00	86.16		
15:26:30	86.16		
15:27:00	86.16		
15:28:00	86.16		
15:29:00	86.16		
15:33:30	86.16		
15:37:00	86.16		
15:40:00	86.16		

NOTES: THIS TEST 2 IS TO LOWER ENTIRE SLUG .5' BELOW SWL (86.68)

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA 7.19.23 PAGE 5

Test Number:	3	Test Duration:	34 min
Start Test Time:	15:56	End Time:	1630
(Rising) / Falling (circle)		Slug Volume/ Length & Diameter:	1.5" x 2.72' .25G
SWL Time / Depth (ft)	1550	86.16'	
T_s Baseline Depth & Pressure:		5.53	
Max. Displacement (H_0) :		.37'	

Test Number:		Test Duration:	
Start Test Time:		End Time:	
Rising / Falling (circle)		Slug Volume/ Length & Diameter:	
SWL Time / Depth (ft)			
T_s Baseline Depth & Pressure:			
Max. Displacement (H_0) :			

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
15:57:30	86.53		
15:58:00	86.48		
15:58:15	86.44		
15:58:30	86.41		
15:58:45	86.40		
15:59:00	86.38		
15:59:30	86.36		
16:00:00	86.34		
16:00:30	86.32		
16:01:00	86.29		
16:01:30	86.28		
16:02:00	86.26		
16:03:30	86.23		
16:05:00	86.20		
16:07:30	86.109 (TM)		
16:15:00	86.16		
16:20:00	86.16		
16:25:00	86.16		
16:30:00	86.16		

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA 7.19.23 PAGE 6

Test Number: 4	Test Duration: ~~30~~ 29 MIN (TM)
Start Test Time: 1654	End Time: 1723
(TM) ~~Rising~~ Falling (circle)	Slug Volume/ Length & Diameter: 1.5" x 2.72' .25G
SWL Time / Depth (ft)	86.16 ~~1646~~ ~~1653~~ 1654 (TM)
T_s Baseline Depth & Pressure:	5.53
Max. Displacement (H_0) :	.26'

Test Number: 5	Test Duration: 30 MIN
Start Test Time: 1733	End Time: 1803
Rising / Falling (circle)	Slug Volume/ Length & Diameter: 1.5" x 2.72' .25 G
SWL Time / Depth (ft)	86.16 1733
T_s Baseline Depth & Pressure:	5.53
Max. Displacement (H_0) :	.35

Manual Depth to Water Measurements:

TOP OF SLUG SET @ 86.20
DROP TO 86.20

Time	Depth to Water (ft)
16:55:45	85.90
16:56:15	85.91
16:56:30	85.92
16:56:45	85.93
16:57:00	85.94
16:57:30	85.97
16:58:00	85.99
16:58:30	86.01
16:59:00	86.02
16:59:30	86.03
17:00:00	86.05
17:00:30	86.06
17:01:00	86.07
17:02:00	86.10
17:03:00	86.11
17:04:00	86.12
17:09:00	86.14
17:11:00	86.15
17:14:00	86.15
17:18:00	86.16
17:23:00	86.16

Time	Depth to Water (ft)
17:34:30	86.51
17:35:00	86.47
17:35:15	86.43
17:35:30	86.41
17:35:45	86.40
17:36:00	86.38
17:36:30	86.35
17:37:00	86.32
17:37:30	86.30
17:38:00	86.28
17:39:00	86.25
17:40:00	86.22
17:41:00	86.21
17:42:00	86.19
17:46:00	86.17
17:48:00	86.16
17:53:00	86.15
17:58:00	86.15
18:03:00	86.15

NOTES:

WHEN PULLING OUT SLUG - TD CORD WRAPPED AROUND SLUG WHEN IT REACHED THE TOP - WILL LIKELY HAVE JOSTLED IT

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

7.19.23 NOTES

1000 - 1830

SCOTT E (HOR) PRESENT

ARCADIS

SLUG TEST DATA 7.19.2023 PAGE 7

Test Number: MW-2022-7#1	Test Duration:	Test Number:	Test Duration:
Start Test Time:	End Time:	Start Test Time:	End Time:
Rising / Falling (circle)	Slug Volume/ Length & Diameter:	Rising / Falling (circle)	Slug Volume/ Length & Diameter:
SWL Time / Depth (ft)		SWL Time / Depth (ft)	
T_s Baseline Depth & Pressure:		T_s Baseline Depth & Pressure:	
Max. Displacement (H_0) :		Max. Displacement (H_0) :	

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
1046	DTW/DTB	1308 - SET SLUG DEPTHS:	
1053	PULLED TD	BOT OF SLUG MARK 1 = 86.10'	
DTB OF TD =	87.59	BOT OF SLUG MARK 2 = 88.[redacted]95'	
DTT OF TD =	87.07 } .86' H2O ABOVE TD		
SWL =	86.21 }	1327 - DTW - 86.18	
1124	DOWNLOAD TD DATA	- DROP IN SLUG TO MARK 1	
1138	CHANGED LINEAR MODE FROM	1355 - TOP OF SLUG IS 83.40 = 86.12 BOT SLUG	
	60 MINS TO 0.125 SEC	LOWERED TO 86.25' (TOP OF SLUG) = ADD 2.85'	
1140	START A BUCKET TEST	USED WLM TO FEEL TOP OF SLUG B/C STRING	
1152	STOP + CHECK = LOOKS GOOD, 26"	MARKS 1+2 WERE STRETCHED INACCURATELY	
1202 -	TALK w/ CK - NEED TO LENGTHEN	THOUGHT TOP OF SLUG WAS SET AT 86.25 BUT	
	TRANS DEPTH	WAS ACTUALLY 86.10 IN THE END. SPOKE w/	
1231 - NEW DTB OF TD =	92.[redacted]20	CK = LOWER NOW AS "TEST 2" AND LET RECOVER	
NEW DTT OF TD =	91.68	TO SWL (86.18)	
1234 - SWL =	86.21 STILL	1523 - LOWER SLUG .5' TO 86.6 (TOP OF SLUG)	
RESTART	TRANSDUCER	1555 - CONDUCT TEST 3 (SLUG OUT)	
1253 - TD BACK IN - HAVE TO LEAVE WELL CAP		1635 - CONDUCT TEST 4 (SLUG IN "B")	
OUTSIDE TO STEEL CASING TO FIT SLUG		SET TOP OF SLUG @ 83.20	
DOWN WHICH IS .51' & SO TOP OF		DROP SLUG TOP TO 86.20	
TRANSDUCER IS NOW AT ~~91.57~~ 91.17'		1730 - CONDUCT TEST 5 (SLUG OUT) - PULL QUICK, 1ST DTW ASAP	
DTB OF TD 91.68'		* TD CORD WRAPPED AROUND SLUG WHEN PULLING	
		OUT OF WELL - JOSTLED TD INITIALLY	
		1810 - COMPLETE - PULL TD, CHECK/ SAVE DATA; RESET	
		FREQ TO 60 MINS	

NOTES

TD = .52'

LENGTH OF SLUG + EYE HOOK = 2.92'

LENGTH OF SLUG = 2.72' (32 7/8")

+.51'

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST LOG

Site Name: GE UDF-Lee, MA Project No: 30150026 Page: 1 of 3

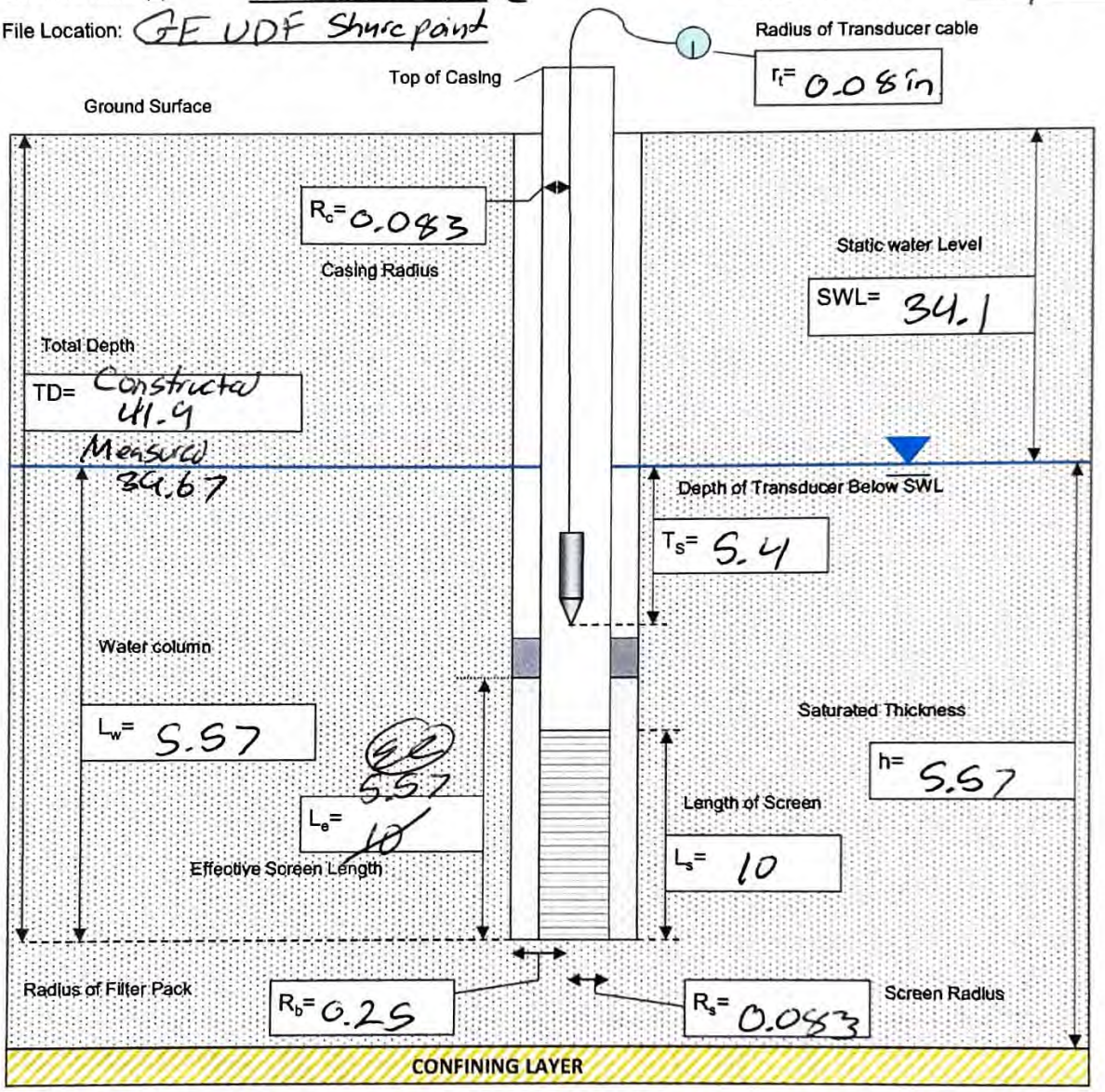
Test Well ID: MW-2022-9 Observation Well ID (if different): N/A Date: 6/1/22

Completed By: E Grey Weather: 60's, Cloudy

Test Type & No: Rising 3 Falling 0 Pressure Transducer SN: 2057253

Data File Name(s): MW-2022-9.xle Barologger Serial No (if used): N/A

File Location: GE UDF Sharepoint



WELL PARAMETERS REQUIRED FOR CALCULATING HYDRAULIC CONDUCTIVITY:

L_e = Effective screen length, including the sand pack
L_s = True screen length
L_w = Length of water column in Well (TD-SWL)
R_s = Screen radius
R_b = Radius of filter Pack or borehole
R_c = Casing radius
r_t = Radius of the transducer cable (can be ignored if less than 1/8 inch)
T_s = Depth the transducer is submerged below the SWL
SWL = Static water level
TD = Total depth of well/screen from reference point
h = Saturated thickness of aquifer
H_o = Initial head change at instant the slug test is started.
Aquifer Type = Confined or unconfined

COMMON CONVERSIONS:

1 foot = 12 inches
1 foot^3 ≈ 7.48 gallons
1 gallon ≈ 3.785 Liters
1 psi ≈ 2.3 feet of water

ARCADIS

SLUG TEST DATA MW-2022-9

Test Number: ~~1~~ 1	Test Duration: 5 min
Start Test Time: 15:35:06	End Time: 15:40:00
Rising / Falling (circle)	Slug Volume: 0.03 ft3
SWL Time / Depth (ft)	15:30:00 37.38
T_s Baseline Depth & Pressure:	
Max. Displacement (H_0) :	1.41

Test Number: 2	Test Duration: 5 min
Start Test Time: 15:51:00	End Time: 15:56:00
Rising / Falling (circle)	Slug Volume: 0.03 ft3
SWL Time / Depth (ft)	37.36 15:50:00
T_s Baseline Depth & Pressure:	
Max. Displacement (H_0) :	1.26

Manual Depth to Water Measurements:

Time	Depth to Water (ft)
15:35:34	37.39
15:39:30	37.37
15:40:00	End of Test

Time	Depth to Water (ft)
15:51:22	37.46
15:52:28	37.38
15:55:30	37.88
15:56:00	End of Test

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

ARCADIS

SLUG TEST DATA MW-2022-9

Test Number:	3	Test Number:	
Test Duration:	5min	Test Duration:	
Start Test Time:	15:59:00	Start Test Time:	
End Time:	16:04:00	End Time:	
Rising / Falling (circle)		Rising / Falling (circle)	
Slug Volume:	0.03 ft³	Slug Volume:	
SWL Time / Depth (ft)	37.38 15:58:00	SWL Time / Depth (ft)	
T_s Baseline Depth & Pressure:		T_s Baseline Depth & Pressure:	
Max. Displacement (H_0) :	1.30	Max. Displacement (H_0) :	

Manual Depth to Water Measurements:

Time	Depth to Water (ft)	Time	Depth to Water (ft)
15:59:25	37.43		
16:00:35	37.39		
16:03:10	37.36		
16:04:00	End of Test		

NOTES:

THEORETICAL HEAD CHANGE

Slug Volume (gallon)	Slug Volume (ml)	Well Casing Diameter (inches)	Theoretical Initial Displacement (feet)
0.25	946	2	1.56
0.5	1893	2	3.13
1	3785	2	6.25
0.5	1893	4	0.77
1	3785	4	1.54
2	7570	4	3.08
1	3785	6	0.68
2	7570	6	1.36
3	11355	6	2.04

$$Displacement = \frac{Slug\ Volume}{Casing\ Area}$$

$$Slug\ Volume_{(cylinder)} = h\pi r^2$$

$$Casing\ Area = \pi r^2$$

Note: formulas based on consistent units
h = height (length)
r = radius (½ diameter)
$\pi \approx 3.1416$

Appendix L

Phase 1A Cultural Resources Assessment Report for Upland Disposal Facility Area



July 2022
Housatonic River – Upland Disposal Facility

AECOM

Phase IA Cultural Resources Assessment Report for Upland Disposal Facility Area

Prepared for General Electric Company
Pittsfield, Massachusetts

July 2022
Housatonic River – Upland Disposal Facility

Phase IA Cultural Resources Assessment Report for Upland Disposal Facility Area

Prepared for
General Electric Company
1 Plastics Avenue
Pittsfield, Massachusetts 01201

Prepared by
AECOM
500 Enterprise Drive
Rocky Hill, Connecticut 06067

TABLE OF CONTENTS

1 Introduction and Background 1

1.1 Introduction 1

1.2 Scope of the UDF Area CRA 4

1.3 APE Definition 6

2 Environmental Setting 7

3 Cultural and Historical Setting 11

3.1 Paleoindian Period 11

3.2 Early Archaic Period 11

3.3 Middle Archaic Period 12

3.4 Late/Terminal Archaic Period 13

3.5 Early and Middle Woodland Period 14

3.6 Late Woodland Period 15

3.7 Contact/Native American Historic Period 15

3.8 Settlement and Revolutionary War Era 16

3.9 From the Revolution into the Nineteenth Century 17

3.10 Twentieth Century 17

4 Results of Background Research 19

4.1 Introduction 19

4.2 MACRIS Database 19

4.3 Historic Maps 20

4.4 Previous Studies 24

5 Results of Field Inspections 25

5.1 March Field Inspection in Advance of Geotechnical Boring Activity 25

5.2 June Field Inspection of the Vegetated Margins of the GE Parcel 25

6 Plan for Supplemental CRA Investigations 32

6.1 Background Research 32

6.2 Field Investigations 32

6.3 Laboratory Analysis and Curation 34

6.4 Reporting 34

6.5 Schedule 35

7 References 36

LIST OF FIGURES

Figure 1. Location of the GE Parcel in Lee, Massachusetts. 2
Figure 2. General Layout of the Upland Disposal Facility in Lee, Massachusetts. 3
Figure 3. 2021 East Lee Topographic Quadrangle Map. 8
Figure 4. NRCS Soils Map. 9
Figure 5. View North from Southwest Corner of Parcel Near Well PZ-8. 10
Figure 6. View South of Level Knoll in Area C. 10
Figure 7. MACRIS Search Results Map Generated May 10, 2022. 19
Figure 8. 1876 Beers Map of Lee (GE Parcel Shown Approximately in Red). 20
Figure 9. 1890 Map of Lee (GE Parcel Shown Approximately in Red). 21
Figure 10. 1897 Becket, MA topographic quadrangle map 22
Figure 11. 1945 East Lee, MA topographic quadrangle map. 23
Figure 12. Location of Monitoring Well 2022-1. Mark Andrews, Wampanoag Aquinnah Cultural Resources Monitor, and Ray Pasquariello, HDR Archaeologist in the background. 26
Figure 13. Sandy B-horizon soils from hand-auger hole at Monitoring Well 2022-1. 27
Figure 14. Areas of Archaeological Potential within the GE Parcel (Outlined in Yellow). 28
Figure 15. View South from High Knoll in Area A with Wetland in the Background. 29
Figure 16. View West of Monitoring Well 2022-1 in in Area B with Gravel Mine Berm in the Background. 30
Figure 17. View South of Level Knoll in Area C. 31

1 Introduction and Background

1.1 Introduction

This Phase IA Cultural Resources Assessment (CRA) Report has been prepared on behalf of the General Electric Company (GE) to present the results of the initial cultural resources data collection as part of pre-design investigation (PDI) activities for the Upland Disposal Facility (UDF) and UDF support area associated with the Rest of River (ROR) Remedial Action. The ROR area consists of the portion of the Housatonic River and its backwaters and floodplain (excluding portions of certain residential properties) downstream of the confluence of the East and West Branches of the Housatonic River. On December 16, 2020, the U.S. Environmental Protection Agency (EPA) issued to GE a Revised Final Resource Conservation and Recovery Act (RCRA) Permit Modification (Revised Permit), which set forth the Remedial Action selected by EPA to address polychlorinated biphenyls (PCBs) in the ROR. The Revised Permit included a provision for GE to construct and utilize a UDF at a largely disturbed industrial site in the ROR area, but outside the 500-year floodplain of the River, for the disposal of certain of the sediments and soils to be removed as part of the Remedial Action.

The UDF will be constructed on a 75-acre property in the Town of Lee, Massachusetts (Figure 1) that was formerly part of an active sand and gravel quarry and that GE acquired from The Lane Construction Corporation (Lane) in April 2021. Figure 2 shows the extent of the property acquired by GE (referred to herein as the GE Parcel). That figure also shows the maximum limits of consolidated material for the UDF and the associated operational area surrounding and encompassing the limits of the consolidated material (jointly referred to herein as the UDF area). Finally, the figure shows the potential UDF support area, which is currently undefined but may include temporary facilities such as sediment dewatering and material handling areas (referred to herein as UDF support area).

On November 24, 2021, pursuant to the Revised Permit and the associated *Final Revised Rest of River Statement of Work* (Anchor QEA et al. 2021), GE submitted a Pre-Design Investigation Work Plan for the UDF (Arcadis and AECOM 2021). Section 5.2.8 of that Work Plan provided that GE would conduct an initial Phase IA CRA of the UDF area and described the scope of those initial CRA activities. That Work Plan was conditionally approved by EPA on February 25, 2022.[1] GE subsequently carried out the CRA activities described in that Work Plan. Those activities are described in this Report. In addition, this Report contains a plan for supplemental CRA investigations in three relatively less disturbed areas of the GE Parcel, located outside of the disposal or operational areas, that could potentially be used for UDF support activities and that have the potential to contain archaeological resources.

[1] Separately, on January 17, 2022, GE submitted a Supplemental Phase IA CRA Work Plan for the overall areas that will be affected by the ROR Remedial Action apart from the UDF. That Work Plan was conditionally approved by EPA on April 20, 2022, and those CRA activities are currently ongoing.

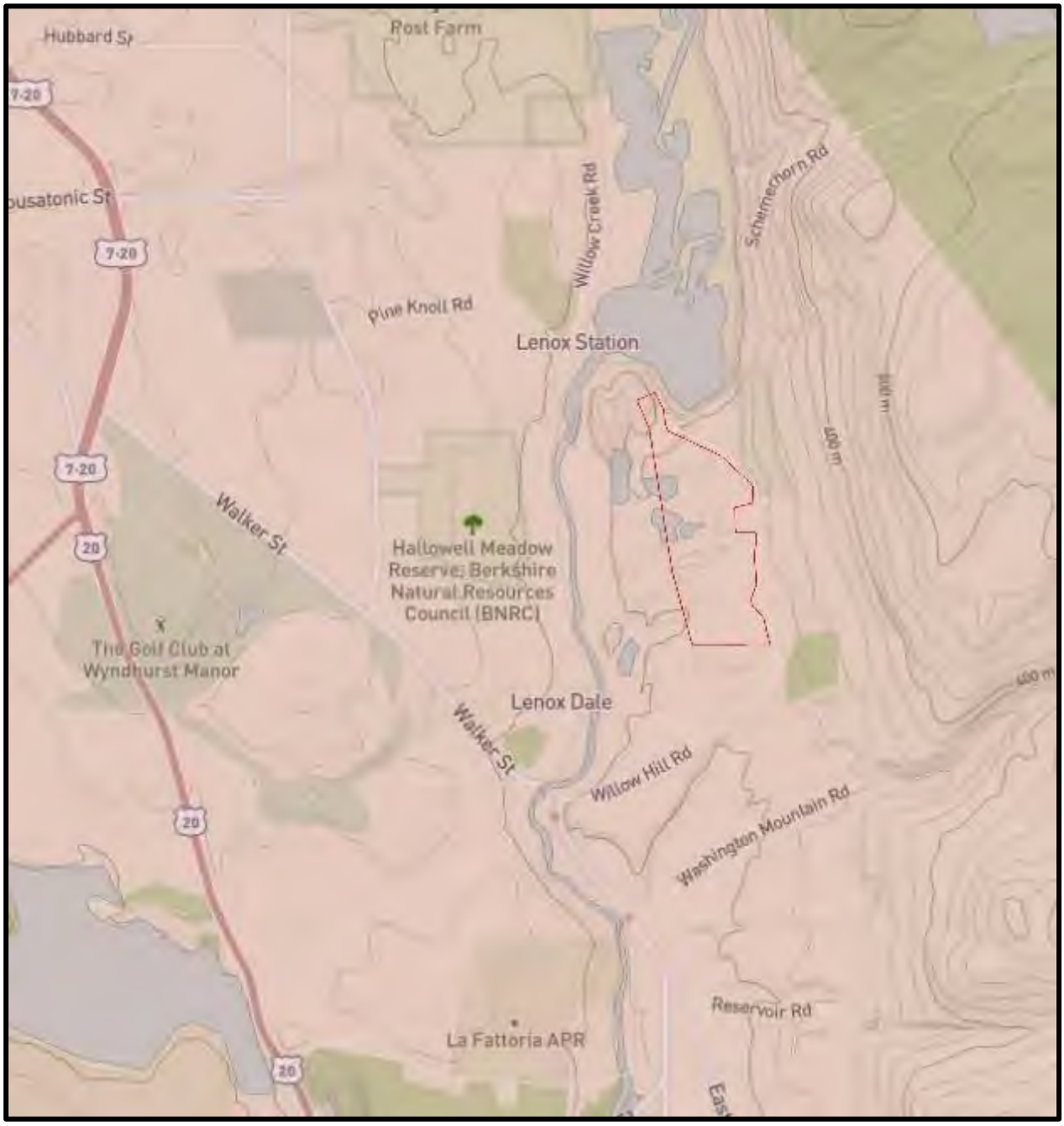


Figure 1. Location of the GE Parcel in Lee, Massachusetts.

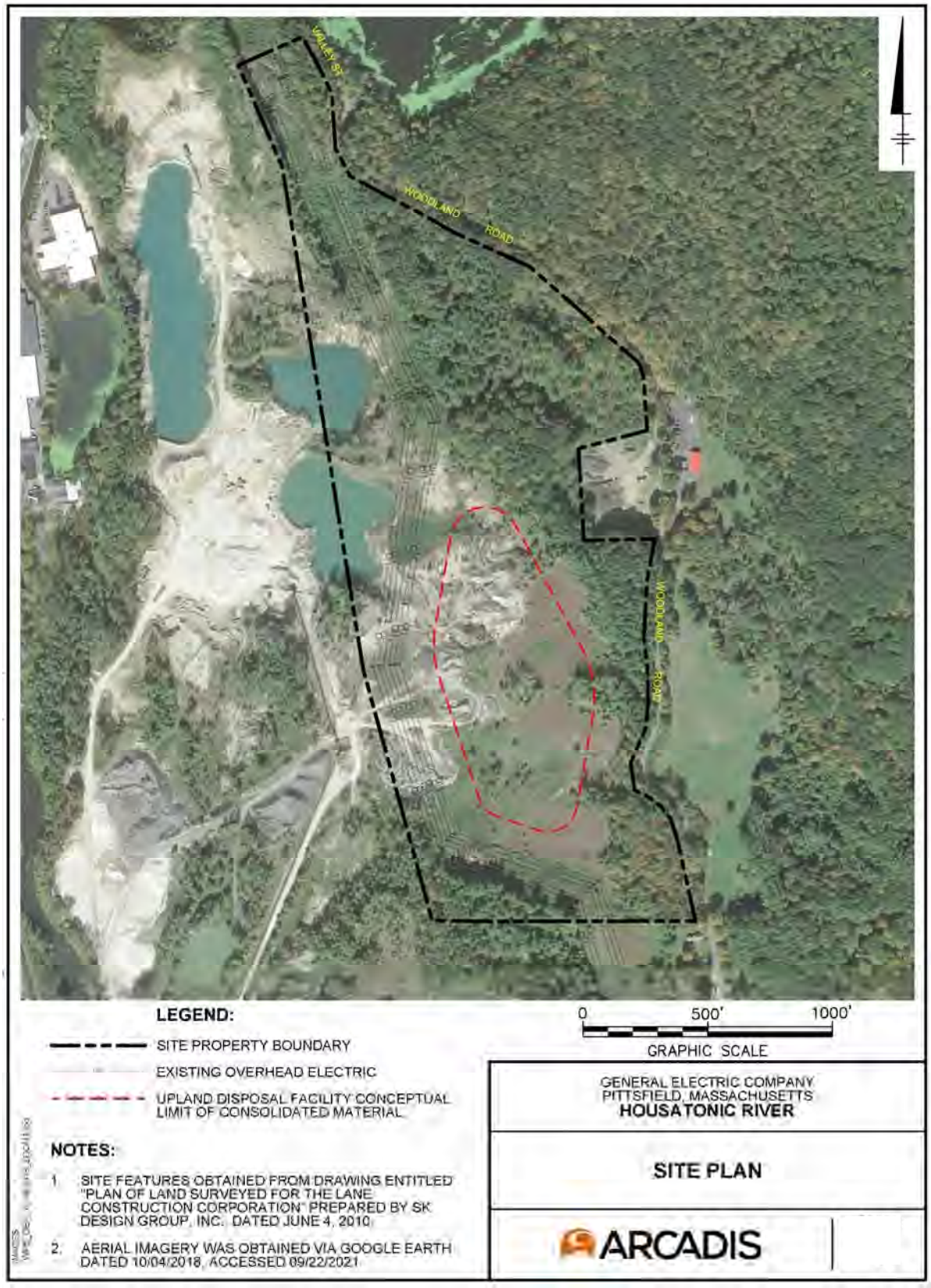


Figure 2. General Layout of the Upland Disposal Facility in Lee, Massachusetts.

1.2 Scope of the UDF Area CRA

This section describes the Phase 1A CRA activities described in Section 5.2.8 of the UDF PDI Work Plan and subsequently conducted for the UDF area and UDF support area.

The Area of Potential Effects (APE) for both archaeological resources and historic architectural resources was defined based on the location and extent of the UDF area and UDF support area.

Desktop and on-line reviews were conducted of the Massachusetts Historical Commission's (MHC's) files and databases, including the Massachusetts Cultural Resource Information System (MACRIS), the Massachusetts State Historic Preservation Plan, and the MHC State Reconnaissance Survey Reports, as well as the files of local historical organizations, including the Lenox Historical Society, the Lee Historical Society, the Lee Library, and the Stockbridge Library – Museum and Archives, to determine whether the UDF area or UDF support area contains or could affect cultural resources included in those files or databases. Additionally, historical aerial photography, historic maps, and soils and geological mapping were reviewed for evidence of past environmental characteristics and land use patterns.

Coordination with the MHC and with Native American tribal representatives regarding the locations of cultural resources and traditional cultural properties in the vicinity of the GE Parcel was conducted through EPA's outreach efforts to consulting parties as well as through AECOM's contacts with representatives of the following tribes: Stockbridge Munsee Band of Mohican Indians; Wampanoag Tribe of Gay Head (Aquinnah); Schaghticoke Tribal Nation; and Schaghticoke Indian Tribe.

Two field inspections were made in March and June of 2022 to visually assess and document the environmental characteristics of the project area and to search for visible above-ground cultural resources; no subsurface investigations were conducted during this phase of the investigation except for one hand auger boring described in Section 5.1. For both field inspections, AECOM's archaeologist was accompanied by an archaeologist from EPA's support contractor and a representative of the Wampanoag Tribe of Gay Head (Aquinnah).

Based on the information gathered during these research tasks, an investigation was made of the potential for the APE to contain unidentified potentially significant cultural resources. For purposes of this CRA, potentially significant cultural resources mean cultural resources that are listed or could potentially meet the criteria for listing on the National Register of Historic Places (NRHP), resources that are listed on the Massachusetts State Register of Historic Places (SRHP) and included on the State Inventory of Historic and Archaeological Assets, and potentially significant scientific, prehistorical, historical, or archaeological data subject to the Archaeological and Historic Preservation

Act.[2] This assessment was conducted using the approach previously developed for the 2008 Initial Phase IA CRA (URS 2008), which incorporated data on soil types, slope, land use, and the location of known archaeological sites to identify the potential for the occurrence of pre-contact or historic archaeological resources, using the following categories and criteria:

High Potential

- water source within 150 meters (m)
- well drained sandy soils
- level to fairly level topography (0 – 3%)
- none to minimal disturbance
- known sites in the immediate area
- In addition, for historic-period archaeological site potential, areas within 100 m of major historic transportation networks

Moderate Potential

- water source within 150 to 300 m
- well drained to fairly well drained, sandy to cobbly soils
- moderate slopes (3 – 8%)
- minimal to moderate disturbance
- known sites in the vicinity

Low /NoPotential

- water source greater than 300 m
- poorly drained soils
- moderate to extensive disturbance
- steep slopes (> 8%)
- no known sites in the vicinity

Investigation of known or suspected historic structures within the historic architectural APE was accomplished by examining existing historic structure inventories. The locations of any such structures were plotted for systematic comparison with the location of the GE Parcel, and aerial photography and maps were examined to identify the locations of additional structures. Because, as will be described in more detail below, the APE did not extend beyond the limits of the GE Parcel and no historic structures occur within it, no additional field inspections were required.

[2] Such resources include properties of traditional religious and cultural importance that fall into any of the foregoing categories.

1.3 APE Definition

The Archaeological APE is defined as all portions of the GE Parcel that may experience ground disturbance as a result of remediation activities. Although the approximate limits of the disposal facility within the property have been identified, the exact layout of possible access and support facilities has not yet been developed. For purposes of the Phase IA CRA, the Archaeological APE was therefore defined as the entire GE Parcel. This APE may be refined for future studies when the designs for the UDF are better developed.

It was anticipated that the Historic Architectural APE would encompass the Archaeological APE and adjacent locations within sight of areas involved in remediation, as well as areas which could be indirectly impacted by factors such as noise or vehicle movements. The construction and operation of the UDF will occur within a setting that is visually isolated from adjacent areas, and the existence of ongoing gravel removal and transportation activities for over 75 years suggests that new impacts to historic structures outside of the GE Parcel would be very unlikely. For these reasons, the Historic Architectural APE for the UDF is also defined by the limits of the GE Parcel.

2 Environmental Setting

The GE Parcel is located at the northern edge of the Town of Lee in Berkshire County, Massachusetts, which is on the western edge of the State and is bordered by Connecticut (south), New York (west), and Vermont (north). It is positioned in steep dissected terrain between the western slopes of October Mountain and the Housatonic River, which flows south through the Central Valley region between the Berkshire Plateau and the Taconic Mountains. The main stem of the river is formed by the confluence of the East and West Branches of the Housatonic River in Pittsfield. The East Branch begins in Dalton and Hinsdale from headwater tributaries. The West Branch starts at Onota and Pontoosuc Lakes in Pittsfield and Lanesboro and is augmented by flows from the Southwest Branch. Below the confluence, the river generally flows south through Berkshire County for approximately 10 miles to Woods Pond, the first significant impoundment. Woods Pond is an impoundment created in 1890 and is located just north of the GE Parcel. Downstream of Woods Pond, the river continues south through western Massachusetts and south/southeast through Connecticut before emptying into Long Island Sound at Stratford, Connecticut.

As can be seen in Figure 3, the topography of the GE Parcel is highly irregular, which is the result of decades of sand and gravel mining that have removed and rearranged large volumes of soil. This can also be seen in the soils map prepared by the Natural Resources Conservation Service (Figure 4). The entire area planned to be used for the consolidated materials disposal (approximately half of the parcel) is mapped as gravel pits, and an additional 25% of the parcel is classified as sandy and gravelly soils of 15% to 35% slopes

Figure 5 illustrates the appearance of the southern portion of the GE Parcel, which has been partially reclaimed and stabilized after gravel removal; and Figure 6 provides a panoramic view of the deeply dissected central portion of the parcel.



Figure 3. 2021 East Lee Topographic Quadrangle Map.

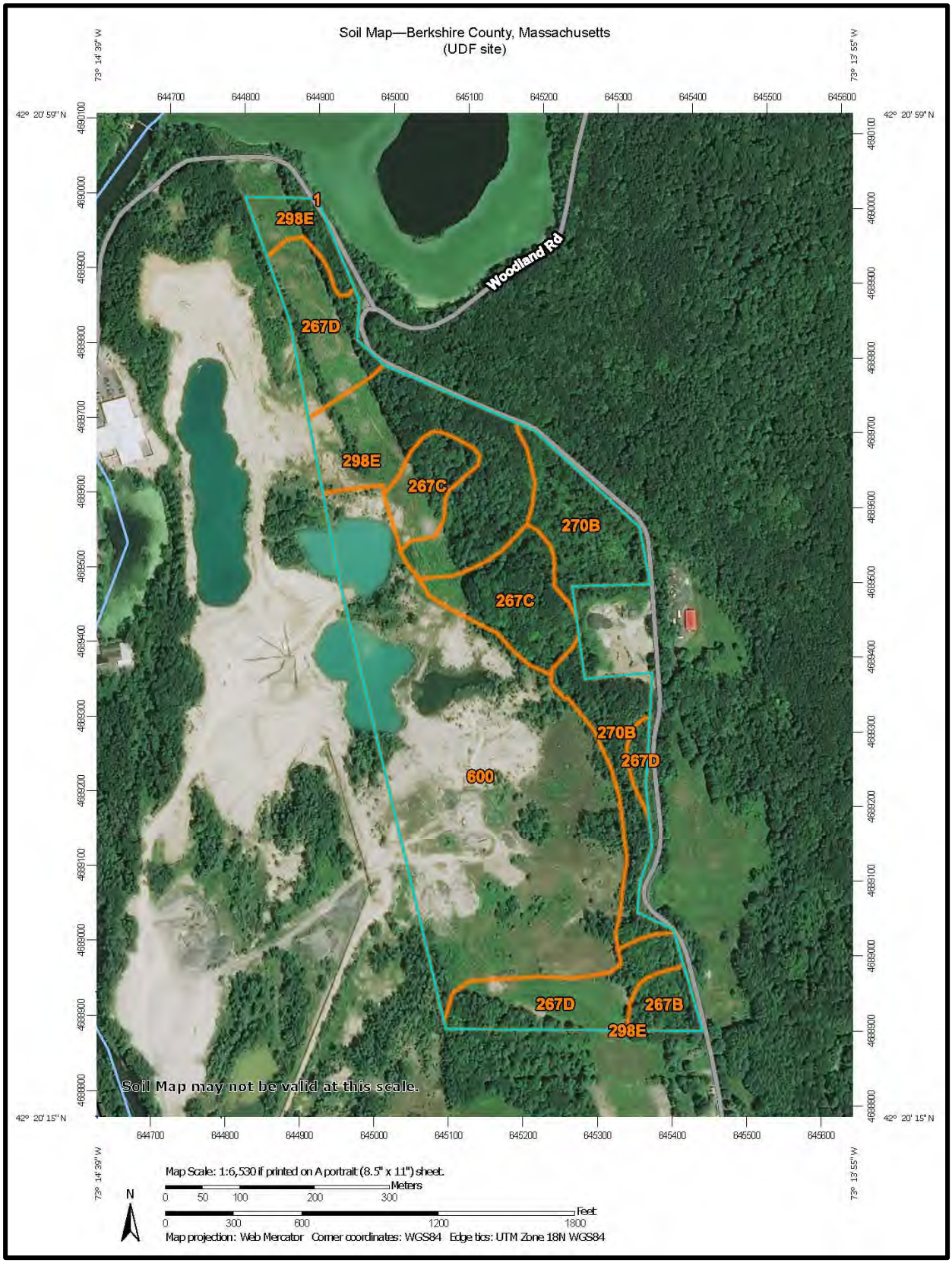


Figure 4. NRCS Soils Map.



Figure 5. View North from Southwest Corner of Parcel Near Well PZ-8.



Figure 6. View South of Level Knoll in Area C.

3 Cultural and Historical Setting

The following sections summarize the pre-contact and historic period contexts of the general region around the project.

3.1 Paleoindian Period

Human occupation of northeastern North America began soon after the continental ice sheet began to recede northward, once again exposing land. Current evidence suggests that approximately 13,000 years before the present (B.P.), humans began moving into what is now New England. This first period of prehistory lasted until approximately 9,500 B.P. Archaeological sites dating to this time period are most commonly recognized by the presence of distinctive biface stone tools called fluted points. Because of extreme age and low population densities, Paleoindian sites are relatively rare and have often been disturbed by more recent natural events and human activities.

Although relatively few Paleoindian sites have been excavated in the Northeast, there have been documented discoveries in the general region near the Housatonic drainage. In 1977, the American Indian Archaeological Institute (AIAI) excavated a site known as 6LF21 on the Shepaug River in northwestern Connecticut (Moeller 1980), and this site produced a radiocarbon date of 10,190 RCY B.P. More recently, the Hidden Creek site in Mashantucket, Connecticut (Jones & Forrest 2003) has yield evidence of Paleoindian occupations. Most of the evidence for Paleoindian occupations in the region comes from isolated finds of the distinctive fluted points from scattered locations. Many finds appear to be associated with former post-glacial lake basins (Lavin 1984). In particular, surveys by the AIAI near Robbins Swamp in northwestern Connecticut have identified a number of Paleoindian sites around the margins of this rich ecological zone (Nicholas 1988).

3.2 Early Archaic Period

Prior to 1970, there was virtually no evidence of any Northeastern sites dating to the Early or Middle Archaic periods. In the last three decades, considerable information has been obtained to fill in that gap, but the picture is still incomplete. There are still relatively few excavated, radiocarbon-dated Early Archaic sites in the Northeast. Most have been identified by the presence of projectile points analogous to dated types such as Palmer, Kirk, Charleston, MacCorkle, LeCroy, St. Albans, and Kanawha, which have been found in stratified Southeastern sites.

Archaeologists are beginning to be able to identify distinctive regional characteristics in the Early Archaic artifact forms and assemblage characteristics. Excavations in northwestern Connecticut around Robbins Swamp in the Upper Housatonic drainage just south of the Massachusetts border suggest that these early Holocene occupations tended to cluster in resource rich locales such as former glacial lake basins (Nicholas 1988). Approximately 35 Early Archaic components were identified along with a number of Paleoindian sites, suggesting early intensive exploitation of this

extensive wetlands complex. Some of the Early Archaic sites were identified by the presence of diagnostic types such as Kirk, bifurcate, and Kanawha points, and others by the presence of distinctive scraper and graver forms. Early site/landform associations range from lake shoreline and upper river terraces to wetland margins and upland springs, and include large, multiple, early component sites, and small, single-component, special-activity sites (Nicholas 1988:271).

Nicholas has been a frequent and vocal proponent of the idea that early Holocene occupations in the Northeast were much more abundant than previously thought, and that they operated within an environment that was much more productive than originally described. He has identified former glacial lake basins as locations that are likely to have been established as resource rich mosaics within a changing and somewhat unpredictable early Holocene landscape (Nicholas 1988).

3.3 Middle Archaic Period

The Middle Archaic is associated with warmer and drier climatic conditions. By this period, modern floral communities were established and characterized by mast-producing hardwoods. Rivers stabilized during this time and wetland and lake areas were reduced in size. Hunting continued to be important, and fish may have become a more predictable resource.

Clear identification of the chronological position of Middle Archaic artifacts in the Northeast was not established until Dincauze reported on the excavations at the stratified Neville site on the Merrimack River in New Hampshire (Dincauze 1976). These excavations documented the existence of the Neville stemmed point type dating to between 7,800 and 7,000 B.P., and the Stark stemmed point type dating between about 7,600 and 6,400 B.P. (Dincauze 1976). The Neville and Stark point types are similar in style and age to the Stanly and Morrow Mountain types that Coe (1964) defined earlier in the Southeast. In addition, the Merrimack point type was identified as dating to the end of the Middle Archaic period close to 6,000 B.P.

The Neville and Stark types have proved to be relatively common throughout New England. Dincauze and Mulholland (1977) have presented a synthetic model of Middle Archaic settlement for southern New England. They suggest that site types of this period involve large-group occupations that maximize proximity to a variety of seasonal resources, as evidenced by the tool assemblages and recovered faunal materials at these sites. An increase in the number of sites in aquatic resource environments is noted, and these sites are frequently located at falls or rapids where anadromous fish comprised an important seasonal resource (Dincauze 1976). The accumulated data for the Middle Archaic period in the Northeast suggest that, during this period, the prehistoric inhabitants were forming themselves into distinct bands and were settling into defined territories. These bands were establishing base camps and were occupying a greater variety of special-purpose sites in a carefully planned seasonal round (Snow 1980:183).

3.4 Late/Terminal Archaic Period

Archaeologists recognize the Late Archaic period as one in which the numbers and types of sites increase dramatically—what Snow (1980:187) describes as the Late Archaic "florescence." Based on his early work in New York, Ritchie recognized two major Late Archaic trajectories, the Lamoka and the Laurentian, which overlap in both time and space. Both are also represented in New England, but in different distributions.

Following Tuck's (1978) definition of the Lamoka/Sylvan/Squibnocket complexes of central and southern New York and New England as the "Mast Forest Archaic," Snow (1980:226) proposed that the Laurentian complex and related assemblages in northern New England and the St. Lawrence drainage be designated as the "Lake Forest Archaic." As Snow describes them, these two complexes coexisted at times during which each was more common within a particular geographic region. This scheme supposes that there was a "marginal belt of tension between the two coeval zones that persisted throughout the Late Archaic" (Snow 1980:227).

Although Snow (1980) suggests that the Lake Forest Archaic sites are primarily a northern New England manifestation, and only appear in sparse numbers in western Massachusetts and Connecticut between 5,500 and 4,500 B.P., Pfeiffer (1984) has compiled evidence that the Lake Forest Archaic in southern New England is a widespread tradition firmly dated to the period between 5,000 and 4,200 B.P. Pfeiffer notes that "the Late Archaic period also witnessed an increase in the importance of gathering activities, the employment of storage, and an expanded duration of settlement" (1984:85).

In addition to the Lake Forest Archaic assemblages, southern New England also has widespread and long-term evidence of Snow's Mast Forest tradition—what other researchers have often called the "Narrow-Stemmed" or "Narrow-Point" traditions. Although some researchers have proposed that the Laurentian, or Lake Forest, tradition coexisted with the Narrow Point tradition (Ritchie 1969; Dincauze 1975; Snow 1980), others (McBride 1984a:247-248) consider the Lake Forest (Laurentian, Golet phase) as temporally distinct from the Mast Forest (Narrow Point, Tinkham phase).

Mast Forest Archaic sites are numerous and occur in a "wide variety of local settings" (Snow 1980:230). The settlement system likely consisted of "central based wandering" by highly territorial groups (Dincauze 1974:48, 1975:25; Snow 1980; McBride 1984a, 1984b:65). Population aggregations occurred along major drainages and interior wetlands, with movement between habitation sites prescribed by seasonal availability of resources (Dincauze 1974:48, 1975:25; McBride 1984a, 1984b:65; Snow 1980).

The end of the Archaic has also been commonly called "Transitional" in reference to its presumed transitional status between the Archaic and Woodland periods. Since research continues to indicate that there is actually a great deal of cultural and biological continuity between the Archaic and the

Woodland periods, Snow (1980:235) has suggested that the label "Terminal Archaic" is more appropriate.

As Snow defines it, the hallmark of the early part of the Terminal Archaic in eastern and southern New York is the Susquehanna tradition of broad stemmed projectile points and their associated assemblages. These points include a number of regional varieties, including the Genesee, Perkiomen, Snook Kill, and Susquehanna Broad types in New York and Atlantic/Wayland points in Massachusetts. This Susquehanna tradition of broad stemmed projectile points is analogous to Coe's (1964) Savannah River type from the southeastern United States. Characteristics of the Susquehanna Tradition include a riverine adaptation and a predilection for the fine-grained lithic resources of the Piedmont province including rhyolite, felsite, argillite, and slate (Dincauze 1975:27; Turnbaugh 1975:54). The latter portion of the Terminal Archaic period is marked by the appearance of narrow, tapered Orient Fishtail projectile points.

3.5 Early and Middle Woodland Period

Early Woodland cultures in southern New England show considerable variation from the patterns seen in central and western New York. Sites in the latter region show much greater participation in widespread trade networks that extended from the Gulf of Mexico to the Great Lakes. Exotic seashells, distinctive types of stone, and native metals such as copper and lead moved between the far-flung reaches of the network. This trade network was also associated with an elaborate mortuary ceremonialism that included burying many of the exotic traded items in graves with the dead. The presumed core of this system was the Adena tradition of the Ohio River drainage, to which numerous elaborate sites with well stocked graves have been attributed.

Evidence of the Adena tradition is more limited in the Early Woodland Meadowood tradition of southern New England. In addition to Meadowood projectile points, Adena, Rossville, and Lagoon points and Vinette I ceramics are also associated with this time period. Rossville and Lagoon points are particularly common on Early Woodland sites in the coastal areas of southern New England and Long Island Sound.

Narrow points are commonly assigned to the Late Archaic period; however, Swigart (1974) has dated points of this type in the Housatonic drainage to 2,700-2,500 B.P., which would place them in the Early Woodland period. Furthermore, Lavin, McBride, and others have suggested that the Narrow Point technological tradition may have even continued into Contact and historic periods (McBride 1984a:105; Lavin 1984).

Just as the Early Woodland Meadowood phase is associated with the Ohio Valley Adena network, Middle Woodland sites appear to have been associated to some degree with the Middle Woodland

Hopewell interaction sphere. However, exotic trade items from the Hopewell network are less common in southern New England and eastern New York than they are in the west (Snow 1980:287).

3.6 Late Woodland Period

Following the apparent decline in settlement activity during the Early Woodland and the early part of the Middle Woodland period in the Northeast, the next millennium witnessed an intensification of subsistence and settlement patterns that culminated in the relatively sedentary villages of agriculturalists encountered by the first European explorers. This span of time has been traditionally designated by archaeologists as the latter portion of the Middle Woodland period from 1,650 B.P. to 1,000 B.P. and the Late Woodland period from 1,000 B.P. to substantive contact with Europeans. This report will break from tradition somewhat and will end the Middle Woodland at about 1,200 B.P (A.D. 750).

A division between Middle and Late Woodland at this point in time correlates with the widespread appearance of maize in the archaeological record throughout much of the eastern United States. Snow (1980:261) has previously suggested that the Kipp Island and Hunters Home phases reflect the increasing isolation of the Northeast from the rest of the Eastern Woodlands. Interestingly, this is also a period in which the Hudson drainage shows increasing linkages with southern New England. These linkages include increasing amounts of chert moving into the Housatonic and Connecticut River drainages, as well as "New York" ceramic traditions extending east into the upper Housatonic drainage (e.g., see Cassedy and Lavin 2007).

By the Late Woodland period, the archaeological antecedents of historically recognized Native American groups can be recognized. North, central, and western New York were occupied by groups believed to be ancestral to the Iroquois; in these areas, large, nucleated, semipermanent sedentary villages developed. In contrast, eastern New York and western New England were occupied by smaller, somewhat less permanent settlements ancestral to the Algonkians (Late Woodland settlement patterns in both areas were still more sedentary than in previous periods).

Late Woodland sites are recognized by a series of distinctive incised and collared ceramic types and by triangular projectile points. The larger Levanna point type was most common early in the period and was later accompanied by the smaller Madison type.

3.7 Contact/Native American Historic Period

The chronological end of the Late Woodland period is about 350 B.P (A.D. 1600), but it varies by region, depending on the timing of European exploration and settlement. The next two centuries are often referred to as the Contact Period, and in southern New England the term "Final Woodland" is preferred by some. Both labels refer to the phase when Native lifestyles were radically changed by factors such as war, disease, trade, and acculturation.

At the time of European contact in the early seventeenth century, the upper Hudson and Housatonic valleys were occupied by the Mahican horticulturalists and fishermen culturally affiliated with their Algonkian neighbors to the east. Some ethnohistoric data indicate they lived in stockaded hilltop villages containing three to 16 elongated wigwam longhouses (Snow 1980:88). In addition to these villages, "when at fishing or hunting stations, the Mahican probably lived in single-family wigwams" (Snow 1980:88).

For many years, the Mahican occupied a pivotal position both culturally and geographically in the conflicts between the Iroquois Confederacy and the Algonkian tribes of New England (Brasser 1978). At one point, the Mahican occupied lands on both sides of the upper Hudson River, but they lost control of the area on the west side of the river in 1628 as a result of warfare with the Iroquois. In the 1660s, they were forced to abandon almost all of the Hudson Valley and many of them clustered with other related western New England Algonkians in settlements along the upper Housatonic River in western Massachusetts.

3.8 Settlement and Revolutionary War Era

The lower Housatonic was settled in the 1640s, but it took almost a hundred years for permanent settlements to expand north into what is now Berkshire County, Massachusetts. In 1733, Sheffield was the first town in the county to be incorporated, followed by Stockbridge in 1739, Great Barrington in 1742, and Pittsfield in 1753. Lee and Lenox incorporated a decade or two later.

In 1734, John Sergeant initiated a mission amongst the Mahican, who at the time were living in two communities along the Housatonic – one they called Skatehook (in Sheffield) and the other Wnahktukook (at what is now Stockbridge). To consolidate the settlements, the Massachusetts legislature established a six-square-mile township for the Mahican; and as Field (1829:239) reports, "the design was to include the fine alluvial grounds at Wnahktukook, already cleared and cultivated to some extent, where a party of the Indians then lived . . . ."

By the 1780s, the Mahican had lost control over most of their land, and most of the tribe moved west into Oneida County, New York, and in the 19th century eventually into Wisconsin. The Mahican joined Munsee refugees on a jointly held reservation in Wisconsin, where the two tribes remain together today under the name "Stockbridge-Munsee Band of Mohican Indians."

By the Revolutionary War era in the late 18th century, Euro-American settlements were well established in all towns of the project area. Forests were being cleared and small farms dotted both the valleys and the hillsides. Many of the suitable water power locations had small grist mills, saw mills, and furnaces established at them, such as at Lenox Furnace (Lenox Dale), Lee, and South Lee.

3.9 From the Revolution into the Nineteenth Century

After peace was established between the U.S. and England, settlement of the region expanded dramatically. Settlers took advantage of the agricultural potential of the valley and its transportation corridor, and industrial development at prime mill sites along the river and its tributaries soon followed.

For the first several decades of the nineteenth century, wagons and stages were the only effective means of transporting goods and people, as the shallow depths and multiple rapids along the upper Housatonic were not conducive to large-scale reliable boat transport both upstream and downstream along the river. This situation changed with the creation of railroad links with New York and New England in the 1840s.

Throughout the nineteenth century, the project area witnessed an intensification of industrial development along the river. The number, size, and variety of mills all increased, with woolen and cotton mills, paper mills, turning factories, and iron and glass furnaces being built in Lee, South Lee, Glendale, and Housatonic (additional industry was located in Pittsfield upstream from the project area). By end of the century, paper mills came to dominate the industries along the river. As industry was expanding in the Berkshires, agriculture was declining throughout the nineteenth century due to soil exhaustion and western competition.

In addition to transporting industrial products to wide markets, the railroad also made the region easily accessible to New York City, and wealthy families from began vacationing in the Berkshires and eventually many built homes there. In 1845, Samuel Gray Ward came from Boston to Stockbridge to turn an older house into a relatively palatial structure, Highwood, which is recognized as the first of dozens of mansions, quaintly called "cottages," which were erected there and in Lenox and, to a lesser degree, in Great Barrington. In addition, artists began flocking here and by mid-century, the tradition of a Berkshire cultural center had taken hold.

3.10 Twentieth Century

Industrial development that had begun in the nineteenth century expanded even more in the twentieth century. Electronics plants were constructed in the region, and paper mills continued to flourish in Lee and Housatonic. Stanley Electric Manufacturing Company was acquired by General Electric in 1903, and the operation produced small-scale transformers, flat irons, electric fans and small motors.

The era known as the Gilded Age continued up to World War I, and wealthy outsiders continued to vacation and build mansions in the Berkshires (by 1900, there were over 75 in Lenox), providing substantial employment opportunities for many local people. However, the imposition of the federal income tax in 1913 marked a turning point in the construction of new mansions (NPS 2002:73). Over

the next few decades, many were converted to other uses such as seminaries, schools, offices, or museums. At the same time, the coming of the automobile opened up new opportunities for middle class tourism in the Berkshires that continue today.

For the better part of the twentieth century, Pittsfield was inextricably linked to GE, which at one point provided jobs for 75% of Pittsfield's workforce. Pittsfield's population in 1930 had grown to more than 50,000, and industrial expansion related to World War II swelled the population even further, as munitions and plastics were also produced. By the 1950s, GE was building the largest transformers in the world, but the transformer operation closed down in 1986.

4 Results of Background Research

4.1 Introduction

Most of the useful background information was already consolidated within the MHC's MACRIS database. The State Historic Preservation Plan, State Reconnaissance Survey Reports, and databases of local historical organizations did not provide additional details relevant to the GE Parcel. Historic maps provided information on previous roads and structures in the area, and previous archaeological reports for nearby projects were also examined.

4.2 MACRIS Database

Figure 7 illustrates the search results from the MHC's MACRIS database for a one-mile radius around the center of the GE Parcel, which shows that there are no previously documented historic structures or archaeological sites located within the APE. The closest documented NRHP-listed resource is the Lenox Station historic railroad facility, which is located approximately ¼ mile northwest of the northern end of the GE Parcel, on the western side the Housatonic River and Woods Pond. Also in that general area is recorded archaeological site BK-188, which is listed as an isolated find spot (the green square that plots that resource is a broad marker indicating it was recovered somewhere in that general area). The Valley Mill bridge mapped approximately ¼ mile west of the APE spans the Housatonic River from Crystal Street, and the remaining blue dots depict the location of various inventoried historic structures that are located ¾ mile to one mile south and west of the GE Parcel.

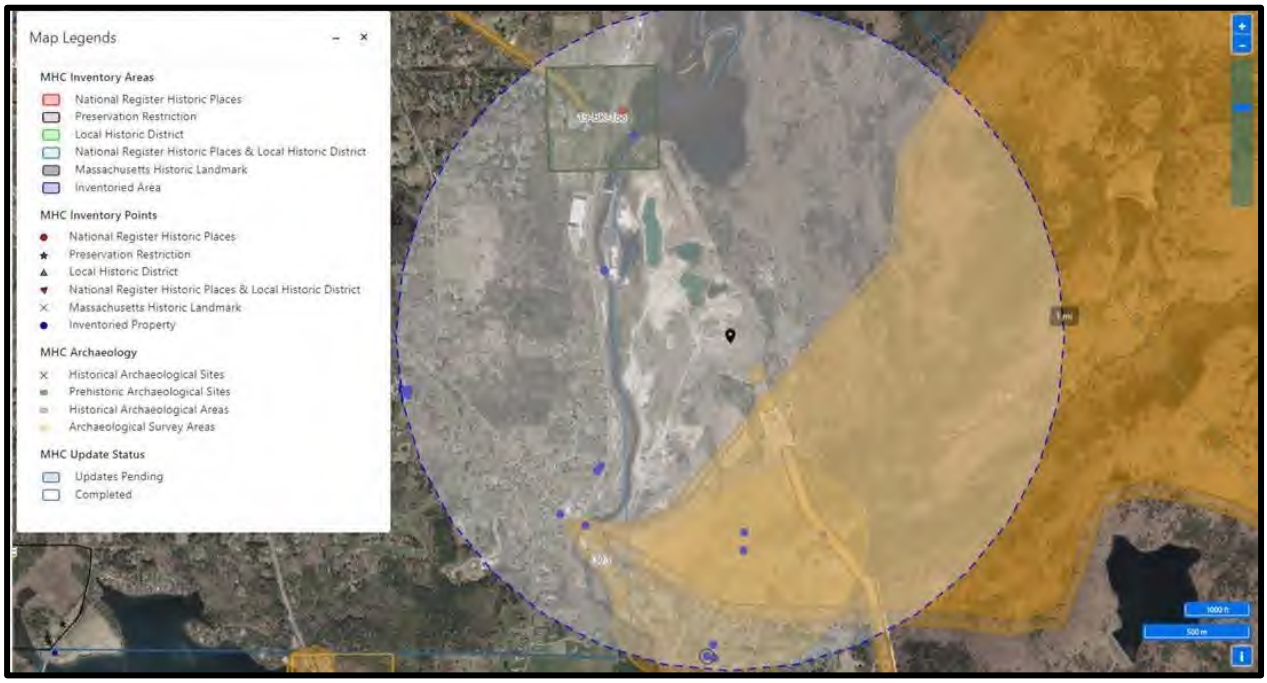


Figure 7. MACRIS Search Results Map Generated May 10, 2022.

4.3 Historic Maps

The earliest available historic map that depicts the area at a useful scale is the 1876 Beers map of Lee, which is reproduced in Figure 8. This map depicts the residence of "J. Toole" on the western side of Woodland Road, in the outparcel adjacent to the GE Parcel that is currently the location of a local construction company. Near the southeast corner of the UDF property are depicted the houses of "Mrs. Flynn," "Wm Perry," and "R. Landers."

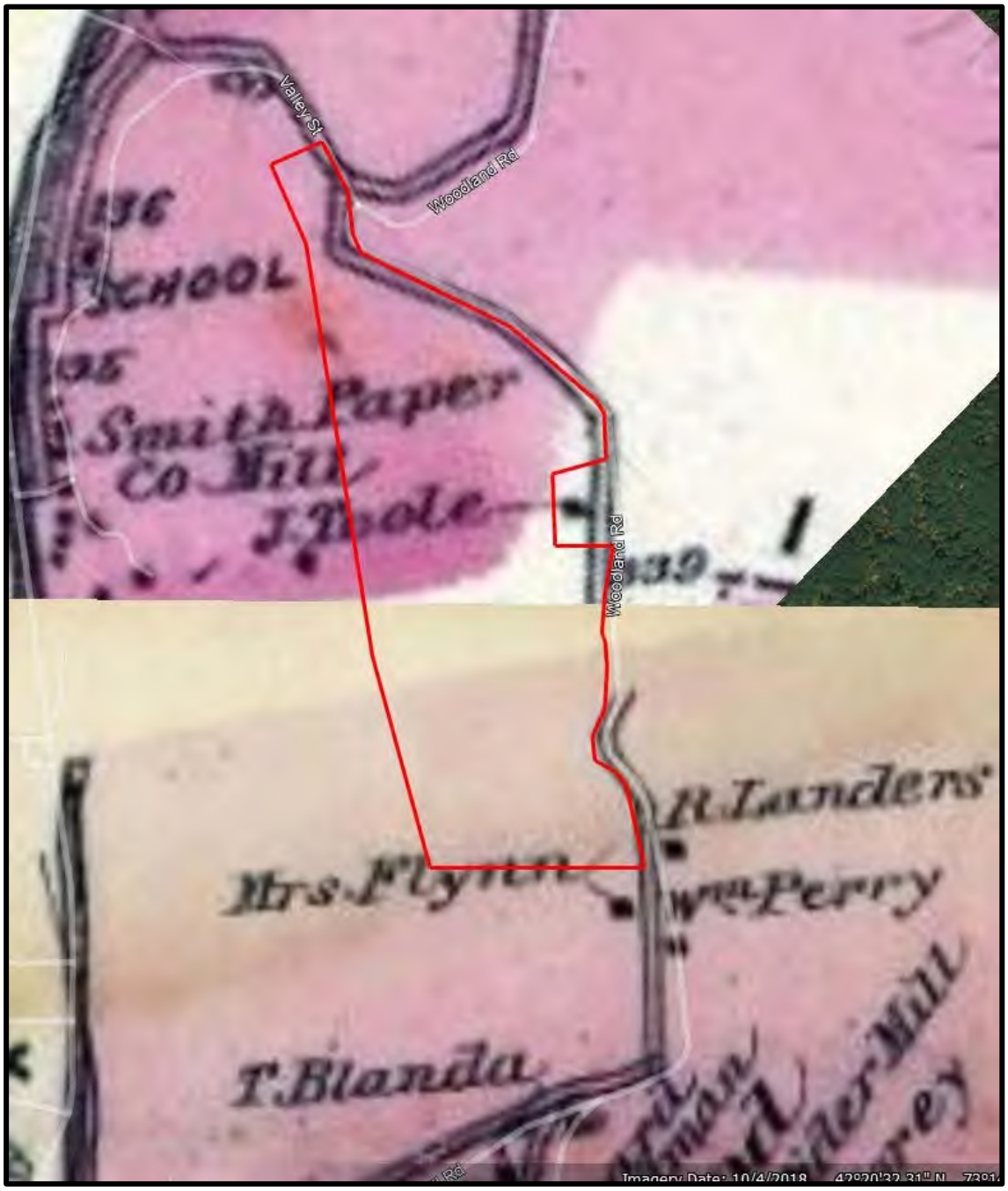


Figure 8. 1876 Beers Map of Lee (GE Parcel Shown Approximately in Red).

The next available historic map is from 1890 (Figure 9) and it shows "James Toola" at the previous "J. Toole" location, "Richard Landers" at the "R. Landers" location, and "Michael Crowley" in the approximate location of the "Mrs. Flynn" house. The scale of this map appears to be somewhat distorted, as shown by the location of "Wm. Perry" well to the south of where Wm Perry's house was previously mapped in 1876.

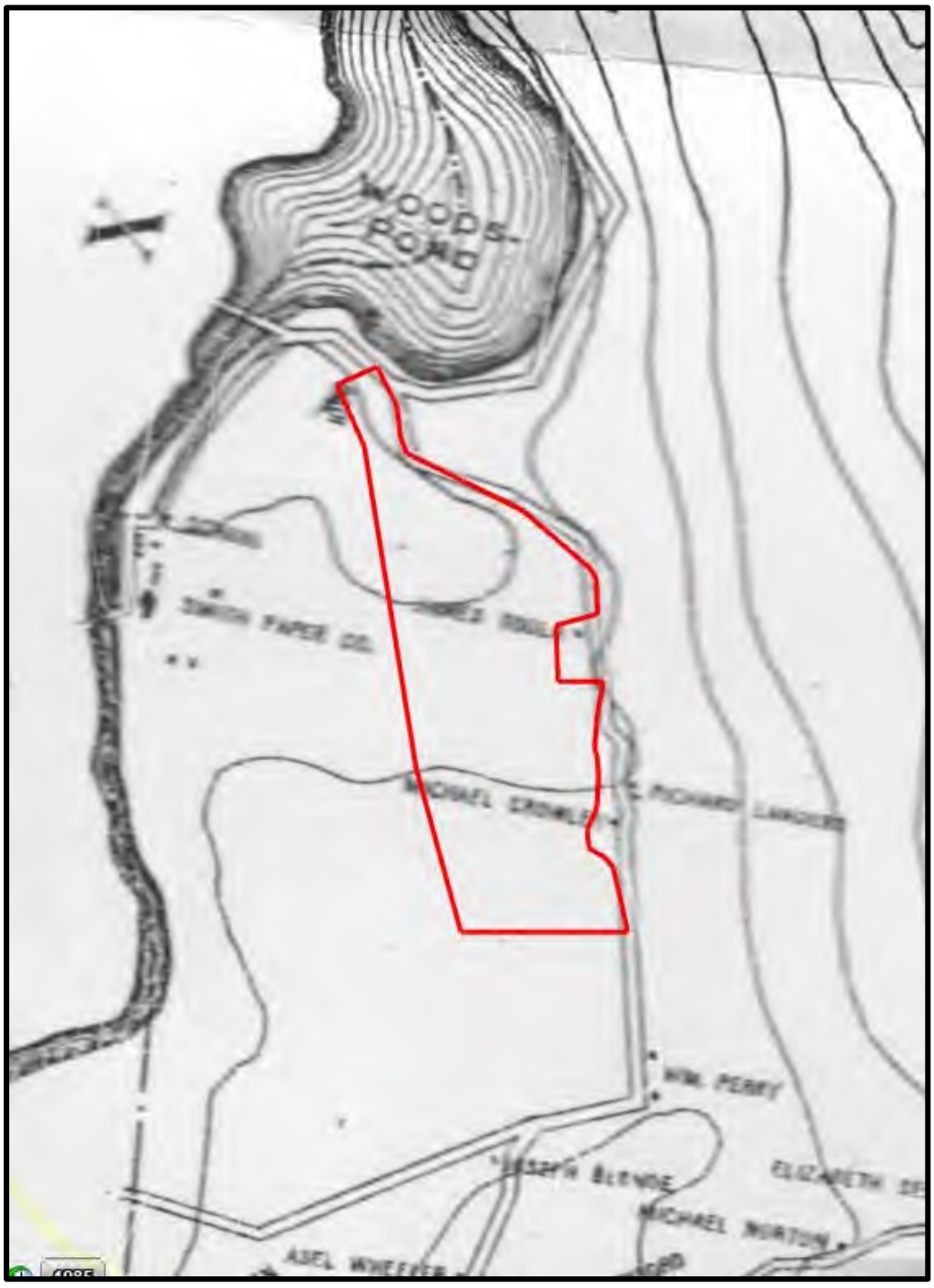


Figure 9. 1890 Map of Lee (GE Parcel Shown Approximately in Red).

The 1897 USGS topographic map for this area (Figure 10) depicts the Landers, Perry, and Crowley structures along Woodland Road (see red arrow), but no structure is mapped further north where the Toole/Toola location was previously depicted.

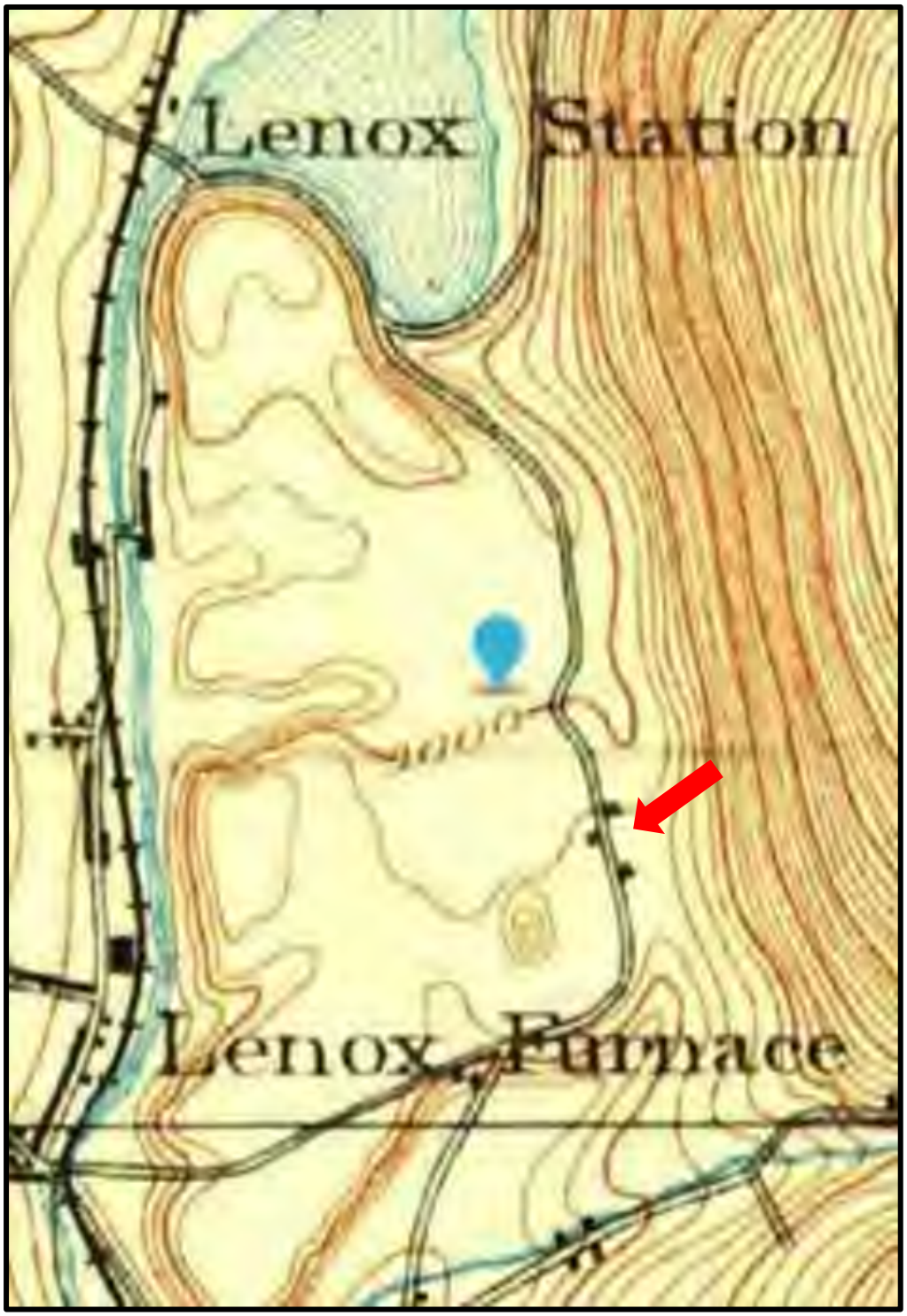


Figure 10. 1897 Becket, MA topographic quadrangle map

Despite the omission of the Toole/Toola structure from the 1897 map, the updated 1945 USGS topographic map does depict a structure in that general location (Figure 11). No structures are shown within the GE Parcel, but the map does illustrate the placement of the electric transmission line that still crosses the property from southeast to northwest, and evidence of gravel pit excavations can be seen in the multiple topographic depressions. This documents that the GE Parcel has been the location of active gravel removals for over 75 years.

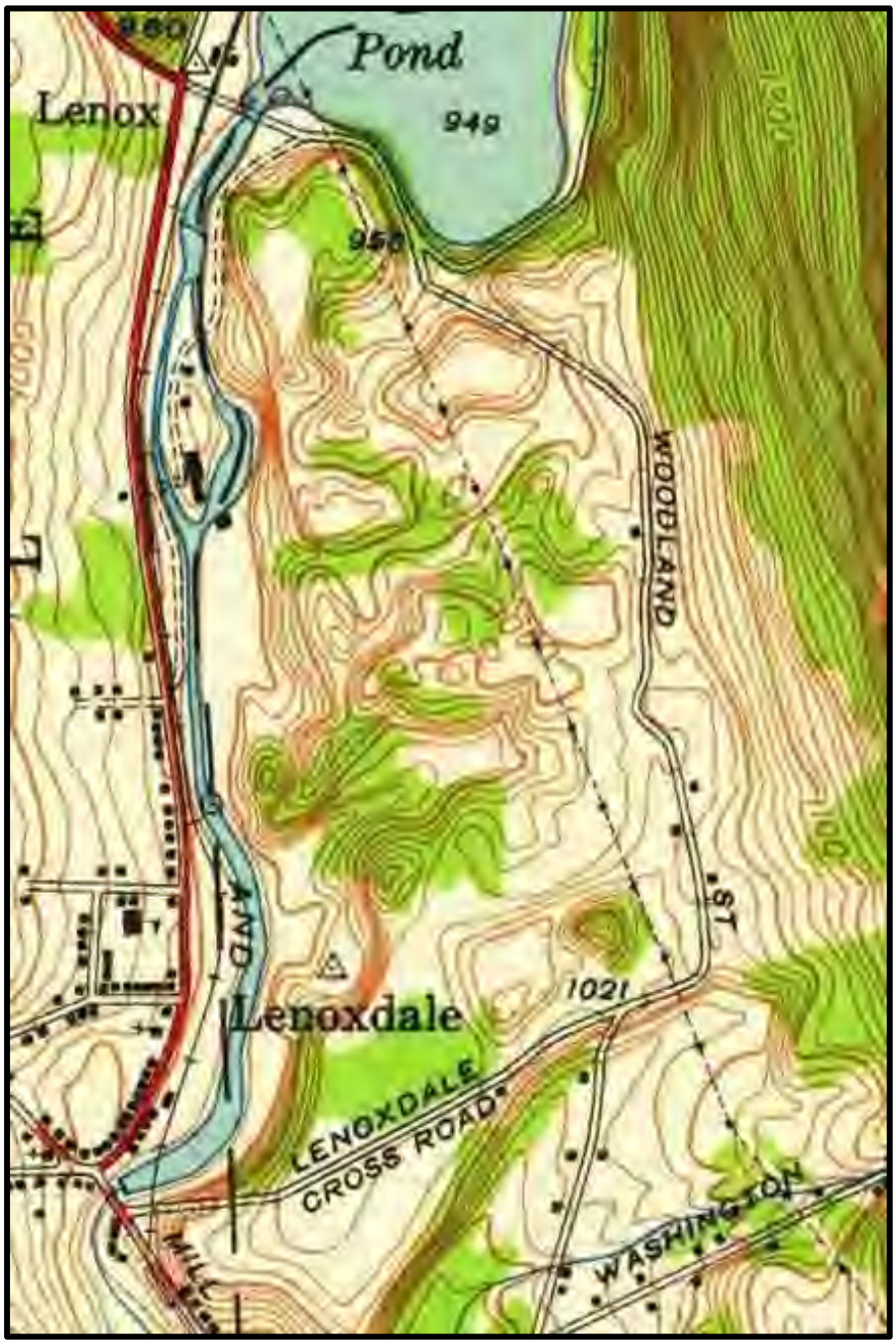


Figure 11. 1945 East Lee, MA topographic quadrangle map.

4.4 Previous Studies

As depicted previously in Figure 7, a previous archaeological survey is recorded in the MACRIS files as having covered the transmission line southeast of the GE Parcel. This survey was conducted by Heritage Consultants, LLC and did not document any archaeological sites near the GE Parcel.

In 2008, GE submitted to EPA a report entitled *Initial Phase IA Cultural Resources Assessment (CRA) for the Housatonic Rest of River Project* (URS 2008). The Initial Phase IA CRA was conducted to assess the potential for archaeological and historical resources to exist in the portions of the Housatonic River and its floodplain that could potentially be affected by implementation of Corrective Measures selected by EPA – namely, Reaches 5 through 8. Because that report was focused on areas in and adjacent to the River, it did not include any information specific to the current UDF site.

5 Results of Field Inspections

5.1 March Field Inspection in Advance of Geotechnical Boring Activity

In March 2022, AECOM senior archaeologist Daniel Cassedy conducted a field inspection of the locations of proposed soil borings that were planned to be placed within the GE Parcel to obtain geotechnical information and establish monitoring wells. This inspection covered the cleared and previously mined areas as well as a portion of the wooded strip along Woodland Road. Conditions during the field inspection were rainy and there was no snow cover. As previously noted, archaeological representatives of an EPA contractor and the Wampanoag Tribe were present during this inspection.

This visual inspection documented that almost all the proposed boring locations were situated in locations previously disturbed by mining operations. One exception was at the planned location of monitoring well MW 2022-1, which is situated in a wooded strip along the eastern edge of the parcel near Woodland Road (Figure 12). The use of a three-inch hand-operated bucket auger revealed a relatively undisturbed soil profile of dark brown sandy loam A horizon over yellow brown silty sand and brown sand B horizons (Figure 13). The auger hole terminated at 60 cm below the surface when large glacial pebbles and small cobbles were encountered.

The EPA and Wampanoag archaeological representatives concurred with AECOM's recommendation that the area around MW 2022-1 had archaeological potential and should be systematically surveyed prior to any future substantive earth moving that might be planned, but that the proposed monitoring well to be placed at the location of the three-inch bucket auger sampling should not have a notable impact on any potentially significant archaeological resources. There was also concurrence that excavation of a 50 cm x 50 cm (20 in x 20 in) shovel test pit at that location prior to geotechnical boring would in fact disturb more ground than the proposed boring and would therefore not be justified. The boring was to be conducted by a tracked boring machine and would result in eight-inch diameter sized holes. No other earth-moving activities were planned as part of the geotechnical boring operation.

5.2 June Field Inspection of the Vegetated Margins of the GE Parcel

In June 2022, Dr. Cassedy conducted an additional field inspection of the remainder of the GE Parcel. This inspection covered the vegetated margins along the entire eastern side along Woodland Road. He was joined again by EPA and Wampanoag archaeological representatives. Conditions at the time were clear, warm, and dry. This field inspection did not identify any visible above-ground cultural resources, and it documented that much of the wooded areas were situated in steeply sloping terrain, with intermittent evidence of past mining soil removals.



Figure 12. Location of Monitoring Well 2022-1. Mark Andrews, Wampanoag Aquinnah Cultural Resources Monitor, and Ray Pasquariello, HDR Archaeologist in the background.



Figure 13. Sandy B-horizon soils from hand-auger hole at Monitoring Well 2022-1.

During this inspection, the various areas and conditions at the GE Parcel were evaluated in terms of whether they have a high, moderate, or low/no potential to contain archaeological resources. In general, the GE Parcel showed evidence of widespread disturbance, and all areas at that parcel were determined to have no or low potential to contain archaeological resources, with the exception that three separate areas of relatively level terrain were identified that appeared to be less modified and located in settings that might contain archaeological sites. These have been designated as Areas A, B, and C and are all located outside of operational area and the main disposal facility limits of consolidated material, but could potentially be affected by UDF support activities. Those areas are shown on Figure 14 and are described below.



Figure 14. Areas of Archaeological Potential within the GE Parcel (Outlined in Yellow).

Area A is in the northern portion of the GE Parcel on a high terrace or knoll situated between the transmission line corridor and Woodland Road. It overlooks a small vernal pool wetland to the south (Figure 15). It is covered by a mixture of mature trees and slopes gradually to the north and west and is considered to have high archaeological potential for pre-contact period sites.

Area B is located in a narrow strip of woods along the eastern edge of the property between a steep gravel mine berm and Woodland Road. This is the area where the location of monitoring well MW 2022-1 was inspected in March 2022 and determined to be in a level area of moderate archaeological potential (Figure 16) for both pre-contact and historic period sites.

Area C occupies the southeastern corner of the parcel and is situated on a relatively level knoll with large mature pine trees and small hardwoods (Figure 17). In addition to having potential for pre-contact resources, it is also in the general vicinity of some residential structures depicted on nineteenth century maps. Area C is considered to have high archaeological potential for both pre-contact and historic period sites.



Figure 15. View South from High Knoll in Area A with Wetland in the Background.



Figure 16. View West of Monitoring Well 2022-1 in in Area B with Gravel Mine Berm in the Background.



Figure 17. View South of Level Knoll in Area C.

.

6 Plan for Supplemental CRA Investigations

This CRA identified no previously recorded or visible cultural resources within the overall APE. However, three locations within portions of the GE Parcel that could potentially be used for UDF support activities, identified above as Areas A, B, and C, have a potential to contain archaeological resources. In accordance with the UDF PDI Work Plan and EPA's February 25, 2022 conditional approval letter, this section presents GE's supplemental plan to further investigate whether those three areas contain potentially significant cultural resource.

This supplemental project will include additional background research on relevant prior studies and available environmental data to provide a context within which to interpret any archaeological remains that may be identified in the three areas of interest. It will then involve survey fieldwork in those three areas. All work will be performed by or under the direct supervision of individuals meeting the Secretary of the Interior's professional qualifications standards for archaeologists (36 CFR 61).

6.1 Background Research

To date, AECOM has conducted background research to provide an assessment of the available data concerning potential archaeological resources at the GE Parcel. This research has consisted of a review of archaeological site and inventory records, as well as examination of historic maps, aerial photographs, soils data, and historical documentary evidence. These data will help orient the archaeologists during fieldwork, and the results of additional research in the MHC's inventory will be contextualized in relation to previous relevant research to provide an adequate discussion of archaeological resources that may be encountered by the survey fieldwork.

Prior to the fieldwork, AECOM will develop more detailed prehistoric and historic contexts as well as outline the developmental history of GE Parcel, focusing on the three less modified areas described above. Information will be provided on the boundaries and extent of disturbances and modifications within the areas to be surveyed. Historic maps and aerial images will be georeferenced in a geographic information system (GIS) to illustrate archaeological sensitivity and indicate the extent of previous disturbances.

6.2 Field Investigations

All fieldwork will be conducted in accordance with MHC archaeological guidelines. AECOM will first conduct a systematic visual inspection of Areas A, B, and C to verify current field conditions and refine the field survey strategy as needed. It will then conduct field surveys of those three areas. Specifically, AECOM will excavate 50-centimeter square shovel test pits (STPs) spaced at 10-meter intervals across each of those areas. Soils will be removed in 10-centimeter levels within the natural or cultural stratigraphy (whichever is smaller) of each STP. All soils will be screened through ¼-inch

hardware mesh screens to recover artifacts, if any. Quantitative and qualitative characteristics for each stratum will be recorded in the field. Data will include depths in centimeters, soil texture, horizon designation, soil color using a Munsell chart, stratum/level information, and type/number of artifacts recovered, as well as relevant comments on the location of the STP (landform, vegetative cover, etc.). Artifacts will be bagged immediately and labelled with provenience information (project information, STP number, stratum and level, depth, date, and initials of the excavator). The locations of all STPs and identified features will be mapped using a hand-held, sub-meter accurate GPS unit, and photographs documenting the work will be taken with appropriate scales and caption boards.

In the case of an unanticipated discovery of human remains during the project, AECOM will follow all relevant state and federal law and recommendations regarding treatment of human remains. AECOM recognizes the importance of providing careful and respectful treatment for human remains recovered as an unanticipated discovery or as part of this archaeological investigation. In the event of an unanticipated discovery of human remains, AECOM will follow the following protocols:

1) Should human remains or evidence of possible burials be encountered, work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

2) Human remains and associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

3) The county coroner/medical examiner, local law enforcement, the MHC, and the appropriate Indian Nations will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archaeological. If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. AECOM will consult with the MHC and appropriate Indian Nations to develop a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance.

4) If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated in accordance with MHC's "Policy and Guidelines for Non-Native Human Remains Which are Over 100 Years Old or Older" and in a manner consistent with the ACHP Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects (February 23, 2007). Consultation with the MHC and other appropriate parties will be required to determine a plan of action.

6.3 Laboratory Analysis and Curation

Any archaeological artifacts and samples recovered will be returned to the AECOM laboratory for professional analysis and cataloging. Artifacts will be cleaned and labeled. Any artifact needing conservation will be removed from the collection for separate processing and evaluation. After the artifacts are dry, they will be separated by class and placed in individual 4-ml polyethylene bags labeled with provenience information in permanent marker. The individual bags will be placed within a large bag(s) for the entire provenience. All bags will be labeled and will be pierced for air circulation.

Any artifacts recovered from the investigation will be fully inventoried and cataloged. This information will be used to establish the contemporaneity of contexts and strata, as well as to determine whether assemblages represent primary or secondary deposits. At a minimum, basic analyses performed on these artifacts from any given archeological context will include the identification of key characteristics for each object, including general form and function (e.g., nail – architectural), material composition (ceramic, glass, metal, etc.), manufacturing technique, date of manufacture, maker's marks (if present), and the total number of artifacts with such characteristic within a specific context.

Any artifacts recovered from intact deposits will additionally undergo more intensive analyses designed to facilitate the interpretation of these materials and the context in which they were found. Additional artifact characteristics will be recorded for identified vessels, including those related to methods of decoration, motifs, and use-wear. Efforts will also be made to more accurately date all diagnostic artifacts, and to utilize those data to establish *terminus post quem* (TPQ) and *terminus ante quem* (TAQ) dates for specified archeological deposits.

At the conclusion of this supplemental investigation, any artifacts recovered and project records will be prepared for permanent curation with a qualified curation facility. All artifacts will be delivered in archivally stable Hollinger Record Storage Boxes or an equivalent. Artifacts within the boxes will be packaged in labeled, vented, zipper-sealed polyethylene bags. Along with the artifact collection and a paper catalog, an electronic format copy of the final catalog will be provided. In addition, all notes, photographs, drawings, maps, and both original and duplicate copies (photo-reproduced onto acid-free paper) of all field documentation and notes will be curated.

6.4 Reporting

Following an assessment of the field data collected and the laboratory analysis, AECOM will produce a draft report presenting the results of the survey of Areas A, B, and C. That report will be prepared to meet the standards of the MHC reporting guidelines (950 CMR 70.14). At a minimum, the report will include the following: an abstract (consistent with the State Archaeologist's memorandum on archaeological abstracts), introduction, background research methods, description and justification

of the research design, field testing methods, field results, laboratory procedures and analyses and discussion, conclusions and recommendations for further work (if any), bibliography, and lists of tables, figures, and photographs. AECOM will include maps created in GIS depicting the locations of the areas surveyed, historic maps showing development and past land use, and field results. All figures and field photographs will be prepared consistent with professional practices and the State Archaeologist's memorandum on cartography and photography.

6.5 Schedule

The field data collection will be initiated within 30 days after EPA approval of this work plan for supplemental archaeological investigations and will be completed within approximately 30 days after initiation. Thereafter, AECOM will conduct the laboratory processing and report preparation. A report on these supplemental investigations will be included in the Interim PDI Summary Report to be included with the UDF Conceptual Design Plan (currently due on December 6, 2022).

7 References

Advisory Council on Historic Preservation, 2007. *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects*.

Anchor QEA, AECOM, and Arcadis, 2021. *Final Revised Rest of River Statement of Work*. Prepared for the General Electric Company, Pittsfield, Massachusetts. September 2021.

Arcadis and AECOM, 2021. *Pre-Design Investigation Work Plan for Upland Disposal Facility*. Prepared for the General Electric Company, Pittsfield, Massachusetts. November 2021.

Beers, F.W., 1876. *County Atlas of Berkshire, Massachusetts. From actual Surveys*. New York: R.T. White & Co.

Brasser, Theodore, 1978. Mahican. In *Northeast*, edited by Bruce Trigger, pp. 198-212. Handbook of North American Indians, vol. 15. William G. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Cassedy, Daniel, and Lucianne Lavin, 2007. Prehistoric Interaction Between Eastern New York And Southern New England. in *Bulletin of the Archaeological Society of Connecticut* 69:103-122.

Coe, Joffre, 1964. Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Association* 54(5).

Dincauze, Dena, 1974. An Introduction to Archaeology in the Greater Boston Area. *Archaeology of Eastern North America* 2:39-67.

1976. *The Neville Site: 8,000 Years at Amoskeag*. Peabody Museum Monographs 4. Cambridge, Harvard University.

Dincauze, Dena, and Mitchell Mulholland, 1977. Early and Middle Archaic Site Distributions and Habitats in Southern New England. In *Amerinds and Their Paleoenvironments in Northeastern North America,* edited by Walter S. Newman and Bert Salwen, 288:439-456. Annals of the New York Academy of Sciences. New York.

Dunn, Shirley, 1994. *The Mohicans and Their Land:1609-1730*. Purple Mountain Press, Fleischmans, New York

Glover, Suzanne, Paul Russo, Amy McFeeters, and Maureen Cavanaugh, 1994. *Phase IA Cultural Resources Survey for the Relicensing of Eight Hydroelectric Developments Along the Deerfield River Valley in Vermont and Massachusetts*. The Public Archaeology Laboratory, Inc., Pawtucket, Rhode Island. Submitted to New England Power Company, Westborough, Massachusetts.

Massachusetts Historical Commission, 2006. *Policy and Guidelines for Non-Native Human Remains Which are Over 100 Years Old or Older*.

Nicholas, George, 1988. Ecological Leveling: The Archaeology and Environmental Dynamics of Early Postglacial Land Use. In *Holocene Human Ecology in Northeastern North America,* edited by G. Nicholas, pp. 257-296. Plenum Press, New York.

Pfeiffer, John, 1984. The Late and Terminal Archaic Period in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 47:73-88.

Ritchie, William, 1969. *The Archaeology of Martha's Vineyard*. Natural History Press, Garden City, New York.

Snow, Dean, 1980. *Archaeology of New England*. Academic Press, New York.

Turnbaugh, William, 1978. Regional and Cultural Development, 3,000-300 B.C. In *Handbook of North American Indians, Volume 15, Northeast,* edited by Bruce Trigger, pp. 28-43. Smithsonian Institution, Washington D.C.

URS. 2008. *Initial Phase IA Cultural Resources Assessment for the Housatonic River – Rest of River Project*. Prepared for General Electric Company, Pittsfield, Massachusetts. March 20, 2008; Public Release Version submitted on April 3, 2008.

Appendix M

Revised Phase 1B Intensive Archaeological Survey Report for Upland Disposal Facility Area



August 2023
Housatonic River – Upland Disposal Facility

AECOM

Revised Phase IB Intensive Archaeological Survey Report for Upland Disposal Facility Area

Prepared for General Electric Company
Pittsfield, Massachusetts

August 2023
Housatonic River – Upland Disposal Facility

Revised Phase IB Intensive Archaeological Survey Report for Upland Disposal Facility Area

Prepared for
General Electric Company
1 Plastics Avenue
Pittsfield, Massachusetts 01201

Prepared by
AECOM
500 Enterprise Drive
Rocky Hill, Connecticut 06067

TABLE OF CONTENTS

Abstract v

1 Introduction and Background 1

1.1 Introduction 1

1.2 Scope of the Initial UDF Area CRA 5

1.3 Results of the Initial Phase IA CRA and Proposed Supplemental Investigations 6

2 Research Design & Methods 8

2.1 Background Research 8

2.2 Field Investigations 8

2.3 Laboratory Analysis and Curation 9

2.4 Reporting 9

3 Environmental Setting 10

4 Cultural and Historical Contexts 13

4.1 Previous Research in the Region 13

4.2 Historical Context 15

4.2.1 Paleoindian Period 15

4.2.2 Early Archaic Period 16

4.2.3 Middle Archaic Period 17

4.2.4 Late/Terminal Archaic Period 17

4.2.5 Early and Middle Woodland Period 19

4.2.6 Late Woodland Period 19

4.2.7 Contact/Native American Historic Period 20

4.2.8 Settlement and Revolutionary War Era 21

4.2.9 From the Revolution into the Nineteenth Century 22

4.2.10 Twentieth Century 23

5 Results of Background Research 24

5.1 Introduction 24

5.2 MACRIS Database 24

5.3 Historic Maps 25

5.4 Summary of Background Information 33

6 Results of Field Survey 34

6.1 Introduction 34

6.2 Area A 36
6.3 Area B 42
6.4 Area C 47
7 Conclusions and Recommendations 52
8 References 53
Attachment 1: Shovel Test Pit Logs 58

LIST OF FIGURES

Figure 1. Location of the GE Parcel in Lee, Massachusetts. 3
Figure 2. General Layout of the Upland Disposal Facility in Lee, Massachusetts. 4
Figure 3. USGS Topographic Quadrangle Map of Project Area. 7
Figure 4. NRCS Soils Map of Project Area. 11
Figure 5. View Northwest from Southeast Corner of Parcel Near Well PZ-7. 12
Figure 6. View South of Open Mined Area in Center of Parcel. 12
Figure 7. MACRIS Search Results Map Generated May 10, 2022. 25
Figure 8. 1858 Wallings Map of Lee (GE Parcel and Survey Areas Shown Approximately). 27
Figure 9. 1876 Beers Map of Lee (GE Parcel and Survey Areas Shown Approximately) 28
Figure 10. 1890 Map of Lee (GE Parcel and Survey Areas Shown Approximately) 29
Figure 11. 1893 Becket, MA USGS Quadrangle Map (GE Parcel and Survey Areas Shown Approximately). 30
Figure 12. 1948 East Lee, MA USGS Quadrangle Map (GE Parcel and Survey Areas Shown Approximately) 31
Figure 13. 1959 Aerial Photograph of GE UDF Parcel 32
Figure 14. 2001 Google Earth Photograph of GE UDF Parcel . 32
Figure 15. Areas of Intensive Archaeological Survey within the GE Parcel 35
Figure 16. North End of Area A Facing South. 37
Figure 17. North End of Area A Facing East, Showing North Slope Edge. 37
Figure 18. East End of Area A Facing Northeast, Showing East Slope Edge 38
Figure 19. Center of Area A Facing South. 38
Figure 20. South Edge of Area A with Wetland in the Background Facing South 39
Figure 21. STP Map for Area A. 40
Figure 22. Photograph and Profile Summary of STP 750/260. 41
Figure 23. Photograph and Profile Summary of STP 760/250. 41
Figure 24. Photograph and Profile Summary of STP 800/250. 42
Figure 25. South End of Area B Facing North. 43
Figure 26. Center of Area B Facing East, Showing Eastern Slope. 44
Figure 27. Center of Area B Facing West, Showing Western Slope. 44
Figure 28. STP Map for Area B. 45
Figure 29. Photograph and Profile Summary of STP JUD 4. 46
Figure 30. Photograph and Profile Summary of STP JUD 6. 46
Figure 31. North Edge of Area C Facing South. 47

Figure 32. South Edge of Area C Facing North. 48
Figure 33. West Edge of Area C Facing North, Showing Western Slope On Left. 48
Figure 34. STP Map for Area C. 49
Figure 35. Photograph and Profile Summary of STP 100/460. 50
Figure 36. Photograph and Profile Summary of STP 110/480. 50
Figure 37. Photograph and Profile Summary of STP 110/490. 51

Abstract

For the 75-acre property in Lee, MA owned by the General Electric Company and required by the United States Environmental Protection Agency to be used for an engineered disposal facility for excavated sediments and soils under an environmental cleanup plan, an intensive archaeological survey was conducted to search for archaeological resources. Most of the property has been disturbed by past sand and gravel mining, but three separate relatively undisturbed areas were investigated using a systematic grid of shovel test pits (STPs) spaced at 10-meter intervals as an intensive archaeological survey. A total of 116 STPs were excavated and no evidence of archaeological artifacts or cultural features was identified within the GE property. This report constitutes a revised report on that intensive survey.

1 Introduction and Background

1.1 Introduction

This Revised Phase IB Intensive Archaeological Survey Report has been prepared on behalf of the General Electric Company (GE) to present the results of the additional cultural resources data collection conducted as part of pre-design investigation (PDI) activities for the area that will contain the Upland Disposal Facility (UDF) and UDF support facilities associated with the Rest of River (ROR) Remedial Action specified in the final Revised Resource Conservation and Recovery Act Corrective Action Permit that the U.S. Environmental Protection Agency (EPA) issued to GE on December 16, 2020 (Revised Permit). This report constitutes a revision of the *Phase IB Intensive Archaeological Survey Report*, submitted to EPA on December 6, 2022 as Appendix L to GE's *Interim Pre-Design Investigation Data Summary Report for Upland Disposal Facility Area* (Interim PDI Data Summary). That prior report has been revised to address comments from EPA included in an April 18, 2023 conditional approval letter for the Interim PDI Data Summary. As noted in that letter, the term "Phase IB" is appropriate under the federal program governing the Revised Permit activities, but it is not recognized terminology by the Commonwealth of Massachusetts. Using the terminology of the Massachusetts Historical Commission (MHC), this report is an archaeological intensive survey report under 950 CMR 70.04 and 70.14.

The UDF will be constructed on a 75-acre property in the Town of Lee, Massachusetts (Figure 1) that was formerly part of an active sand and gravel quarry and that GE acquired from The Lane Construction Corporation (Lane) in April 2021. Figure 2 shows the extent of the property acquired by GE (referred to herein as the GE Parcel). That figure also shows the maximum limits of consolidated material for the UDF and the associated operational area surrounding and encompassing the limits of the consolidated material (jointly referred to herein as the UDF area). In addition, the GE Parcel will contain a UDF support area, which remains undefined and not shown on the figure, and which may include temporary facilities such as sediment dewatering and material handling areas. The UDF support area will be defined in the Final Design Plan for the UDF

On November 24, 2021, GE submitted a Pre-Design Investigation Work Plan for the UDF (Arcadis and AECOM 2021). Section 5.2.8 of that Work Plan provided that GE would conduct an initial Phase IA Cultural Resources Assessment (CRA) of the UDF area and described the scope of those initial CRA activities; those investigations were comparable to a reconnaissance survey as defined in 950 CMR 70.04. That Work Plan was conditionally approved by EPA on February 25, 2022. GE subsequently carried out the Phase IA CRA activities described in that Work Plan. The results of that research were presented in a *Phase IA Cultural Resources Assessment Report for Upland Disposal Facility Area* (UDF

Phase IA CRA Report), dated July 8, 2022. EPA provided conditional approval of that report in a letter dated September 7, 2022. Those activities are also summarized again in this report.[1]

The Phase IA reconnaissance survey did not identify any previously recorded or visible cultural resources within the GE Parcel. However, three locations within portions of the GE Parcel that could potentially be used for UDF support activities were identified as having a potential to contain archaeological resources. Accordingly, GE's UDF Phase IA CRA Report included a work plan for a supplemental investigation to further assess whether those three areas contain potentially significant cultural resources. Following EPA's approval of that report, the supplemental investigation (which, as noted above, is termed a Phase IB survey for federal purpose and an intensive archaeological survey as defined in 950 CMR 70.04 and 70.14) was conducted in October 2022, and its results are presented in this revised report.

[1] On a separate track, Phase IA CRA reconnaissance survey activities have been performed for the overall areas that will be affected by the ROR Remedial Action. The results of those activities were presented in a *Revised Supplemental Phase IA Cultural Resources Assessment Report for the Housatonic Rest of River* (Revised Phase IA CRA Report for ROR; AECOM 2023), submitted to EPA in March 2023.


MA
USGS 15 MINUTE TOPOGRAPHIC QUADRANGLE PITTSFIELD EAST, MA
Legend
GE Parcel Boundaries
0 850 1,700 3,400
Feet
LOCATION OF GE PARCEL
Upland Disposal Facility Site
Lee, Massachusetts
SCALE
DATE
PROJECT NO.
1:20,400
11/17/2022
04191406
AECOM
Hallowell Meadow Reserve, Berkshire Natural Resources Council (BNRC)
Lenox Memorial Middle and High School
Laurel Lake
Bramley Lake
Housatonic Street
Walmac Memorial Highway
Lee Road
Walker Street
Brown Street
Willow Hill Road
Washington Mountain Road
Mill Street
Old Barn Road
Yale Knoll Road
Post Road
Bentrup Court
East Street
Willow Creek Road
Mountain View Cemetery
Lenox Station
Lenox Dale
Lil Pittsfield Park
The Golf Club at Wyndhurst Manor
Barbara Road Pond
Project Lane
Fairway Drive
Fieldstone Drive
Golden Hill Road
Shaker Hill Road
Hurds Avenue
Reservoir Road
Cedarcrest South Drive
Caroline Drive
Harry Avenue
Fairview Drive
Brown Hill Road
Lenox Mountain Road
Yale Street
Lenox Mountain Drive
Lenox Mountain Road
Lenox Mountain Drive
Lenox Mountain Road
Lenox Mountain Drive
Lenox Mountain Road



Figure 2. General Layout of the Upland Disposal Facility in Lee, Massachusetts.

1.2 Scope of the Initial UDF Area CRA

This section describes the Phase IA CRA (reconnaissance survey) activities described in Section 5.2.8 of the UDF PDI Work Plan and subsequently conducted for the UDF area and UDF support area. It contains largely the same information presented in Section 1.2 of the approved UDF Phase IA CRA Report.

The Area of Potential Effects (APE) for both archaeological resources and historic architectural resources was defined based on the location and extent of the UDF area and UDF support area. The Archaeological APE was defined as all portions of the GE Parcel that may experience ground disturbance as a result of remediation activities. For purposes of the Phase IA CRA, the Archaeological APE was defined as the entire GE Parcel, subject to refinement for future studies when the designs for the UDF are better developed. The Historic Architectural APE for the UDF was also defined by the limits of the GE Parcel.

Desktop and on-line reviews were conducted of the MHC's files and databases, including the Massachusetts Cultural Resource Information System (MACRIS), the Massachusetts State Historic Preservation Plan, and the MHC State Reconnaissance Survey Reports, as well as the files of local historical organizations, including the Lenox Historical Society, the Lee Historical Society, the Lee Library, and the Stockbridge Library – Museum and Archives, to determine whether the UDF area or UDF support area contains or could affect cultural resources included in those files or databases. Additionally, historical aerial photography, historic maps, and soils and geological mapping were reviewed for evidence of past environmental characteristics and land use patterns.

Coordination with the MHC and with Native American tribal representatives regarding the locations of cultural resources and traditional cultural properties in the vicinity of the GE Parcel was conducted through EPA's outreach efforts to consulting parties as well as through AECOM's contacts with representatives of the Stockbridge Munsee Band of Mohican Indians and Wampanoag Tribe of Gay Head (Aquinnah). Requests for input were sent to the Schaghticoke Tribal Nation and Schaghticoke Indian Tribe in Connecticut, but no responses were received.

Two field inspections were made in March and June of 2022 to visually assess and document the environmental characteristics of the project area and to search for visible above-ground cultural resources; no subsurface investigations were conducted during this phase of the investigation except for one hand auger boring described in Section 5.1. For both field inspections, AECOM's archaeologist was accompanied by an archaeologist from EPA's support contractor and a representative of the Wampanoag Tribe of Gay Head (Aquinnah).

Based on the information gathered during these research tasks, an assessment was made of the potential for the APE to contain unidentified potentially significant cultural resources. For purposes of the CRA, potentially significant cultural resources mean cultural resources that are listed or could

potentially meet the criteria for listing on the National Register of Historic Places (NRHP), resources that are listed on the Massachusetts State Register of Historic Places (SRHP) and included on the State Inventory of Historic and Archaeological Assets, and potentially significant scientific, pre-contact, historical, or archaeological data subject to the Archaeological and Historic Preservation Act.[2]

Investigation to identify known or suspected historic structures within the Historic Architectural APE was initiated by examining existing historic structure inventories. The locations of any such structures were plotted for systematic comparison with the location of the GE Parcel, and aerial photography and maps were examined to identify the locations of additional structures. Because, as noted above, this APE did not extend beyond the limits of the GE Parcel and no historic structures occur within it, no additional field inspections were required.

1.3 Results of the Initial Phase IA CRA and Proposed Supplemental Investigations

As noted above, the Phase IA CRA (reconnaissance survey) identified no previously recorded or visible cultural resources within the overall APE. However, three locations within portions of the GE Parcel that could potentially be used for UDF support activities, designated as Areas A, B, and C (shown on Figure 3), were identified as having a potential to contain archaeological resources. In accordance with the UDF PDI Work Plan and EPA's February 25, 2022 conditional approval letter, GE prepared a supplemental plan for an intensive survey to further investigate whether those three areas contain potentially significant cultural resource. That plan was conditionally approved by EPA on September 7, 2022. The additional data were gathered in October of 2022 and are described in this revised report.

[2] Such resources include properties of traditional religious and cultural importance that fall into any of the foregoing categories.

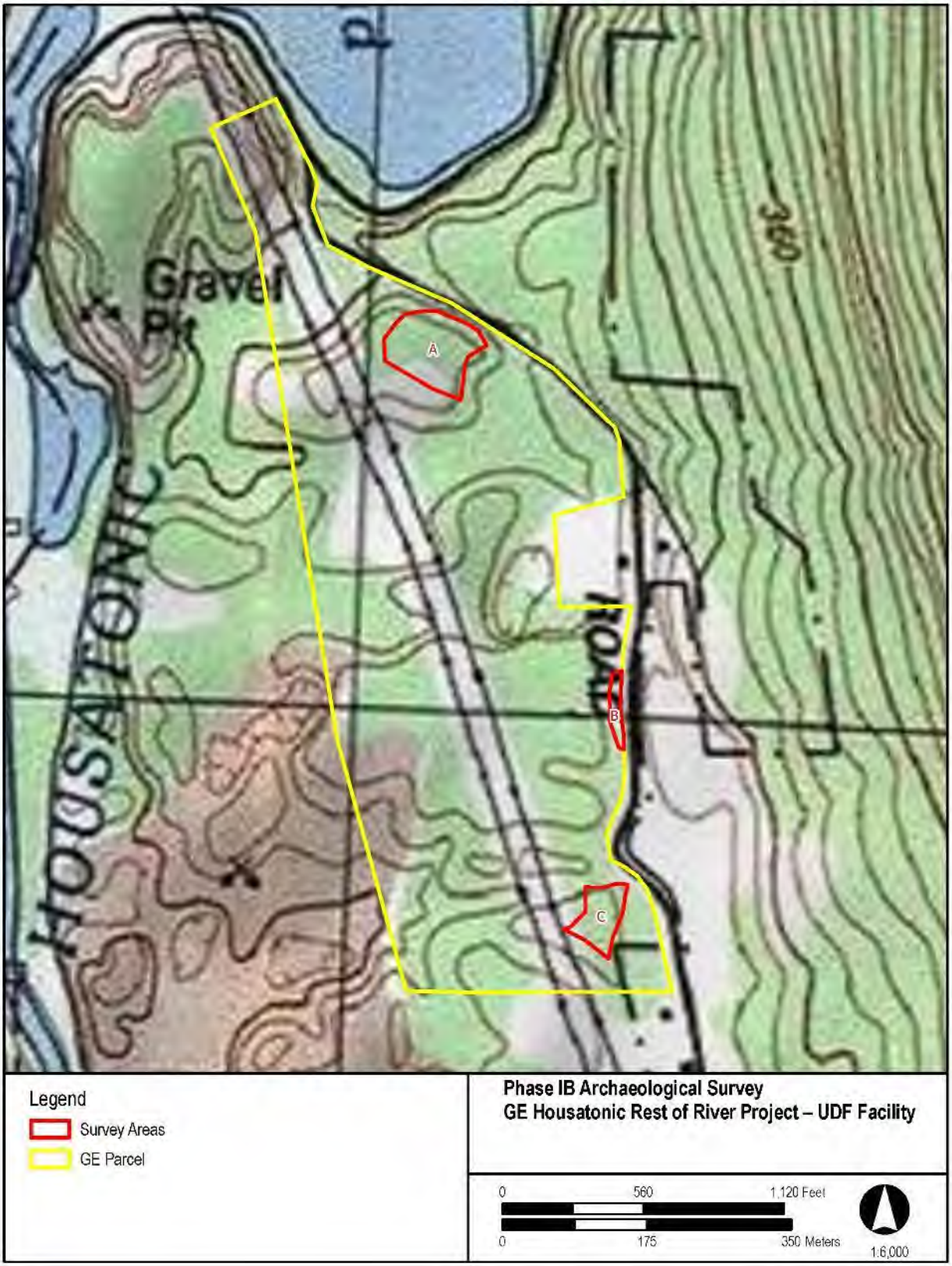


Figure 3. USGS Topographic Quadrangle Map of Project Area.

2 Research Design & Methods

The goal of the supplemental investigation was to confirm whether the three areas at the GE Parcel identified as having the potential to contain significant archaeological sites actually contain such resources. This supplemental investigation included additional background research on relevant prior studies and available environmental data to provide a context within which to interpret any archaeological remains that may be identified in the three areas of interest. It then involved a systematic archaeological field survey in those three areas. This research sought to identify the location and character of any archaeological sites and to assess the potential significance of any sites found.

2.1 Background Research

AECOM conducted background research to provide an assessment of the available data concerning potential archaeological resources at the GE Parcel. This research consisted of a review of archaeological site and inventory records, as well as examination of historic maps, aerial photographs, soils data, and historical documentary evidence. Prior to the fieldwork, AECOM developed pre-contact and historic contexts and reviewed the developmental history of the GE Parcel, focusing on the three less-modified areas singled out for intensive survey. In addition, David Bondanza of Lane was contacted to seek information about past mining and possible archaeological resources on the property, but he did not have any additional information beyond what was available through other sources.

2.2 Field Investigations

All fieldwork was conducted in accordance with MHC archaeological guidelines. The field crew first conducted a systematic visual inspection of Areas A, B, and C to verify current field conditions and refine the field survey strategy as needed. They then conducted field surveys of those three areas, which included excavation of 50-centimeter (cm) square shovel test pits (STPs) spaced at 10-meter intervals across each of those areas.

Prior to fieldwork, a 10-meter grid was pre-plotted for each area using ArcGIS, and this information was loaded into hand-held, sub-meter accurate Trimble 6000 Series Geo XT GPS units. In the field, archaeologists navigated to each potential STP location using the Trimble. If the location of the STP needed to be offset, the location was updated on the Trimble using real-time correction. If real-time correction was not available in the field, the data were post-processed in the office using base stations. STP pre-plotted locations that fell on excessive slope or areas of obvious disturbance were not dug but were documented in the log.

For all STPs excavated, soils were removed in 10-centimeter levels within the natural or cultural stratigraphy (whichever was smaller) of each STP. All soils were screened through ¼-inch hardware

mesh screens to search for artifacts. Quantitative and qualitative characteristics for each soil stratum were recorded in the field. Data included depths in centimeters, soil texture, horizon designation, soil color, stratum/level information, and any artifacts recovered, as well as relevant comments on the location of the STP (landform, vegetative cover, etc.). Descriptions of each soil horizon was recorded in standard United States Department of Agriculture pedological terms, with soil color recorded in reference to the Munsell standard. and photographs documenting the work were taken with appropriate scales and caption boards.

2.3 Laboratory Analysis and Curation

No artifacts were recovered during the field survey, so no laboratory analysis was needed. All notes, photographs, drawings, maps, and both original and duplicate copies (photo-reproduced onto acid-free paper) of all field documentation and notes will be maintained.

2.4 Reporting

Following an assessment of the field data collected, AECOM produced a report presenting the results of the intensive survey of Areas A, B, and C. That report, originally submitted in December 2022 and revised herein in response to EPA's comments, has been prepared to meet the standards of the MHC reporting guidelines (950 CMR 70.14)

3 Environmental Setting

This section describes the environmental setting of the GE Parcel. It is similar to Section 2 of the UDF Phase IA CRA Report, but it describes the mapped soil types in more detail and includes a figure that shows the locations of the areas (Areas A, B, and C) that were subject to supplemental investigations.

The GE Parcel is located at the northern edge of the Town of Lee in Berkshire County, Massachusetts, which is on the western edge of the State and is bordered by Connecticut (south), New York (west), and Vermont (north). It is positioned in steep dissected terrain between the western slopes of October Mountain and the Housatonic River, which flows south through the Central Valley region between the Berkshire Plateau and the Taconic Mountains. The main stem of the river is formed by the confluence of the East and West Branches of the Housatonic River in Pittsfield. The East Branch begins in Dalton and Hinsdale from headwater tributaries. The West Branch starts at Onota and Pontoosuc Lakes in Pittsfield and Lanesboro and is augmented by flows from the Southwest Branch. Below the confluence, the river generally flows south through Berkshire County for approximately 10 miles to Woods Pond, the first significant impoundment. Woods Pond is an impoundment created in 1890 and is located just north of the GE Parcel. Downstream of Woods Pond, the river continues south through western Massachusetts and south/southeast through Connecticut before emptying into Long Island Sound at Stratford, Connecticut.

As can be seen in Figure 3 (above), the topography of the GE Parcel is highly irregular, which is the result of decades of sand and gravel mining that have removed and rearranged large volumes of soil. This can also be seen in the soils map prepared by the Natural Resources Conservation Service (Figure 4). The entire area planned to be used for the consolidated materials disposal (approximately half of the parcel) is mapped as gravel pits, and an additional 25% of the parcel is classified as sandy and gravelly soils of 15% to 35% slopes

Specific soil types mapped in the areas chosen for intensive archaeological survey (Figure 4) include Copake sandy loams (3-15% slopes), Groton-Hinckley soils (25% slope), and Hero loam (3-8% slopes). The Copake series is described by the NRCS as well-drained soils formed in loamy mantled stratified drift and glacial outwash. They are found on glacial outwash plains, terraces, kames, eskers, and moraines. Groton-Hinckley soils are sandy and gravelly glaciofluvial deposits developed on outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces. Hero loam soils are gravelly, moderately well drained deposits formed in loamy sand over sandy and gravelly glacial outwash. They are nearly level and gently sloping soils on glaciofluvial landforms.

Figure 5 illustrates the appearance of the southern portion of the GE Parcel, which has been partially reclaimed and stabilized after sand and gravel removal; and Figure 6 provides a panoramic view of the deeply dissected central portion of the parcel.

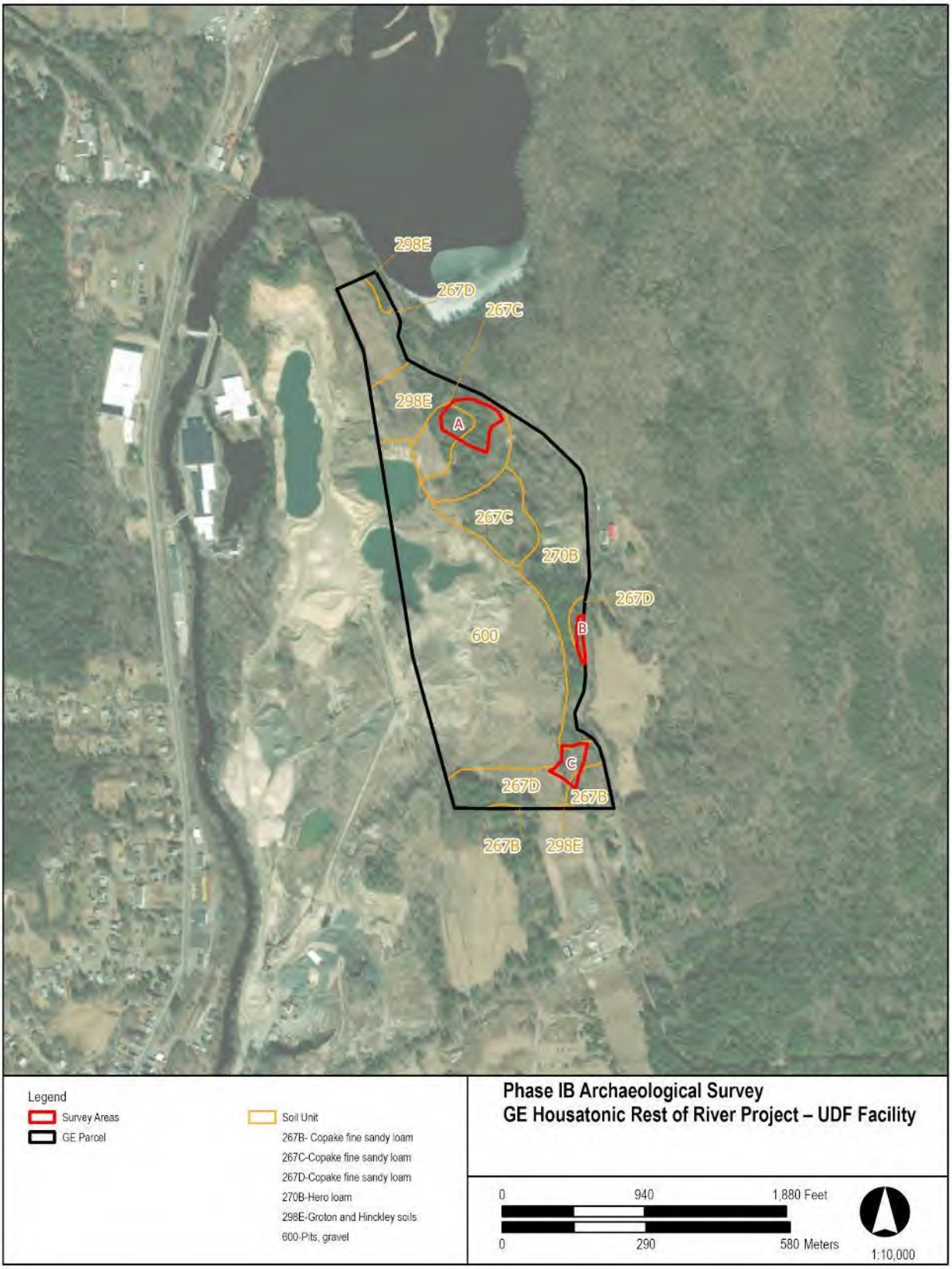


Figure 4. NRCS Soils Map of Project Area.



Figure 5. View Northwest from Southeast Corner of Parcel Near Well PZ-7.



Figure 6. View South of Open Mined Area in Center of Parcel.

4 Cultural and Historical Contexts

This section summarizes the pre-contact and historic period contexts of the general region around the project. It contains similar information to that presented in Section 3 of the UDF Phase IA CRA Report, with some updates that were previously provided in Section 3 of the March 2023 Revised Phase IA CRA Report for the ROR.

A description of the cultural contexts provides a framework for discovering, investigating, evaluating, and managing archeological sites. It is designed to:

- Summarize the current state of knowledge about a type of resource or related categories of resources;
- Provide the basis for understanding expected resource types, their location, age, size, and their expected data classes within a given geographic area; and
- Provide the basis for evaluating the relative significance of resources of the same or similar type, if found.

This section begins with a summary of previous archaeological research projects in the area, and this is followed by sections summarizing the pre-contact and historic period contexts of the general region around the project.

4.1 Previous Research in the Region

Most of the previous cultural resource research in the region has been associated with transportation and utility projects, and most of these were concentrated in two zones: in Pittsfield north of the current project, and along a narrow corridor in South Lee and Stockbridge. This section provides brief summaries of known projects arranged in chronological sequence.

The Institute for Conservation Archaeology at Harvard prepared a Phase I Reconnaissance Study for proposed water pollution control projects in Lee (Mulholland et al. 1977). This study highlighted the potential for historic sites relating to the factories and mills along the Housatonic and its tributaries, but no field studies were conducted.

In 1983, Dunn Geoscience conducted a Stage 1B Archaeological Survey for the realignment of Route 7 (Upper North Street) in Pittsfield, including examination of pre-contact site 19BK99, which was identified as a small Late Archaic hunting camp.

UMass Archaeological Services conducted site examinations of six archaeological sites (four pre-contact and two historic) in Pittsfield in 1988 in association with the Route 7 Bypass project (Bernstein and Savulis 1988). That same year, the Boston University Office of Public Archaeology

conducted a reconnaissance for six miles of corridor in Pittsfield for the Tennessee Gas Pipeline NOREX project (Jones and Seasholes 1988). This corridor crosses the Housatonic River near the south end of the Audubon Sanctuary, near the mouth of Sykes Brook. A subsequent survey in 1990 identified a pre-contact site (19BK185) east of the river near Court Hill, north of Sackett Brook.

In 1992, the Public Archaeology Laboratory, Inc. (PAL) surveyed a proposed GE/Altresco gas pipeline route in Pittsfield (Nassaney and Leveille 1992). This short pipeline route extended from the Altresco Plant on the northeast side of Pittsfield around the east and south sides of the city, crossing the Housatonic River alongside Holmes Road. Four pre-contact sites were identified. Also in 1992, the State Archaeologist's office conducted a brief walkover survey of site 19BK154 at Melville's Arrowhead estate on Holmes Road (Simon 1992). This survey confirmed the presence of pre-contact artifacts on the property.

In 1991 and 1992, a series of survey and site examination projects were conducted for Tennessee Gas Pipeline Company's Northeast Settlement Expansion Project. The northern end of Segment 2 extended northwest along the valley of Hop Brook and crossed the Housatonic River (and the current APE) between Lee and South Lee. Surveys and site examinations for Segment 2 were done by the BU Office of Public Archaeology (Jones 1992; Jones and Berkland 1992; McDermott and Macomber 1991; Macomber 1992; Macomber et al. 1992). These studies resulted in the identification of six pre-contact sites and these sites include multiple Late Archaic, Early Woodland, and Late Woodland components.

UMass Archaeological Services conducted the studies for Segment 7 of the Northeast Settlement pipeline project, which began at the end of Segment 2 north of the river near Church Street and extended northwest into New York (Holmes et al. 1992a, 1992b, 1992c). The Segment 7 studies identified six sites along the pipeline route just north of Stockbridge, including two significant pre-contact sites near Kampoosa Bog, which drains south into the Housatonic River. Phase 3 data recovery excavations were conducted at these two sites prior to construction (Johnson and Mulholland 1995). They documented that the margins of Kampoosa Bog have been occupied for over 6,000 years, with notable occupations relating to the Snook Kill/Atlantic tradition and the Late Woodland period (Johnson and Mulholland 1995:22).

PAL conducted an intensive archaeological survey of a portion of the Housatonic River in Pittsfield in 2005 in connection with EPA's performance of remediation in the portion of the river known as the 1½ Mile Reach. A report on that survey was submitted to the U.S. Army Corps of Engineers and EPA in January of 2006 (PAL 2006). The project area included both sides of the Housatonic River from the Pomeroy Avenue Bridge upstream of the Confluence of the East and West Branches to that Confluence. Field investigations included the excavation of 62 fifty-cm shovel test pits at 10-meter intervals along the river floodplain. No evidence of any archaeological sites was identified or recovered during the survey.

In 2008, URS (now AECOM) prepared a Phase IA CRA Report for the Housatonic Rest of River Project (URS 2008) to assess the potential for archaeological and historical resources to exist in the portions of the Housatonic River and its floodplain that could potentially be affected by implementation of future remediation activities in the ROR. The Initial Phase IA CRA Report included background information on the environmental setting, pre-history, and history of the project area and region; a description of previous cultural resource studies and types of known cultural resources; and a preliminary assessment of the potential for each section of the project to contain as-yet unidentified cultural resources. That 2008 report has recently been updated (AECOM 2023).

In 2011, the University of Massachusetts-Amherst Archaeological Services, conducted reconnaissance and intensive archaeological surveys for upgrades along the 1371 transmission line in Lee, which is crosses the GE UDF parcel from northwest to southeast. No archaeological sites were reported within the ROR area by that survey (Donta, Blake and Barker 2011).

AECOM conducted survey and construction monitoring in 2018 and 2019 for a stormwater drainage improvement project that the Town of Stockbridge implemented on the north side of the Housatonic River behind the town offices in the former Stockbridge School building and in Bidwell Park (Campetti 2021). A scattering of both pre-contact and post-contact artifacts were recovered from disturbed topsoil and fill soils in Bidwell Park, but no intact archaeological sites were identified there.

PAL conducted an intensive archaeological survey for Phase I of the Lee Bikeway in 2019. The route of that project extended along the east bank of the Housatonic River from the I-90 interchange north to West Park Street, but no archaeological sites were reported.

Recent projects in Stockbridge conducted by the Stockbridge Munsee THPO included surveys of potential burial grounds and placing a headstone for Mohican ancestors in the Town Cemetery. In addition, in 2021, the THPO continued research for the Ox Roast/King Solomon Uhhaunnuhwaunnuhmut homesite excavation near Laurel Hill at the site of the 1783 Ox Roast presented by George Washington to thank the Mohican people for their service in the Revolutionary War. An archaeological survey at the location of the 1739 Meetinghouse, or today's chime tower, also took place in 2021.

4.2 Historical Context

4.2.1 Paleoindian Period

Human occupation of northeastern North America began soon after the continental ice sheet began to recede northward, once again exposing land. Current evidence suggests that approximately 13,000 years before the present (B.P.), humans began moving into what is now New England. This first period of prehistory lasted until approximately 9,500 B.P. Archaeological sites dating to this time period are most commonly recognized by the presence of distinctive biface stone tools called fluted

points. Because of extreme age and low population densities, Paleoindian sites are relatively rare and have often been disturbed by more recent natural events and human activities.

Although relatively few Paleoindian sites have been excavated in the Northeast, there have been documented discoveries in the general region near the Housatonic drainage. In 1977, the American Indian Archaeological Institute (AIAI) excavated a site known as 6LF21 on the Shepaug River in northwestern Connecticut (Moeller 1980), and this site produced a radiocarbon date of 10,190 RCY B.P. More recently, the Hidden Creek site in Mashantucket, Connecticut (Jones & Forrest 2003) has yield evidence of Paleoindian occupations. Most of the evidence for Paleoindian occupations in the region comes from isolated finds of the distinctive fluted points from scattered locations. Many finds appear to be associated with former post-glacial lake basins (Lavin 1984). In particular, surveys by the AIAI near Robbins Swamp in northwestern Connecticut have identified a number of Paleoindian sites around the margins of this rich ecological zone (Nicholas 1988).

4.2.2 Early Archaic Period

Prior to 1970, there was virtually no evidence of any Northeastern sites dating to the Early or Middle Archaic periods. In the last three decades, considerable information has been obtained to fill in that gap, but the picture is still incomplete. There are still relatively few excavated, radiocarbon-dated Early Archaic sites in the Northeast. Most have been identified by the presence of projectile points analogous to dated types such as Palmer, Kirk, Charleston, MacCorkle, LeCroy, St. Albans, and Kanawha, which have been found in stratified Southeastern sites.

Archaeologists are beginning to be able to identify distinctive regional characteristics in the Early Archaic artifact forms and assemblage characteristics. Excavations in northwestern Connecticut around Robbins Swamp in the Upper Housatonic drainage just south of the Massachusetts border suggest that these early Holocene occupations tended to cluster in resource rich locales such as former glacial lake basins (Nicholas 1988). Approximately 35 Early Archaic components were identified along with a number of Paleoindian sites, suggesting early intensive exploitation of this extensive wetlands complex. Some of the Early Archaic sites were identified by the presence of diagnostic types such as Kirk, bifurcate, and Kanawha points, and others by the presence of distinctive scraper and graver forms. Early site/landform associations range from lake shoreline and upper river terraces to wetland margins and upland springs, and include large, multiple, early component sites, and small, single-component, special-activity sites (Nicholas 1988:271).

Nicholas has been a frequent and vocal proponent of the idea that early Holocene occupations in the Northeast were much more abundant than previously thought, and that they operated within an environment that was much more productive than originally described. He has identified former glacial lake basins as locations that are likely to have been established as resource rich mosaics within a changing and somewhat unpredictable early Holocene landscape (Nicholas 1988).

4.2.3 Middle Archaic Period

The Middle Archaic is associated with warmer and drier climatic conditions. By this period, modern floral communities were established and characterized by mast-producing hardwoods. Rivers stabilized during this time and wetland and lake areas were reduced in size. Hunting continued to be important, and fish may have become a more predictable resource.

Clear identification of the chronological position of Middle Archaic artifacts in the Northeast was not established until Dincauze reported on the excavations at the stratified Neville site on the Merrimack River in New Hampshire (Dincauze 1976). These excavations documented the existence of the Neville stemmed point type dating to between 7,800 and 7,000 B.P., and the Stark stemmed point type dating between about 7,600 and 6,400 B.P. (Dincauze 1976). The Neville and Stark point types are similar in style and age to the Stanly and Morrow Mountain types that Coe (1964) defined earlier in the Southeast. In addition, the Merrimack point type was identified as dating to the end of the Middle Archaic period close to 6,000 B.P.

The Neville and Stark types have proved to be relatively common throughout New England. Dincauze and Mulholland (1977) have presented a synthetic model of Middle Archaic settlement for southern New England. They suggest that site types of this period involve large-group occupations that maximize proximity to a variety of seasonal resources, as evidenced by the tool assemblages and recovered faunal materials at these sites. An increase in the number of sites in aquatic resource environments is noted, and these sites are frequently located at falls or rapids where anadromous fish comprised an important seasonal resource (Dincauze 1976). The accumulated data for the Middle Archaic period in the Northeast suggest that, during this period, the pre-contact inhabitants were forming themselves into distinct bands and were settling into defined territories. These bands were establishing base camps and were occupying a greater variety of special-purpose sites in a carefully planned seasonal round (Snow 1980:183).

4.2.4 Late/Terminal Archaic Period

Archaeologists recognize the Late Archaic period as one in which the numbers and types of sites increase dramatically—what Snow (1980:187) describes as the Late Archaic "florescence." Based on his early work in New York, Ritchie recognized two major Late Archaic trajectories, the Lamoka and the Laurentian, which overlap in both time and space. Both are also represented in New England, but in different distributions.

Following Tuck's (1978) definition of the Lamoka/Sylvan/Squibnocket complexes of central and southern New York and New England as the "Mast Forest Archaic," Snow (1980:226) proposed that the Laurentian complex and related assemblages in northern New England and the St. Lawrence drainage be designated as the "Lake Forest Archaic." As Snow describes them, these two complexes coexisted at times during which each was more common within a particular geographic region. This

scheme supposes that there was a "marginal belt of tension between the two coeval zones that persisted throughout the Late Archaic" (Snow 1980:227).

Although Snow (1980) suggests that the Lake Forest Archaic sites are primarily a northern New England manifestation, and only appear in sparse numbers in western Massachusetts and Connecticut between 5,500 and 4,500 B.P., Pfeiffer (1984) has compiled evidence that the Lake Forest Archaic in southern New England is a widespread tradition firmly dated to the period between 5,000 and 4,200 B.P. Pfeiffer notes that "the Late Archaic period also witnessed an increase in the importance of gathering activities, the employment of storage, and an expanded duration of settlement" (1984:85).

In addition to the Lake Forest Archaic assemblages, southern New England also has widespread and long-term evidence of Snow's Mast Forest tradition—what other researchers have often called the "Narrow-Stemmed" or "Narrow-Point" traditions. Although some researchers have proposed that the Laurentian, or Lake Forest, tradition coexisted with the Narrow Point tradition (Ritchie 1969; Dincauze 1975; Snow 1980), others (McBride 1984a:247-248) consider the Lake Forest (Laurentian, Golet phase) as temporally distinct from the Mast Forest (Narrow Point, Tinkham phase).

Mast Forest Archaic sites are numerous and occur in a "wide variety of local settings" (Snow 1980:230). The settlement system likely consisted of "central based wandering" by highly territorial groups (Dincauze 1974:48, 1975:25; Snow 1980; McBride 1984a, 1984b:65). Population aggregations occurred along major drainages and interior wetlands, with movement between habitation sites prescribed by seasonal availability of resources (Dincauze 1974:48, 1975:25; McBride 1984a, 1984b:65; Snow 1980).

The end of the Archaic has also been commonly called "Transitional" in reference to its presumed transitional status between the Archaic and Woodland periods. Since research continues to indicate that there is actually a great deal of cultural and biological continuity between the Archaic and the Woodland periods, Snow (1980:235) has suggested that the label "Terminal Archaic" is more appropriate.

As Snow defines it, the hallmark of the early part of the Terminal Archaic in eastern and southern New York is the Susquehanna tradition of broad stemmed projectile points and their associated assemblages. These points include a number of regional varieties, including the Genesee, Perkiomen, Snook Kill, and Susquehanna Broad types in New York and Atlantic/Wayland points in Massachusetts. This Susquehanna tradition of broad stemmed projectile points is analogous to Coe's (1964) Savannah River type from the southeastern United States. Characteristics of the Susquehanna Tradition include a riverine adaptation and a predilection for the fine-grained lithic resources of the Piedmont province including rhyolite, felsite, argillite, and slate (Dincauze 1975:27;

Turnbaugh 1975:54). The latter portion of the Terminal Archaic period is marked by the appearance of narrow, tapered Orient Fishtail projectile points.

4.2.5 Early and Middle Woodland Period

Early Woodland cultures in southern New England show considerable variation from the patterns seen in central and western New York. Sites in the latter region show much greater participation in widespread trade networks that extended from the Gulf of Mexico to the Great Lakes. Exotic seashells, distinctive types of stone, and native metals such as copper and lead moved between the far-flung reaches of the network. This trade network was also associated with an elaborate mortuary ceremonialism that included burying many of the exotic traded items in graves with the dead. The presumed core of this system was the Adena tradition of the Ohio River drainage, to which numerous elaborate sites with well stocked graves have been attributed.

Evidence of the Adena tradition is more limited in the Early Woodland Meadowood tradition of southern New England. In addition to Meadowood projectile points, Adena, Rossville, and Lagoon points and Vinette I ceramics are also associated with this time period. Rossville and Lagoon points are particularly common on Early Woodland sites in the coastal areas of southern New England and Long Island Sound.

Narrow points are commonly assigned to the Late Archaic period; however, Swigart (1974) has dated points of this type in the Housatonic drainage to 2,700-2,500 B.P., which would place them in the Early Woodland period. Furthermore, Lavin, McBride, and others have suggested that the Narrow Point technological tradition may have even continued into Contact and historic periods (McBride 1984a:105; Lavin 1984).

Just as the Early Woodland Meadowood phase is associated with the Ohio Valley Adena network, Middle Woodland sites appear to have been associated to some degree with the Middle Woodland Hopewell interaction sphere. However, exotic trade items from the Hopewell network are less common in southern New England and eastern New York than they are in the west (Snow 1980:287).

4.2.6 Late Woodland Period

Following the apparent decline in settlement activity during the Early Woodland and the early part of the Middle Woodland period in the Northeast, the next millennium witnessed an intensification of subsistence and settlement patterns that culminated in the relatively sedentary villages of agriculturalists encountered by the first European explorers. This span of time has been traditionally designated by archaeologists as the latter portion of the Middle Woodland period from 1,650 B.P. to 1,000 B.P. and the Late Woodland period from 1,000 B.P. to substantive contact with Europeans. This report will break from tradition somewhat and will end the Middle Woodland at about 1,200 B.P (A.D. 750).

A division between Middle and Late Woodland at this point in time correlates with the widespread appearance of maize in the archaeological record throughout much of the eastern United States. Snow (1980:261) has previously suggested that the Kipp Island and Hunters Home phases reflect the increasing isolation of the Northeast from the rest of the Eastern Woodlands. Interestingly, this is also a period in which the Hudson drainage shows increasing linkages with southern New England. These linkages include increasing amounts of chert moving into the Housatonic and Connecticut River drainages, as well as "New York" ceramic traditions extending east into the upper Housatonic drainage (e.g., see Cassedy and Lavin 2007).

By the Late Woodland period, the archaeological antecedents of historically recognized Native American groups can be recognized. North, central, and western New York were occupied by groups believed to be ancestral to the Iroquois; in these areas, large, nucleated, semipermanent sedentary villages developed. In contrast, eastern New York and western New England were occupied by smaller, somewhat less permanent settlements ancestral to the Algonkians (Late Woodland settlement patterns in both areas were still more sedentary than in previous periods).

Late Woodland sites are recognized by a series of distinctive incised and collared ceramic types and by triangular projectile points. The larger Levanna point type was most common early in the period and was later accompanied by the smaller Madison type.

4.2.7 Contact/Native American Historic Period

The chronological end of the Late Woodland period is about 350 B.P (A.D. 1600), but it varies by region, depending on the timing of European exploration and settlement. The next two centuries are often referred to as the Contact Period, and in southern New England the term "Final Woodland" is preferred by some. Both labels refer to the phase when Native lifestyles were radically changed by factors such as war, disease, trade, and acculturation.

Around the time of European contact, Wnahktukuk (later, Stockbridge) was a significant settlement for the Mohicans[3] who occupied the Housatonic and Hudson River Valleys when the Dutch, and later, English, entered their lands. Prior to establishment of the settlement at Stockbridge, the Mohicans occupied a pivotal position both culturally and geographically in the conflicts between the Iroquois Confederacy and the Algonkian tribes of New England (Brasser 1978). The Mohican lands extended from what is now Lake Champlain south to the lower Hudson River (Mahicannituck), west to Schoharie Creek and east into Massachusetts, Vermont and Connecticut. Control of the area on the west side of the Hudson was lost in 1628 as a result of warfare with the Mohawks of the

[3] Dunn (1994:8) notes that many alternate spellings of "Mahican" have been used over the years, including Mohican, Mahikan, and Mahiecan, but they are not to be confused with the Mohegan of Connecticut. Mahican is the most common form used by the seventeenth century Dutch who were first in contact with the Hudson Valley group, but the current indigenous descendants use "Mohican".

Haudenosaunee Confederacy. In the 1660s, the Mohicans were forced to abandon almost all of the Hudson Valley, and many of them clustered with other related western New England Algonkians in settlements along the upper Housatonic River in western Massachusetts.

Some ethnohistoric data indicate that the Mohicans lived in stockaded hilltop villages containing three to 16 elongated wigwam longhouses (Snow 1980:88). In addition to these villages, "when at fishing or hunting stations, [they] probably lived in single-family wigwams" (Snow 1980:88).

The Euroamerican documentary record concerning the Native American communities and villages of the upper Housatonic Valley is sparse. During the seventeenth century, there was a somewhat persistent, though incorrect, Euroamerican perception that the upper portions of the Housatonic were a "hideous, howling wilderness" (Smith 1946). Though this misperception did not accurately characterize the settlements of ancestral Mohicans and others, a lack of English and Dutch administrative control over the lands east of the Berkshires escarpment was advantageous for Mohican sachems Konkapot and Umpachenee who established a new political center in the upper Housatonic that attracted Native people from the Mohican diaspora (Binzen 2004).

4.2.8 Settlement and Revolutionary War Era

The lower Housatonic was settled in the 1640s, but it took almost a hundred years for permanent settlements to expand north into what is now Berkshire County, Massachusetts. In 1733, Sheffield was the first town in the county to be incorporated, followed by Stockbridge in 1739, Great Barrington in 1742, and Pittsfield in 1753. Lee and Lenox incorporated a decade or two later.

The colonial government history of Stockbridge begins with the 1735 establishment of Wnahktukuk as an "Indian Praying Town," ostensibly for the benefit of Mohicans living there, primarily to encourage them to take up European religion and lifeways (Barber 1841). John Sergeant initiated a mission amongst the Mohicans, who at the time were living in two communities along the Housatonic – one they called Skatehook (in Sheffield, Connecticut) and the other Wnahktukook (now Stockbridge). To consolidate the settlements, the Massachusetts legislature established a six-square-mile township for the natives; and as Field (1829:239) reports, "the design was to include the fine alluvial grounds at Wnahktukook, already cleared and cultivated to some extent, where a party of the Indians then lived . . . ."

In 1739, the first formal survey of the Stockbridge land granted 42 plots of the best land to fewer than ten Native American proprietors, and plots of less desirable land to only six English settlers, permitted to settle there to provide examples of proper "civilized" living (Labadia et al. 2009; Miles 1999). These unfair and hostile practices contributed to the Mohican population of Stockbridge dwindling throughout the eighteenth century. By 1774, roughly one-third of Stockbridge lands were still Native-owned, and in 1784, the majority of the remaining Stockbridge Native Americans

established the settlement of New Stockbridge in New York. The last few Native Americans remaining in Stockbridge sold their remaining pieces of land in 1809 and 1818 (Miles 1999). This was despite the role that Mohican men played in fighting during the Revolutionary War, for which George Washington commended their efforts and bravery (Rindfleish 2016). Forty-two of the 332 Stockbridge men volunteering to fight were Mohican men (BCHC 1998). In the 19th century, the Mohican joined Munsee refugees on a jointly held reservation in Wisconsin, where the two tribes remain together today under the name "Stockbridge-Munsee Band of Mohican Indians."

By the Revolutionary War era in the late 18th century, Euroamerican settlements were well established in all towns of the ROR area. Forests were being cleared and small farms dotted both the valleys and the hillsides. Many of the suitable water power locations had small grist mills, saw mills, and furnaces established at them, such as at Lenox Furnace (Lenox Dale), Lee, and South Lee.

4.2.9 From the Revolution into the Nineteenth Century

After peace was established between the U.S. and England, settlement of the region expanded dramatically. Settlers took advantage of the agricultural potential of the valley and its transportation corridor, and industrial development at prime mill sites along the river and its tributaries soon followed.

For the first several decades of the nineteenth century, wagons and stages were the only effective means of transporting goods and people, as the shallow depths and multiple rapids along the upper Housatonic were not conducive to large-scale reliable boat transport both upstream and downstream along the river. This situation changed with the creation of railroad links with New York and New England in the 1840s.

Throughout the nineteenth century, the project area witnessed an intensification of industrial development along the river. The number, size, and variety of mills all increased, with woolen and cotton mills, paper mills, turning factories, and iron and glass furnaces being built in Lee, South Lee, Glendale, and Housatonic (additional industry was located in Pittsfield upstream from the ROR project area). By end of the century, paper mills came to dominate the industries along the river. As industry was expanding in the Berkshires, agriculture was declining throughout the nineteenth century due to soil exhaustion and western competition.

In addition to transporting industrial products to wide markets, the railroad also made the region easily accessible to New York City, and wealthy families from began vacationing in the Berkshires and eventually many built homes there. In 1845, Samuel Gray Ward came from Boston to Stockbridge to turn an older house into a relatively palatial structure, Highwood, which is recognized as the first of dozens of mansions, quaintly called "cottages," which were erected there and in Lenox and, to a

lesser degree, in Great Barrington. In addition, artists began flocking here and by mid-century, the tradition of a Berkshire cultural center had taken hold.

4.2.10 Twentieth Century

Industrial development that had begun in the nineteenth century expanded even more in the twentieth century. Electronics plants were constructed in the region, and paper mills continued to flourish in Lee and Housatonic. Stanley Electric Manufacturing Company was acquired by General Electric in 1903, and the operation produced small-scale transformers, flat irons, electric fans, and small motors.

The era known as the Gilded Age continued up to World War I, and wealthy outsiders continued to vacation and build mansions in the Berkshires (by 1900, there were over 75 in Lenox), providing substantial employment opportunities for many local people. However, the imposition of the federal income tax in 1913 marked a turning point in the construction of new mansions (NPS 2002:73). Over the next few decades, many were converted to other uses such as seminaries, schools, offices, or museums. At the same time, the coming of the automobile opened up new opportunities for middle class tourism in the Berkshires that continue today.

For the better part of the twentieth century, Pittsfield was inextricably linked to GE, which at one point provided jobs for 75% of Pittsfield's workforce. Pittsfield's population in 1930 had grown to more than 50,000, and industrial expansion related to World War II swelled the population even further, as munitions and plastics were also produced. By the 1950s, GE was building the largest transformers in the world, but the transformer operation closed down in 1986.

5 Results of Background Research

5.1 Introduction

This section presents the results of the background research on potential cultural resources at the GE Parcel. It is similar to Section 4 of the UDF Phase IA CRA Report, but it also adds and discusses several historic maps and aerial photographs, shows on most of the figures the locations of Areas A, B, and C, which were subject to supplemental investigations, and includes a new summary in Section 5.4.

Most of the useful background information was already consolidated within the MHC's MACRIS database. The State Historic Preservation Plan, State Reconnaissance Survey Reports, and databases of local historical organizations did not provide additional details relevant to the GE Parcel. Historic maps provided information on previous roads and structures in the area, and previous archaeological reports for nearby projects were also examined, as described in Section 4.1.

5.2 MACRIS Database

Figure 7 illustrates the search results from the MACRIS database for a one-mile radius around the center of the GE Parcel, which shows that there are no previously documented historic structures or archaeological sites located within the APE. The closest documented NRHP-listed resource is Lenox Station, which is located approximately ¼ mile northwest of the northern end of the GE Parcel, on the western side the Housatonic River. Also in that general area is recorded archaeological site BK-188, which is listed as an isolated find spot. The Valley Mill bridge mapped approximately ¼ mile west of the APE spans the Housatonic River from Crystal Street, and the remaining blue dots depict the location of various inventoried historic structures that are located ¾ mile to one mile south and west of the GE Parcel. The 2011 UMass-Amherst survey of portions of the power line corridor (see Section 4.1) that crosses the GE Parcel is plotted as a tan linear strip.

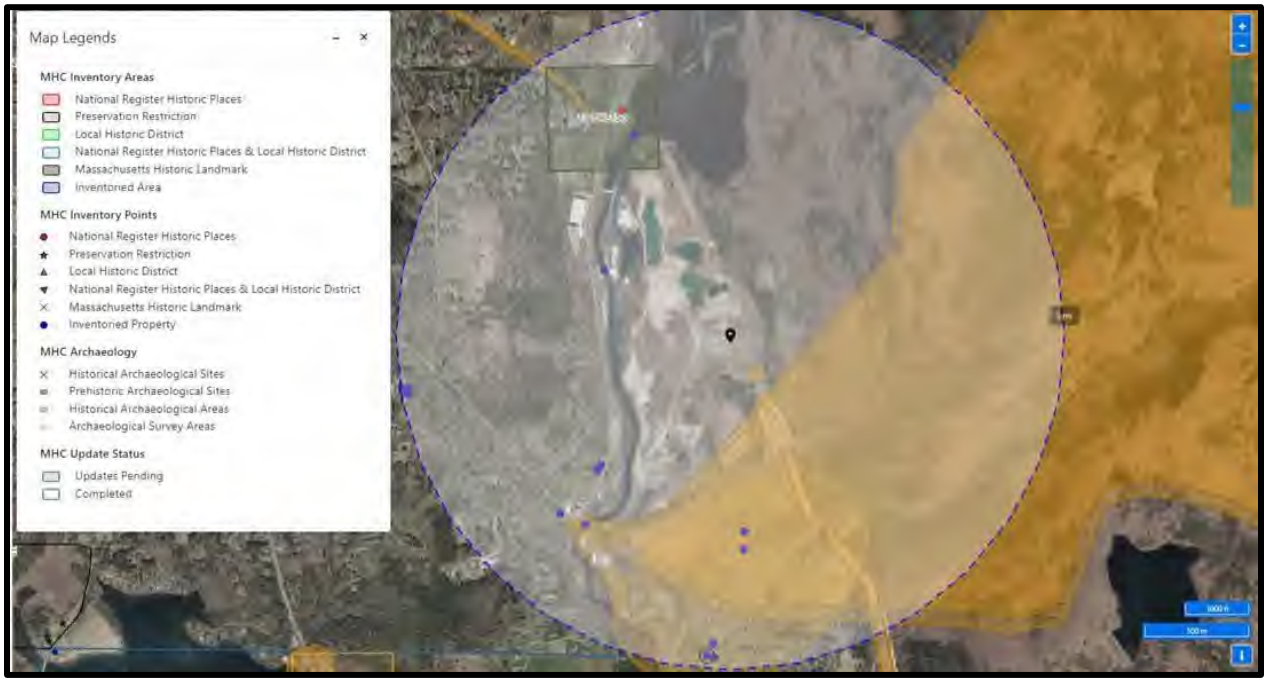


Figure 7. MACRIS Search Results Map Generated May 10, 2022.

5.3 Historic Maps

The earliest available historic map that depicts the area at a useful scale is the 1858 Wallings map of Lee, which is reproduced in Figure 8, but the alignment of Washburn Road is not consistently depicted. This map depicts the residence of "S. Washburn" on the western side of Woodland Road, just north of the outparcel that is adjacent to the GE property and currently the location of a local construction company. As will be seen in later, more accurate maps, that structure is more likely located within the outparcel rather than within the GE property. The 1858 map also indicates that just outside the southeast corner of the UDF property are depicted the houses of "W. Trumbull, "Snow", and "J. Mack". No other roads or developments are visible within the UDF parcel.

Eighteen years, later, the 1876 Beers map of Lee (Figure 9) depicts the same four structures as was plotted on the Wallings map, but they are all listed with different owners. The residence of "J. Toole" is in the outparcel adjacent to the GE Parcel on the western side of Woodland Road, and near the southeast corner of the UDF property are depicted the houses of "Mrs. Flynn," "R. Landers", and "Wm Perry".

The next available historic map is from 1890 (Figure 10) and it shows "James Toola" at the previous "J. Toole" location, "Richard Landers" at the "R. Landers" location, and "Michael Crowley" in the approximate location of the "Mrs. Flynn" house from 1876. The scale of this map appears to be somewhat distorted, as shown by the location of "Wm. Perry" well to the south of where his house was previously mapped in 1876.

The 1893 USGS topographic map for this area (Figure 11) also depicts the Landers, Perry, and Crowley structures along Woodland Road (see red arrow), but no structure is mapped further north where the Toole/Toola location was previously depicted in the outparcel.

Despite the omission of the Toole/Toola structure from the 1893 map, the updated 1943 USGS topographic map does depict a structure in that general location (Figure 12). No structures are shown within the GE Parcel, but the map does illustrate the placement of the electric transmission line that still crosses the property from southeast to northwest, and evidence of gravel pit excavations can be seen in the multiple topographic depressions. This documents that the GE Parcel and the adjacent properties have been the location of gravel removals for over 75 years. A 1959 aerial photograph shows the three archaeological survey areas as largely open and unvegetated (Figure 13). The spatial extent of the clearing and mining over the last four decades of the 20th century is clearly visible in a 2001 aerial image shown in Figure 14.

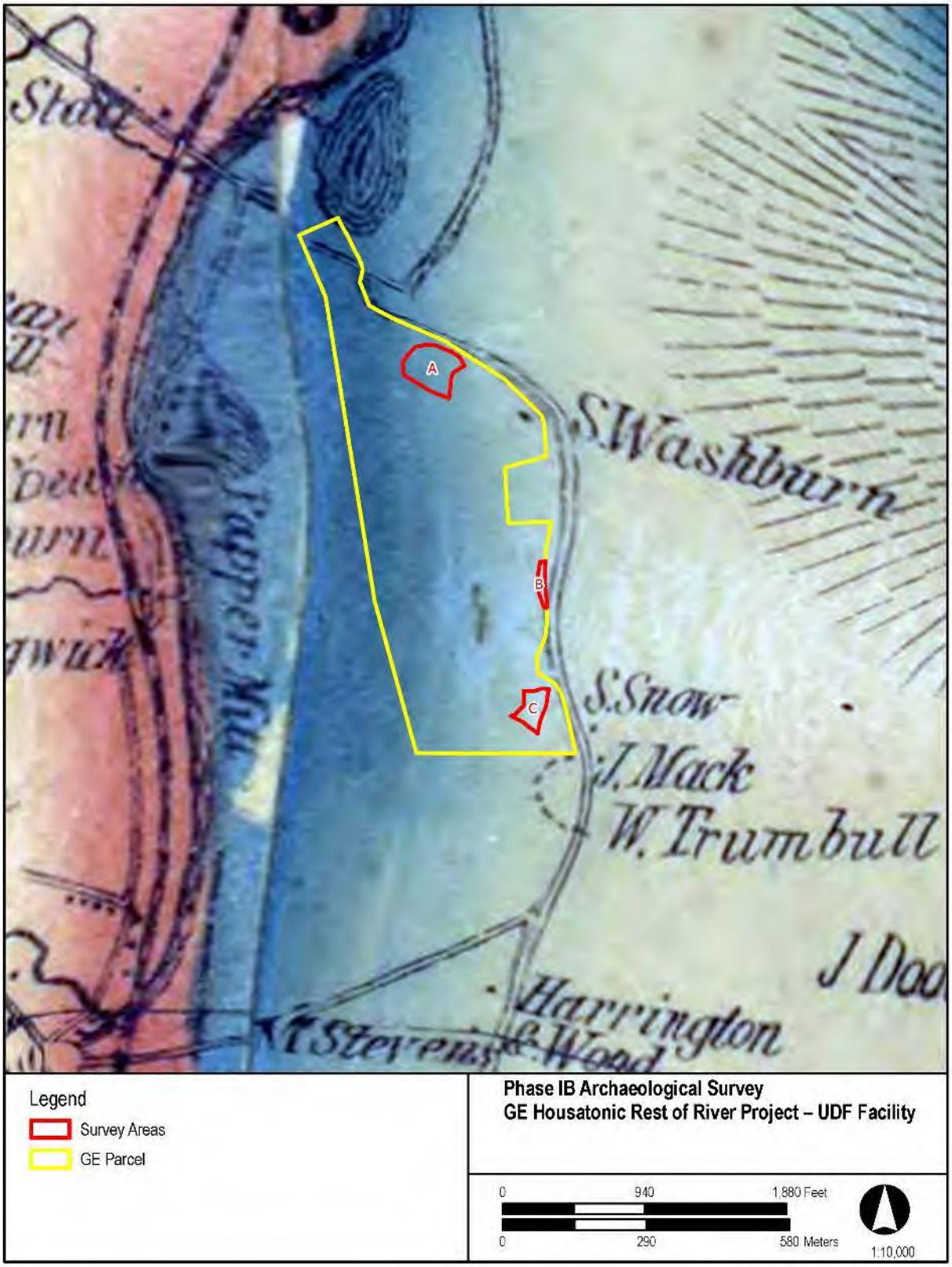


Figure 8. 1858 Wallings Map of Lee (GE Parcel and Survey Areas Shown Approximately).

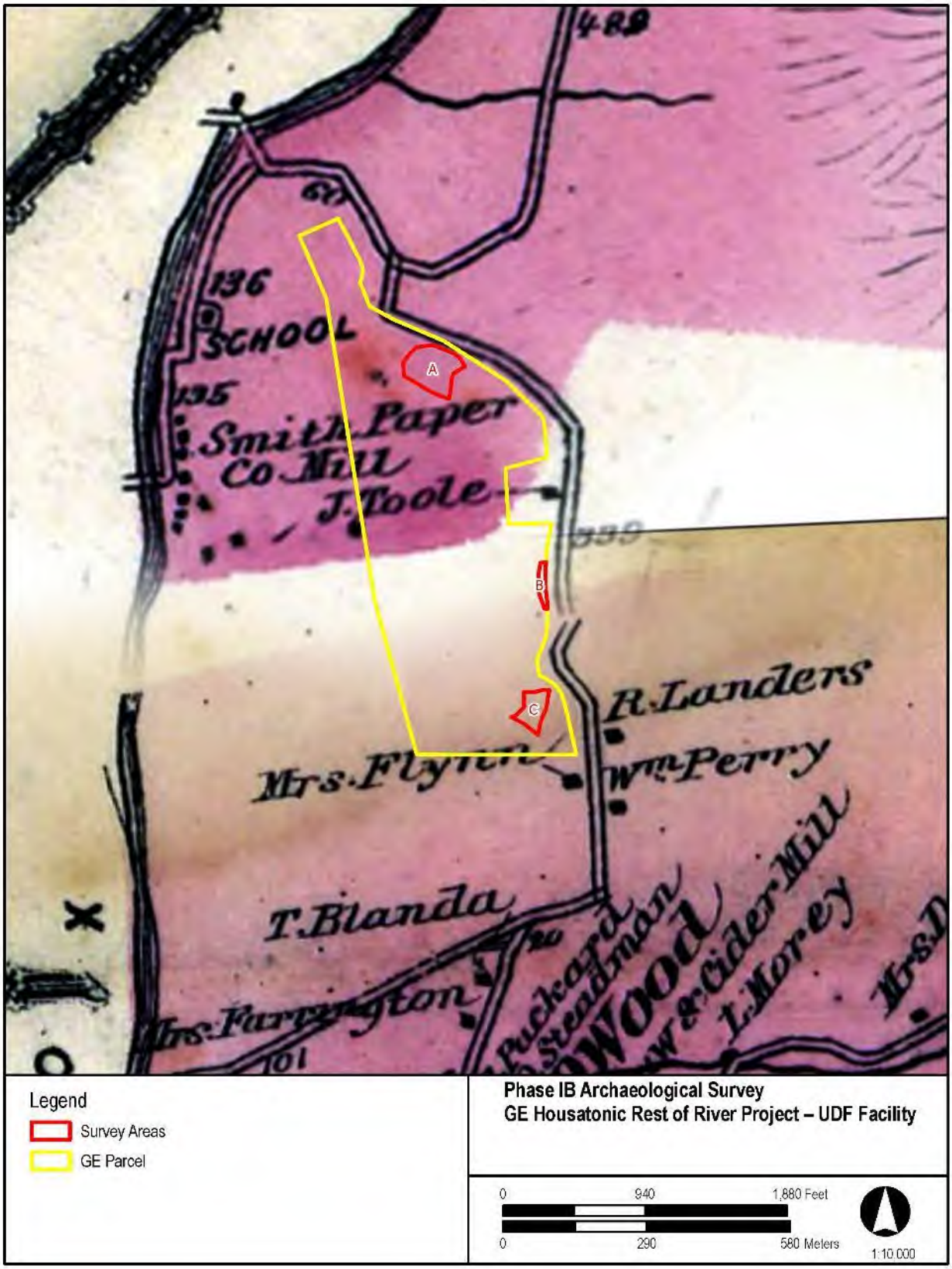


Figure 9. 1876 Beers Map of Lee (GE Parcel and Survey Areas Shown Approximately).

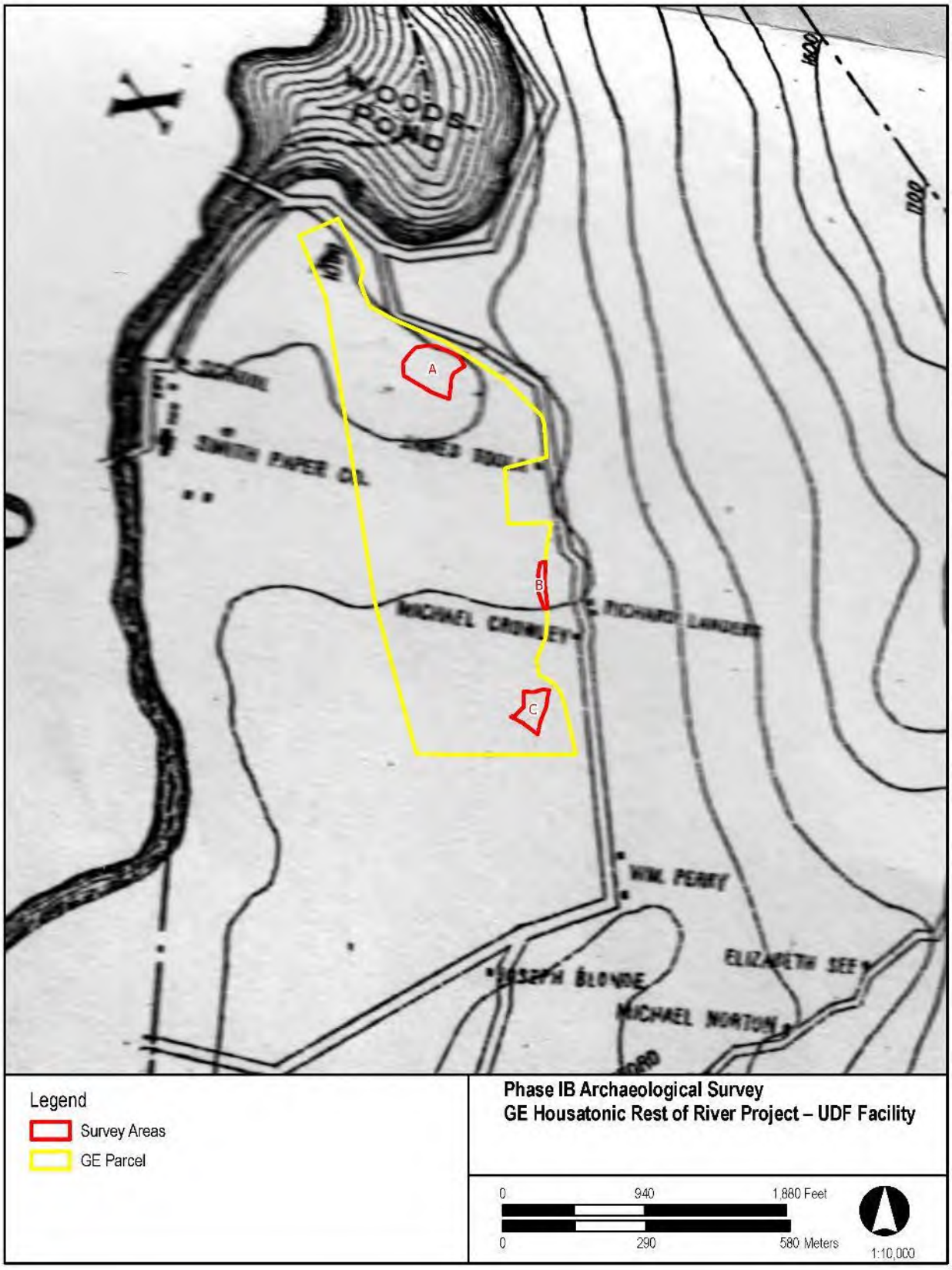


Figure 10. 1890 Map of Lee (GE Parcel and Survey Areas Shown Approximately).

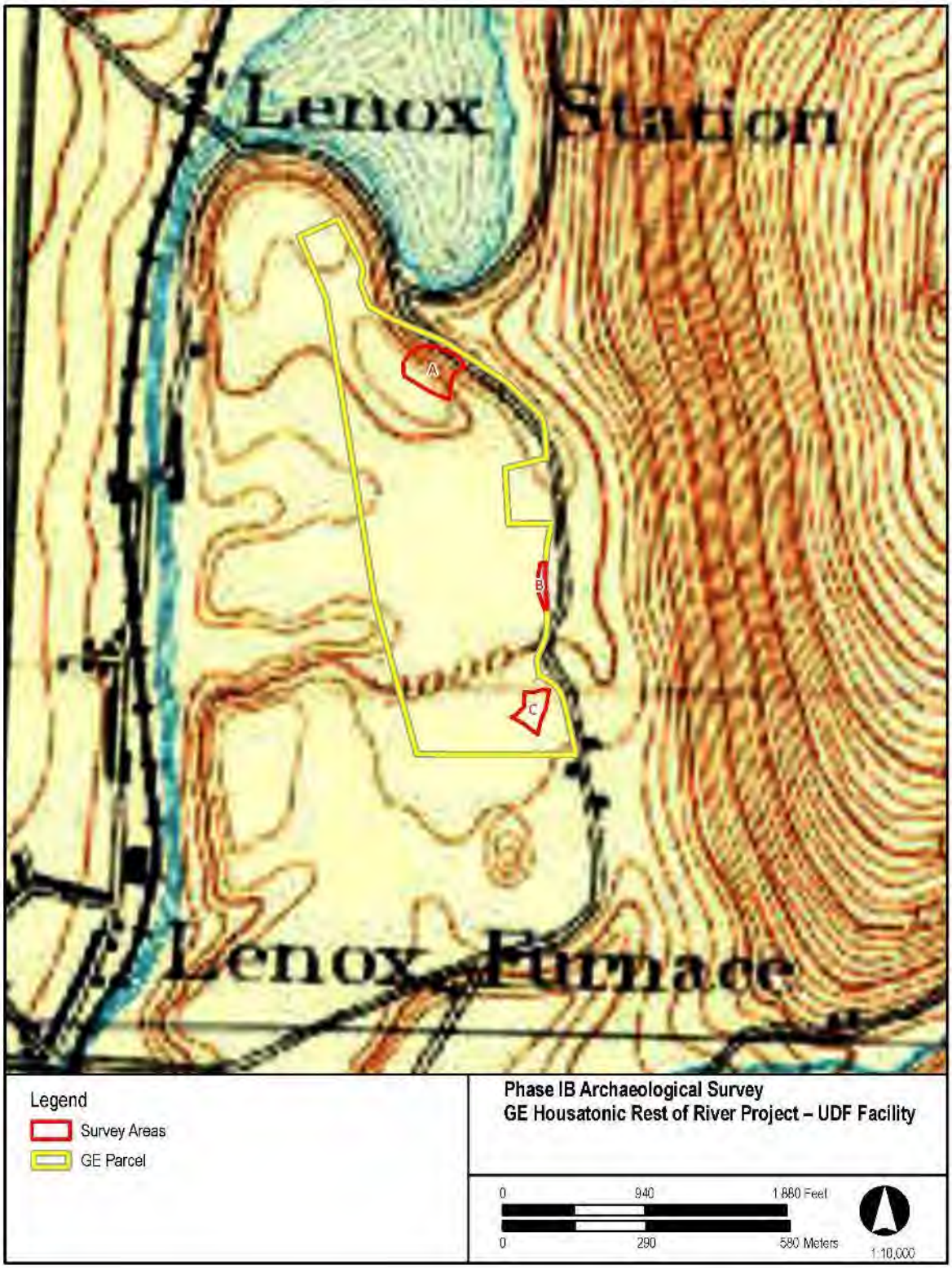


Figure 11. 1893 Becket, MA USGS Quadrangle Map (GE Parcel and Survey Areas Shown Approximately).

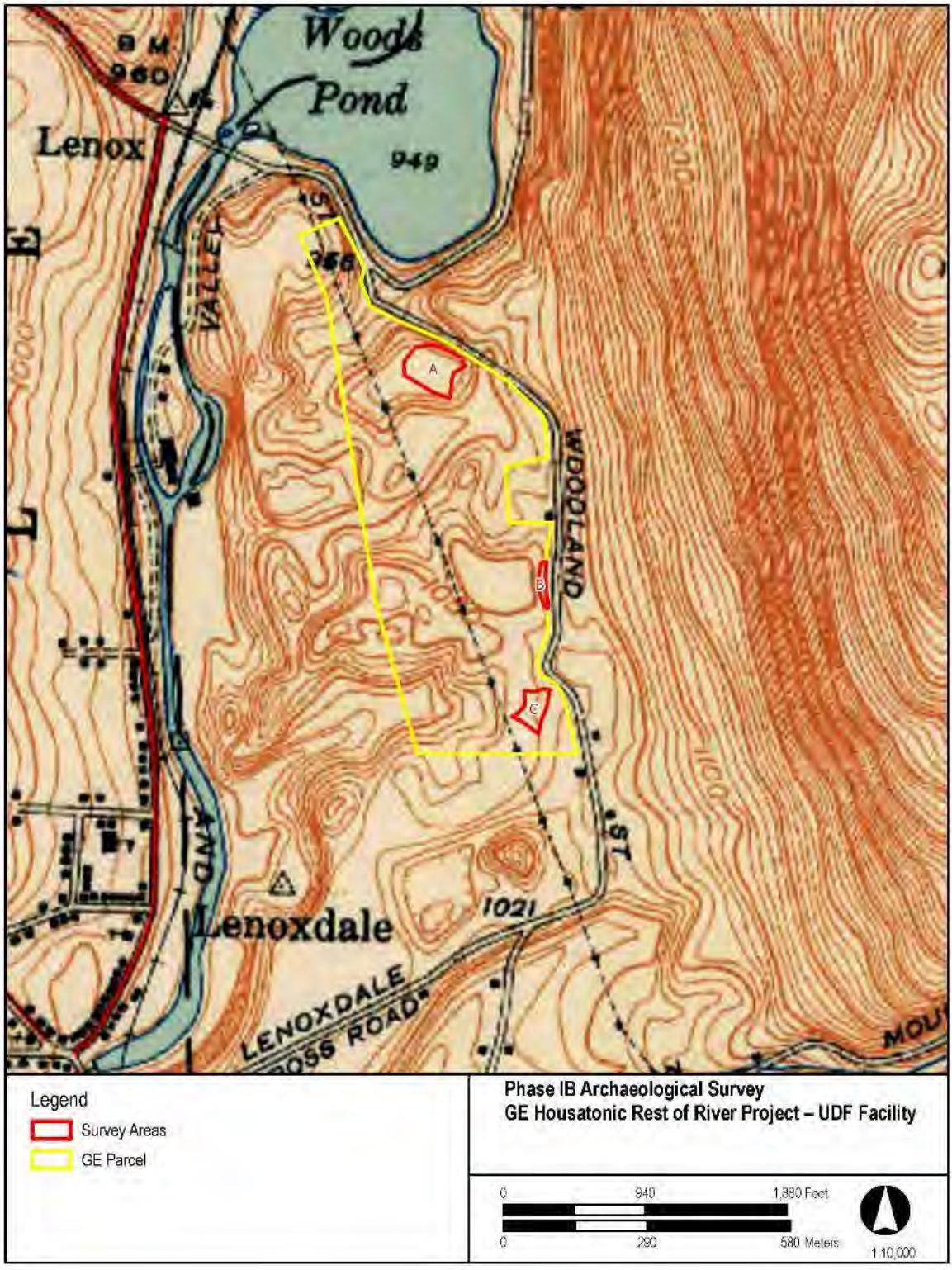


Figure 12. 1948 East Lee, MA USGS Quadrangle Map (GE Parcel and Survey Areas Shown Approximately)

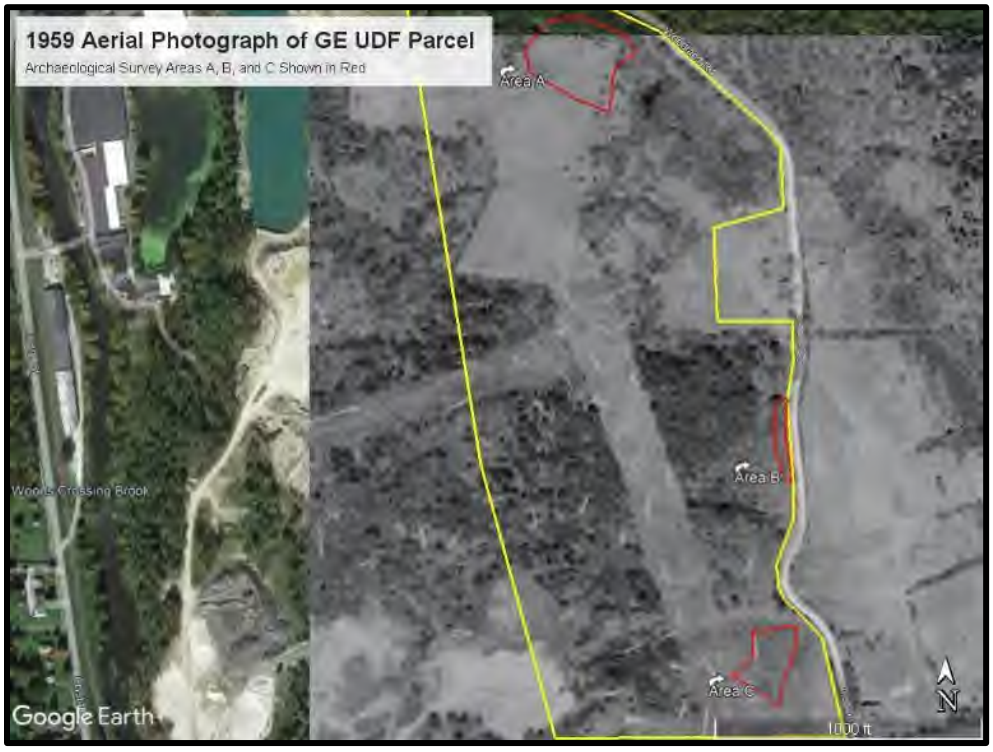


Figure 13. 1959 Aerial Photograph of GE UDF Parcel .



Figure 14. 2001 Google Earth Photograph of GE UDF Parcel .

5.4 Summary of Background Information

The background research has documented that the project is situated in a dissected upland terrain that has seen little historic settlement or intensive land use prior to the extraction of sand and gravel in the last half of the twentieth century. Pre-contact sites are known at other locations in the region closer to the floodplain of the Housatonic River and its tributaries, but fewer substantial sites have been found in the uplands. Smaller resource extraction camps might have been expected on relatively level terrace landforms adjacent to isolated wetlands and small streams, although, as discussed below, no evidence of such camps was found.

6 Results of Field Survey

6.1 Introduction

Field work at Areas A, B, and C was conducted on October 3 through 6 of 2022. Nicholas Smith of AECOM served as Field Director under the overall supervision of Dr. Daniel Cassedy, while Nikole Ghirardi, Luka Eglesia, and Christopher DiMaiolo of AECOM served as Field Technicians. Mark Andrews with the Wampanoag Tribe of Gay Head (Aquinnah) accompanied AECOM archaeologists intermittently in the field, and archaeologists from HDR Inc, Kimberly Smith (October 4-5) and Ray Pasquariello (October 3 and 6), each spent two days in the field. In addition, Richard Fisher of EPA visited the project on October 3, and Jeff Bendremer from the Stockbridge-Munsee Band of Mohican Indians visited the project on October 6.

Weather conditions were generally overcast and dry with temperatures in the mid-50s on both October 3 and 4. On October 5, the temperature rose to the low 60s for a high, but rain entered the area and continued intermittently throughout the day. Temperatures rose to the mid-70s by October 6 and rain left the area. Overall, three days during the field survey period were overcast but dry and on one day it rained intermittently throughout.

As described previously, the October field survey focused on three separate areas of relatively level terrain were had been previously identified as less modified and located in settings that might contain archaeological sites, such as a terrace overlooking a vernal pool or wetland. These were designated as Areas A, B, and C and are all located outside of the operational area and the main disposal facility limits of consolidated material, but could potentially be affected by UDF support activities. Those areas are shown on Figure 15 and are described in more detail in the subsections below. The fieldwork methods are described in Section 2.2. During the survey, 116 STPs were excavated across the three areas, including 79 in Area A, eight in Area B, and 29 in Area C. Each STP was backfilled after recordation. Detailed information on the depth and stratigraphy of each STP is provided in Attachment 1.

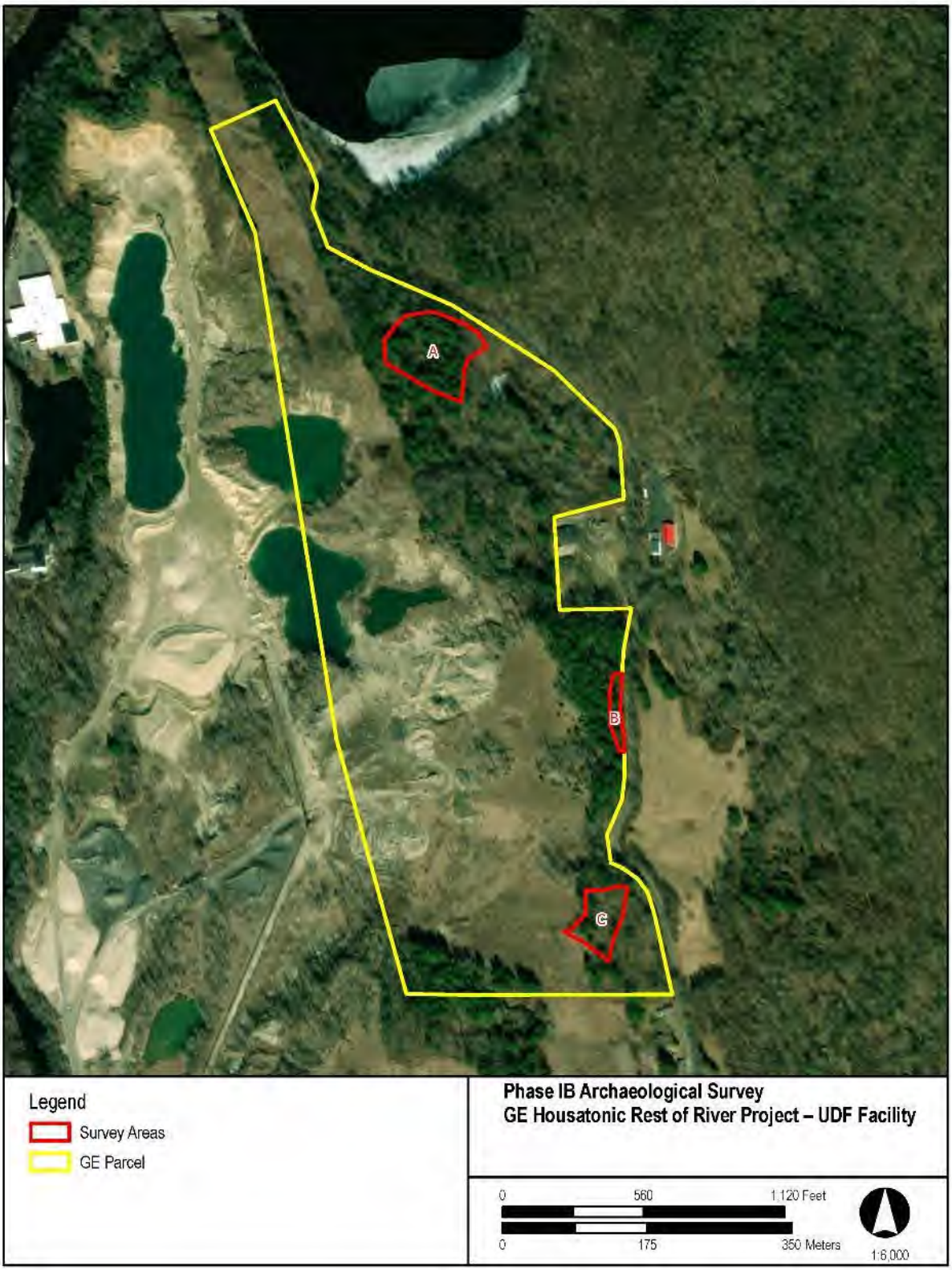


Figure 15. Areas of Intensive Archaeological Survey within the GE Parcel.

6.2 Area A

Area A is in the northern portion of the GE parcel on a high terrace or knoll situated between the transmission line corridor and Woodland Road (see Figure 3 above). The area is covered by a mixture of mature trees, scrub brush, and various weeds (Figure 16 through Figure 19). An apparent man-made ridge runs along the northern edge of the terrace parallel to the corresponding hillslope. Area A overlooks a small wetland to the south that has been found to meet the criteria for a vernal pool (Figure 20). Eighty-seven (87) potential STP locations were pre-plotted on a 10-meter grid pattern based upon map topography. Following field reconnaissance to refine the field strategy, 79 STPs were excavated in this area and eight were not dug due to steep slopes (Figure 21).

STP depths in Area A ranged from 19 to 80 cm deep, with an average of 48 cm. Most exhibited similar soil profiles, representative examples of which are depicted in Figure 22 through Figure 24). The upper-most stratum ranged from 10 to 50 cm in depth and typically consisted of dark brown or very dark grayish brown sandy loam with 5% to 70% gravel and cobble content. This layer was designated as an Ap horizon due to disturbance noted within the soil structure, but it is not likely that the area was ever used for widespread cultivation.[4] In a majority of the STPs, the Ap horizon was directly above a Bw horizon, but occasionally an AB or E horizon layer was noted. The AB horizons observed coincided with higher root content and consisted of brown or dark yellowish brown sandy loam that contained 15-50% gravel and cobble content. Observed E horizons consisted of either yellowish brown or reddish-brown sandy loam or loam containing 30% gravels.

Subsoils were encountered at an average depth of 12-43 cm. This Bw horizon consisted of yellowish brown, strong brown, or reddish-brown sandy loams or loamy sand with up to 70% gravels and cobbles. The Bw layer was not observed in all STPs, and several STPs showed the A horizon directly above a C horizon, which was reached in 45 STPs at an average depth of 39-cm (24-54 cm). The C horizon consisted of varying values of yellowish brown, pale brown, light brownish gray to strong brown sand or loamy sand. Once this horizon was reached, a noticeable drop in cobble and gravel content was noted.

No pre-contact or historic period artifacts or features were encountered in any of these STPs.

[4] The soil horizon nomenclature used in this report follows the standard soil survey terminology used by the Natural Resources Conservation Service of the U.S. Department of Agriculture.



Figure 16. North End of Area A Facing South.



Figure 17. North End of Area A Facing East, Showing North Slope Edge.



Figure 18. East End of Area A Facing Northeast, Showing East Slope Edge.



Figure 19. Center of Area A Facing South.



Figure 20. South Edge of Area A with Wetland in the Background Facing South.

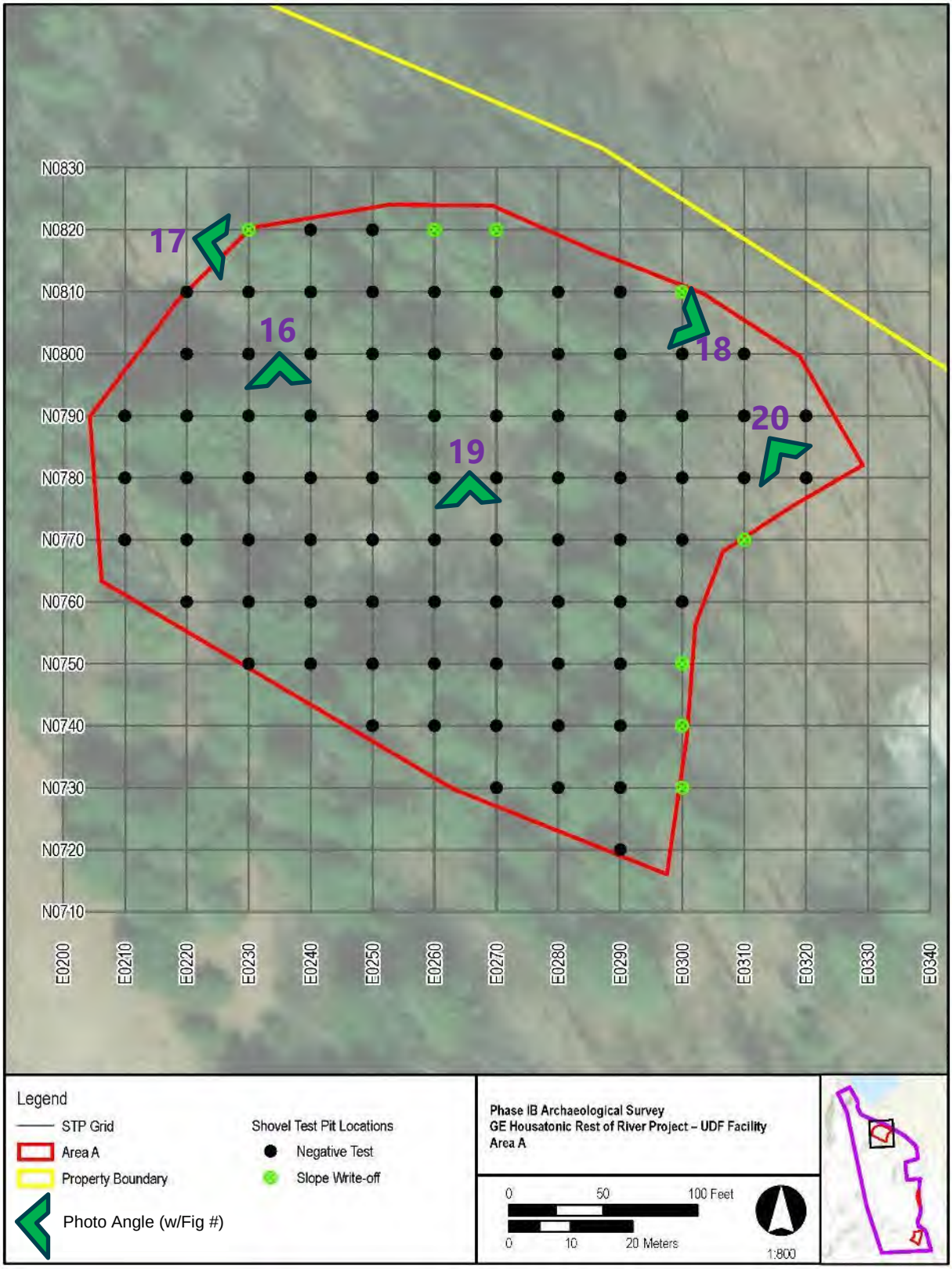


Figure 21. STP Map for Area A.

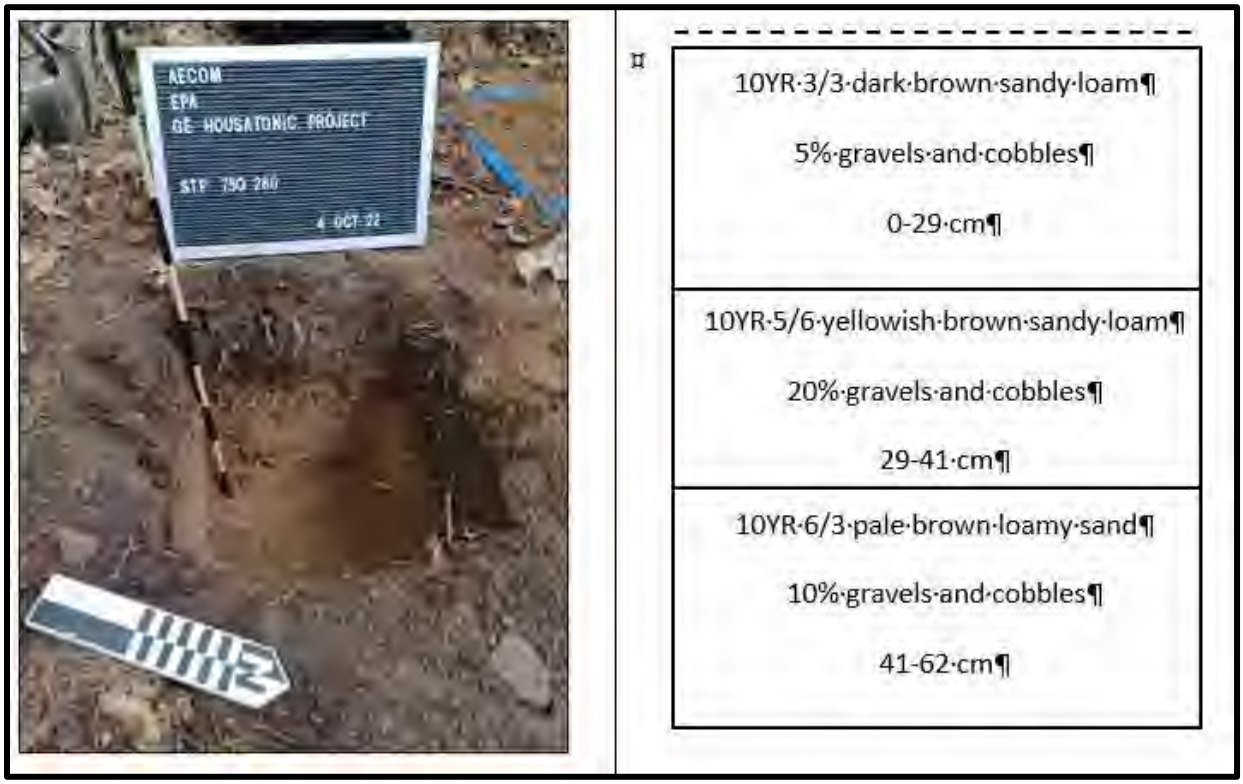


Figure 22. Photograph and Profile Summary of STP 750/260.

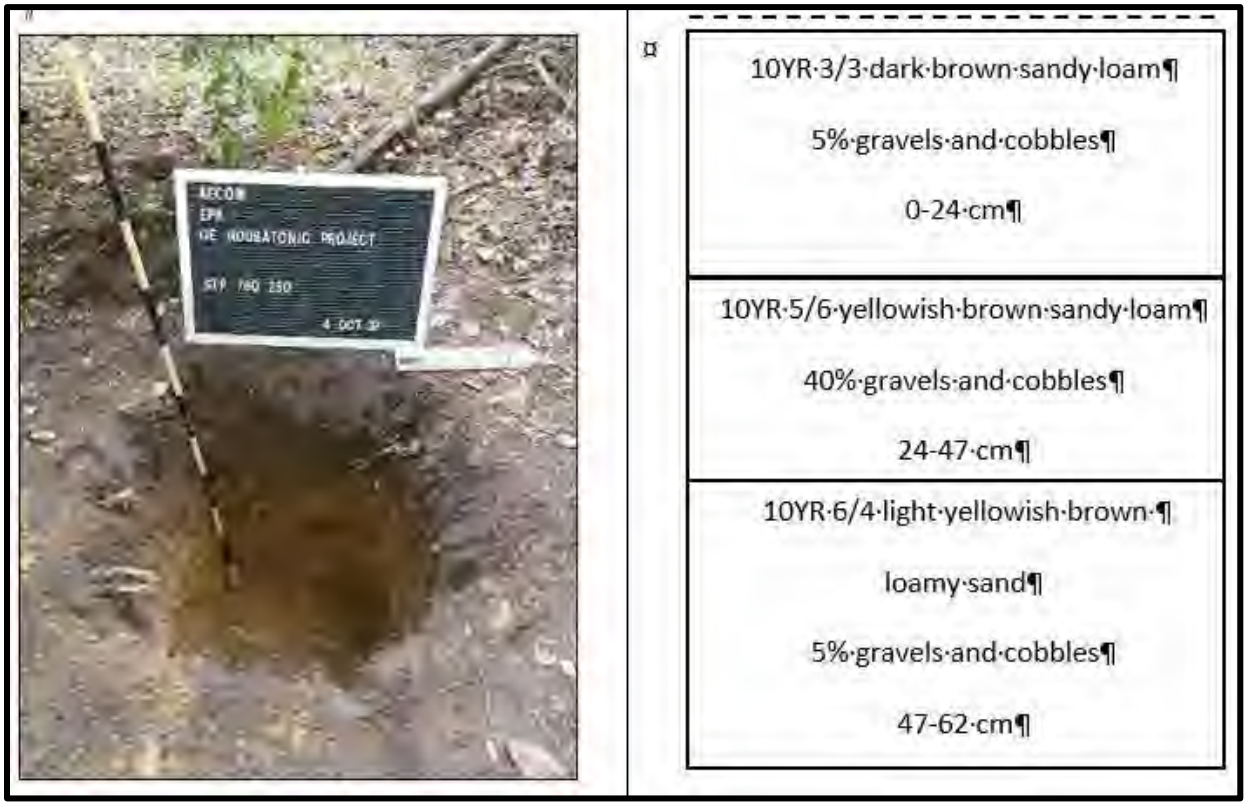


Figure 23. Photograph and Profile Summary of STP 760/250.



Figure 24. Photograph and Profile Summary of STP 800/250.

6.3 Area B

Area B is located on a narrow strip of woods along the eastern edge of the GE parcel between a gravel pit berm and Woodland Road. The area is covered by a mixture of mature trees, scrub brush, and various weeds. The berm runs along the western edge of the terrace parallel to the corresponding hillslope (Figure 25 through Figure 27). Sixteen STP locations were pre-plotted, but during the reconnaissance, it was determined that the pre-plotted STP locations based on topographic maps had been laid on a heavy eastern trending slope. In consultation with HDR archaeologists, the pre-plotted STPs were not excavated, but eight STPs were placed at 10-meter intervals along a single transect along the top of the narrow strip of level terrain adjacent to the berm (Figure 28).

STP depths in Area B ranged from 25 to 60 cm. Most shovel tests exhibited similar soil profiles and extended to an average depth of 43 cm. Representative examples of Area B STPs are depicted in Figure 29 and Figure 30. The upper-most stratum typically consisted of black or very dark grayish brown sandy loam with 20% to 30% gravel and cobble content extending 13 to 22 cm deep. This layer was designated as an Ap horizon due to disturbance noted within the soil structure. In seven of the units, the Ap horizon was directly above a Bw horizon, but in one STP an E horizon layer was noted. This E horizon consisted of a yellowish-brown sandy loam containing 35% gravels.

Subsoils were encountered in all eight STPs at an average depth of 19 cm (13-28 cm). The Bw horizon consisted of yellowish brown or pale brown sandy loam with up to 45% gravels and cobbles within it. A C horizon of light yellowish brown loamy sand was encountered at a depth of 41 cm.

No pre-contact or historic period artifacts or features were encountered in any of these STPs.



Figure 25. South End of Area B Facing North.



Figure 26. Center of Area B Facing East, Showing Eastern Slope.



Figure 27. Center of Area B Facing West, Showing Western Slope.

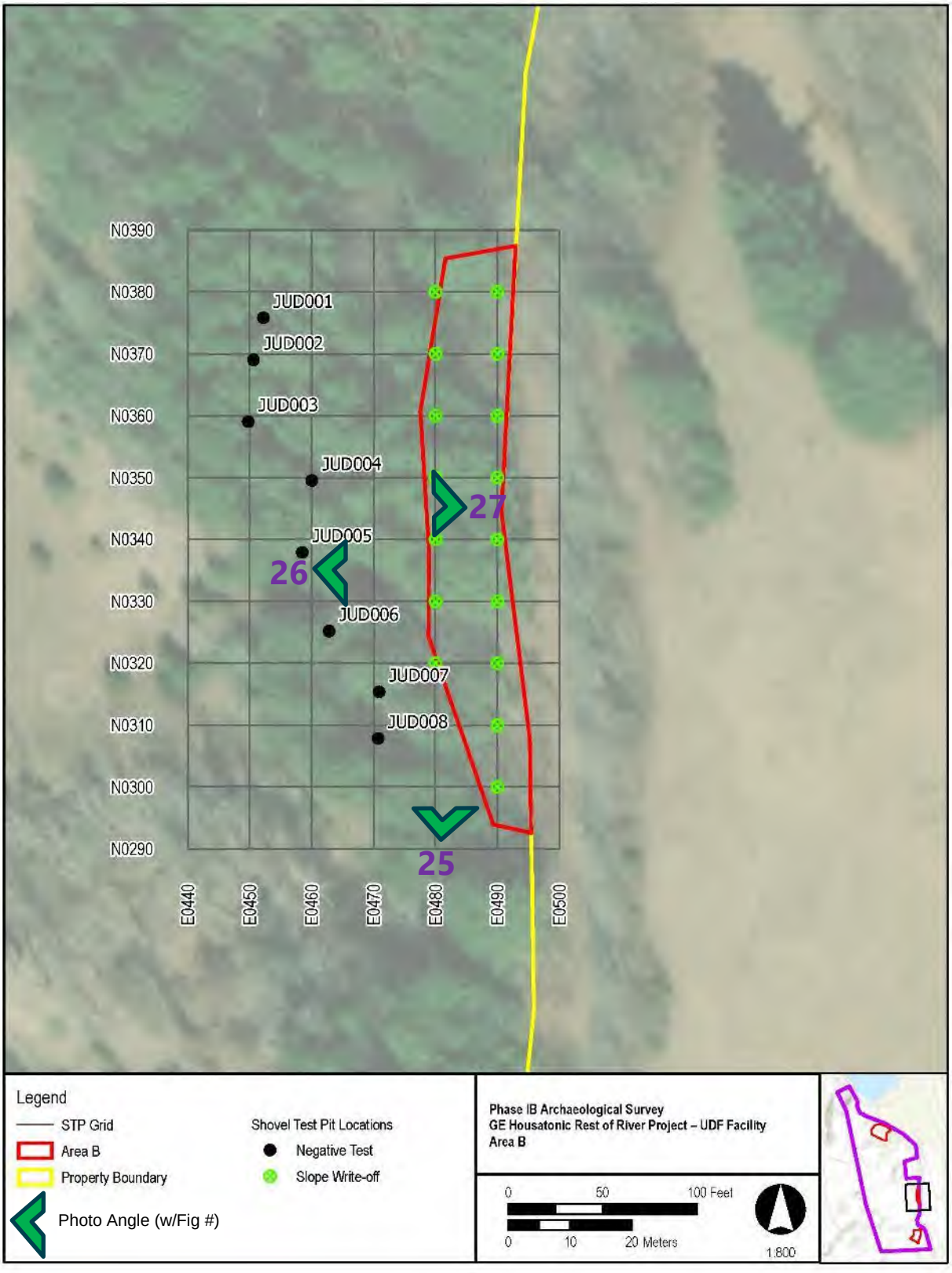


Figure 28. STP Map for Area B.



Figure 29. Photograph and Profile Summary of STP JUD 4.



Figure 30. Photograph and Profile Summary of STP JUD 6.

6.4 Area C

Area C is in the southeastern corner of the GE Parcel and is situated on a relatively level knoll with large pine trees and small hardwoods with scrub brush dominating the edges of the knoll (Figure 31 through Figure 33). A berm runs along the western edge of the knoll parallel to the corresponding heavy sloping edge. Thirty-seven STPs were pre plotted on a 10-meter grid pattern based on map topography. Twenty-nine STPs were ultimately excavated (eight STPs were not dug due to steep slope and push piles) (Figure 34). Most STPs exhibited similar profiles and extended 30 to 55 cm in depth. Representative examples of Area C STPs are depicted in Figure 35 through Figure 37. The top stratum was 8 to 22 cm deep and typically consisted of dark to very dark brown or very dark grayish brown sandy loam with 0 to 20% gravel and cobble content. This layer was designated as an Ap horizon due to disturbance noted within the soil structure.

In most STPs, the Ap horizon was directly above a Bw horizon. Occasionally an AB horizon layer was noted that consisted of dark brown or dark yellowish brown sandy loam containing 20-30% gravel and cobble content. The Bw subsoil was typically encountered between 10 and 36 cm and consisted of yellowish brown to dark yellowish brown sandy loams or loamy sand with up to 50-70% gravels and cobbles. This subsoil layer was not observed in all STPs, and several STPs showed the Ap or AB horizon directly above the C horizon at 25-44 cm. This C horizon consisted of yellowish brown to light yellowish brown coarse sand or loamy sand.

No pre-contact or historic period artifacts or features were encountered in any of these STPs.



Figure 31. North Edge of Area C Facing South.



Figure 32. South Edge of Area C Facing North.



Figure 33. West Edge of Area C Facing North, Showing Western Slope On Left.

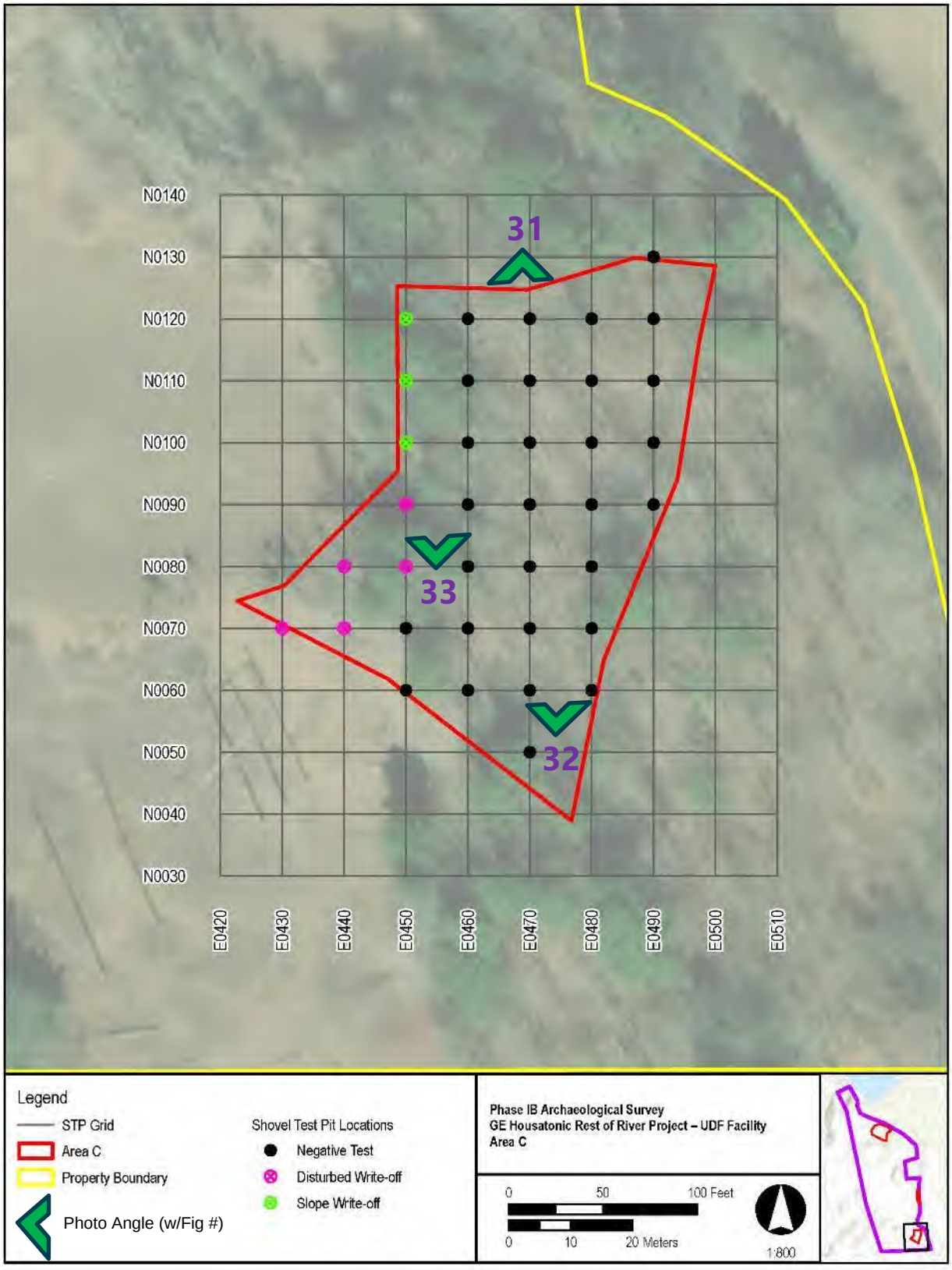


Figure 34. STP Map for Area C.



Figure 35. Photograph and Profile Summary of STP 100/460.



Figure 36. Photograph and Profile Summary of STP 110/480.

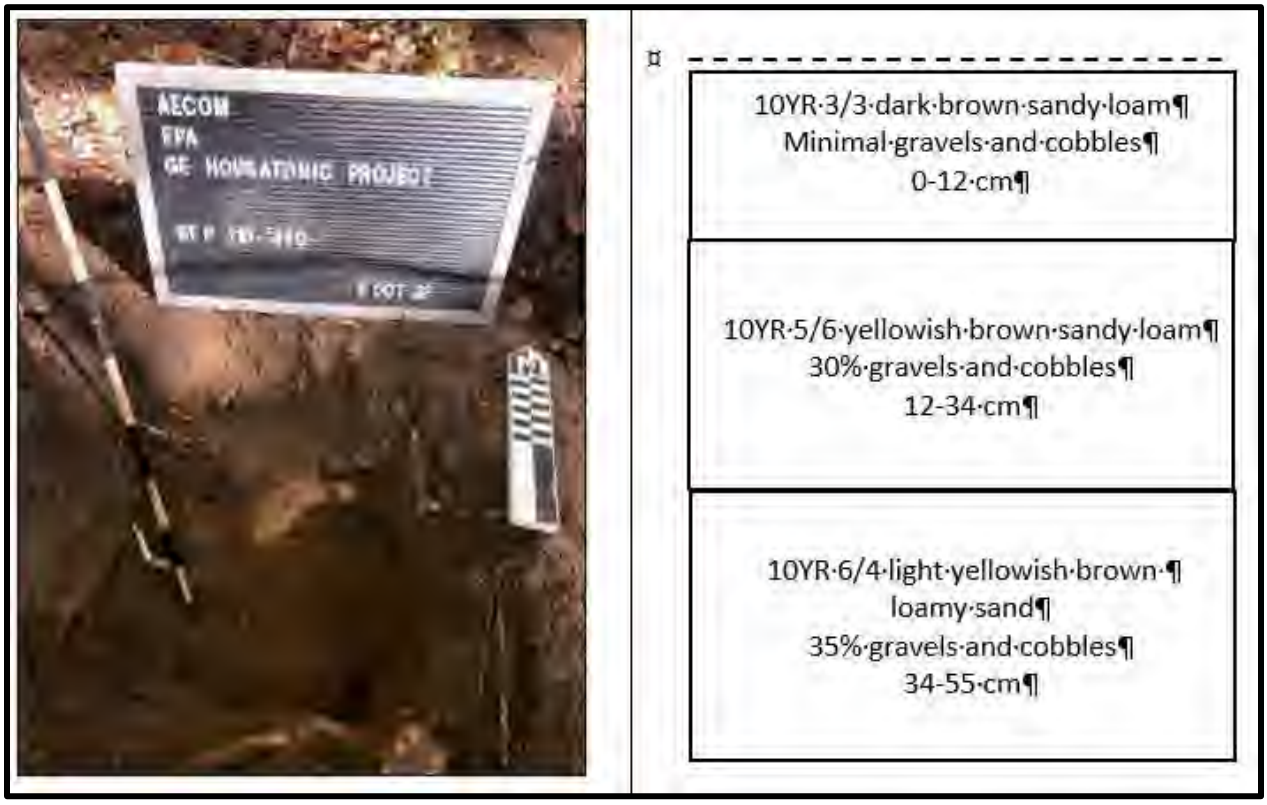


Figure 37. Photograph and Profile Summary of STP 110/490.

7 Conclusions and Recommendations

The initial Phase IA CRA (reconnaissance survey in MHC terminology) completed in June of 2022 identified no previously recorded or visible cultural resources within the GE Parcel. However, three locations (designated as Areas A, B, and C), situated within portions of the parcel that could potentially be used for UDF support activities, were identified as having a potential to contain archaeological resources. In accordance with the EPA-approved supplemental work plan, additional investigations were undertaken in October 2022 to further investigate whether those three areas contain potentially significant cultural resources. These investigations included completion of an intensive archaeological field survey that covered the three areas with a grid of STPs spaced at 10-m intervals.

This intensive field survey identified no archaeological artifacts or features within Areas A, B, and C. It is concluded that no significant cultural resources will be affected by development of the UDF or UDF support areas within the GE Parcel. In this situation, no further CRA studies of the GE Parcel are needed or recommended.

8 References

AECOM, 2023. *Revised Supplemental Phase IA Cultural Resource Assessment Report for the Housatonic Rest of River*. Prepared for the General Electric Company, Pittsfield, Massachusetts. March 2023.

Arcadis and AECOM, 2021. *Pre-Design Investigation Work Plan for Upland Disposal Facility*. Prepared for the General Electric Company, Pittsfield, Massachusetts. November 2021.

Barber, J.W., 1841. Historical Collections, *Being a General Collection of Interesting Facts, Traditions, Biographical Sketches, Anecdotes, &c., Relating to the History and Antiquities of Every Town in Massachusetts, with Geographical Descriptions.* Dorr, Howland & Co.: Worcester.

Barnes & Farnham, 1904. *Atlas of Berkshire County, Massachusetts. Pittsfield, MA*: Barnes & Farnham.

Beers, F.W., 1876. *County Atlas of Berkshire, Massachusetts. From Actual Surveys*. New York: R.T. White & Co.

Bender, Susan J. and Edward V.Curtin, 1990. *A Prehistoric Context for the Upper Hudson Valley: Report of the Survey and Planning Project.* Prepared for the New State Office of Parks, Recreation, and Historic Preservation by the Department of Sociology, Anthropology, and Social Work, Skidmore College.

Berkshire Historical and Scientific Society, 1892. *Berkshire Book: By Its Historical and Scientific Society, Vol. 1*, Pittsfield, MA: Press of the Sun Printing Company.

Binzen, Timothy, 1997. *Mohican Lands and Colonial Corners: Weataug, Wechquadnach and the Connecticut Colony, 1675-1750*. MA Thesis, Department of Anthropology, University of Connecticut, Storrs.

Brasser, Theodore, 1978. Mahican. In *Northeast*, edited by Bruce Trigger, pp. 198-212. Handbook of North American Indians, vol. 15. William G. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Cassedy, Daniel, and Lucianne Lavin, 2007. Prehistoric Interaction Between Eastern New York And Southern New England. in *Bulletin of the Archaeological Society of Connecticut* 69:103-122.

Child, Hamilton, 1885. *Gazetteer of Berkshire County, Massachusetts, 1725-1885* (Part first): compiled and published by Hamilton Child, 1885 Syracuse, N.Y., Printed at the Journal Office.

Coe, Joffre, 1964. Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Association* 54(5).

Dincauze, Dena, 1974. An Introduction to Archaeology in the Greater Boston Area. *Archaeology of Eastern North America* 2:39-67.

1975. The Late Archaic Period in Southern New England. *Arctic Anthropology* 12(2):23-24.

1976. *The Neville Site: 8,000 Years at Amoskeag*. Peabody Museum Monographs 4. Cambridge, Harvard University.

Dincauze, Dena, and Mitchell Mulholland, 1977. Early and Middle Archaic Site Distributions and Habitats in Southern New England. In *Amerinds and Their Paleoenvironments in Northeastern North America,* edited by Walter S. Newman and Bert Salwen, 288:439-456. Annals of the New York Academy of Sciences. New York.

Donta, Christopher L., Marni Blake Walter, and F. Timothy Barker, 2011. Archaeological Reconnaissance and Intensive (Locational) Surveys for H-Frame Structure Replacements on the 1371 Line in Lee, Massachusetts. University of Massachusetts-Amherst Archaeological Services.

Dunn, Shirley, 1994. *The Mohicans and Their Land:1609-1730*. Purple Mountain Press, Fleischmans, New York

Dunn Geoscience Corporation, 1983. Stage 1B Archaeological Survey and Site Examination of 19BK99, Upper North Street, US RT.7 Realignment, Pittsfield, Massachusetts. Dunn Geoscience Corporation, Latham, New York. Prepared for Anderson, Nichols & Co., Boston, Massachusetts.

Field, David Dudley, 1829. *A history of the county of Berkshire, Massachusetts, in two parts. The first being a general view of the county; the second, an account of the several towns. By gentlemen in the county, clergymen and laymen*. Pittsfield, MA:. S. W. Bush.

Glover, Suzanne, Paul Russo, Amy McFeeters, and Maureen Cavanaugh, 1994. *Phase IA Cultural Resources Survey for the Relicensing of Eight Hydroelectric Developments Along the Deerfield River Valley in Vermont and Massachusetts*. The Public Archaeology Laboratory, Inc., Pawtucket, Rhode Island. Submitted to New England Power Company, Westborough, Massachusetts.

Holmes, Richard, Mitchell Mulholland, and David Bernstein, 1992. Addendum Report to: Archaeological Site Location Survey of Segment 7, Northeast Settlement Project, Berkshire County, Massachusetts, and Columbia County, New York. University of Massachusetts Archaeological Services, Amherst, Massachusetts. Prepared for Tennessee Gas Pipeline Company.

Holmes, Richard, Mitchell Mulholland, David Bernstein, and Patricia Mangan, 1992. Archaeological Site Examinations of Six Prehistoric Sites in Segment 7, Northeast Settlement Project, Berkshire County, Massachusetts, and Columbia County, New York. University of Massachusetts Archaeological Services, Amherst, Massachusetts. Prepared for Tennessee Gas Pipeline Company.

Holmes, Richard, Ellen-Rose Savulis, Mitchell Mulholland, Carolyn Hertz, and Patricia Mangan, 1992. Archaeological Site Examinations of Two Historic Sites in Segment 7, Northeast Settlement Project, Berkshire County, Massachusetts. University of Massachusetts Archaeological Services, Amherst, Massachusetts. Prepared for Tennessee Gas Pipeline Company.

Johnson, Eric and Mitchell Mulholland, 1992. Archaeology at the Chassell 2 (19-BK-141) and Kampoosa Bog (19-BK-143) Sites, Stockbridge, Massachusetts. University of Massachusetts Archaeological Services, Amherst, Massachusetts. Prepared for Tennessee Gas Pipeline Company.

Jones, Donald, 1992. Intensive Archaeological Survey a Proposed Staging Area and Pipeline Realignment for Segment 2X of Tennessee Gas Pipeline Company's Northeast Settlement Expansion Project-Phase 2 in Lee, Massachusetts. Office of Public Archaeology, Boston University. Prepared for Tennessee Gas Pipeline Company.

Jones, Donald and Ellen Berkland, 1992. Phase II Site Examinations of a Shaker Village Foundation in Segment 2X of Tennessee Gas Pipeline Company's Northeast Settlement Expansion Project in Tyringham, Massachusetts. Office of Public Archaeology, Boston University. Prepared for Tennessee Gas Pipeline Company.

Jones, Donald and Nancy Seasholes, 1988. Summary Report of the Field Reconnaissance Phase of An Intensive Archaeological Survey of the Tennessee Gas Pipeline's NOREX Project in Massachusetts. Office of Public Archaeology, Boston University. Prepared for Tennessee Gas Pipeline Company.

Lavin, Lucianne, 1988. Coastal Adaptation in Southern New England and Southern New York. *Archaeology of Eastern North America* 16:101-120.

Macomber, Gerald, 1992. Archaeological Site Examinations of Seven Prehistoric Sites in Proposed Segment 2X of Tennessee Gas Pipeline Company's Northeast Settlement Expansion Project – Phase 2 in Lee and Tyringham, Massachusetts. Office of Public Archaeology, Boston University. Prepared for Tennessee Gas Pipeline Company.

Macomber, Gerald, Nancy Seasholes, Brendan McDermott, Claire Carlson, and Ellen Berkland, 1992. Final Report: Intensive Archaeological Survey of Five Proposed Pipelines of Tennessee Gas

Pipeline Company's Northeast Settlement Expansion Project in Massachusetts. Office of Public Archaeology, Boston University. Prepared for Tennessee Gas Pipeline Company.

McDermott, Brendan and Gerald Macomber, 1991. Addendum to Interim Report: Intensive Archaeological Survey of Five Proposed Pipelines of Tennessee Gas Pipeline Company's Northeast Settlement Expansion Project in Massachusetts, Segment 2 (Eastern Half). Office of Public Archaeology, Boston University. Prepared for Tennessee Gas Pipeline Company.

McGaw, Judith A., 1987. *Most Wonderful Machine: Mechanization and Social Change in Berkshire Paper Making, 1801-1885*. Princeton, N.J.: Princeton University Press, .

Massachusetts Historical Commission, 2006. *Policy and Guidelines for Non-Native Human Remains Which are Over 100 Years Old or Older*.

Mulholland, Mitchell, Steven Ross, and Stephen Williams, 1977. Phase I/Reconnaissance Cultural Impact Study, Proposed Water Pollution Control Projects, Lee, Massachusetts. The Institute for Conservation Archaeology, Peabody Museum, Harvard University, Cambridge, Massachusetts. Prepared for Tighe and Bond, Consulting Engineers, Easthampton, Massachusetts.

Nassaney, Michael and Alan Leveillee, 1992. Phase I Intensive Archaeological Survey of Portions of the Proposed GE Altresco Pipeline, Pittsfield, Massachusetts. The Public Archaeology Laboratory, Pawtucket, Rhode Island. Prepared for HMM Associates, Concord, Massachusetts.

National Park Service, 2002. Upper Housatonic Valley National Heritage Area Feasibility Study and Environmental Assessment. Boston, MA: National Park Service, Northeast Region, Boston Support Office.

Nicholas, George, 1988. Ecological Leveling: The Archaeology and Environmental Dynamics of Early Postglacial Land Use. In *Holocene Human Ecology in Northeastern North America,* edited by G. Nicholas, pp. 257-296. Plenum Press, New York.

Pfeiffer, John, 1984. The Late and Terminal Archaic Period in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 47:73-88.

Rindfleish, Bryan, 2016. The Stockbridge Mohican Community 1775-1785. *Journal of the American Revolution*.

Ritchie, William, 1969. *The Archaeology of Martha's Vineyard*. Natural History Press, Garden City, New York.

Simon, Brona, 1992. Field Report: Walkover Survey of the Plowed Field at "Arrowhead", Pittsfield, Massachusetts. Manuscript on file at the Massachusetts Historical Commission, Boston, Massachusetts.

Smith, C., 1946. *The Housatonic, Puritan River*. J.J. Little and Ives Company: New York.

Snow, Dean, 1980. *Archaeology of New England*. Academic Press, New York.

Tuck, James A., 1977. A Look at Laurentian. In *Current Perspectives in Northeastern Archaeology*. New York State Archaeological Association Researches and Transactions 17(1):31-40.

Turnbaugh, William, 1978. Regional and Cultural Development, 3,000-300 B.C. In *Handbook of North American Indians, Volume 15, Northeast,* edited by Bruce Trigger, pp. 28-43. Smithsonian Institution, Washington D.C.

URS. 2008. *Initial Phase IA Cultural Resources Assessment for the Housatonic River – Rest of River Project*. Prepared for General Electric Company, Pittsfield, Massachusetts. March 20, 2008; Public Release Version submitted on April 3, 2008.

Attachment 1: Shovel Test Pit Logs

Table A-1: Area A Shovel Test Pits

STP #	STRAT	DEPTHS	HZN	MUNSELL(S)	TEXTURE(S)	ARTIFACTS/COMMENTS	Cultural Material
N0720_E0290	I	0-21	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	21-32	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0730_E0270	I	0-31	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	31-41	C	7.5YR 5/6	Coarse Sand	40% gravels and cobbles	NCM
N0730_E0280	I	0-29	Ap	10YR 3/3	Sandy Loam		NCM
	II	29-47	Bw	10YR 5/6	Sandy Loam		NCM
	III	47-57	C	10YR 4/6	Sand		NCM
N0730_E0290	I	0-24	Ap	10YR 3/2	Sandy Loam	20% gravels	NCM
	II	24-37	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	37-49	C	10YR 6/3	Coarse Sand	50% gravels	NCM
N0730_E0300						Did not dig, slope >15 degrees.	NCM
N0740_E0250	I	0-25	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	25-54	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	54-64	C	10YR 4/6	Sand		NCM
N0740_E0260	I	0-24	Ap	10YR 3/3	Sandy Loam		NCM
	II	24-40	C	7.5YR 5/8	Coarse Sand		NCM
N0740_E0270	I	0-28	Ap	10YR 3/3	Sandy Loam		NCM
	II	28-34	Bw	10YR 5/6	Sandy Loam	Terminated at impassable roots.	NCM
N0740_E0280	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	21-43	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	43-53	C	7.5YR 4/6	Coarse Sand	30% gravels and cobbles	NCM
N0740_E0290	I	0-22	Ap	10YR 3/2	Sandy Loam	20% gravels and cobbles	NCM
	II	22-41	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	41-55	C	7.5YR 5/6	Coarse Sand	10% gravels	NCM
N0740_E0300						Did not dig, slope >15 degrees.	NCM
N0750_E0230	I	0-28	Ap	10YR 3/3	Sandy Loam		NCM
	II	28-48	Bw	10YR 4/6	Sandy Loam		NCM
N0750_E0240	I	0-22	Ap	10YR 3/3	Sandy Loam	30% cobbles	NCM
	II	22-54	Bw	10YR 4/6	Sandy Loam	70% gravels and cobbles	NCM
	III	54-68	C	10YR 5/4	Loamy Sand	10% gravels	NCM
N0750_E0250	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	21-41	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	41-51	C	7.5YR 4/6	Sandy Loam	30% gravels and cobbles	NCM
N0750_E0260	I	0-29	Ap	10YR 3/3	Sandy Loam	5% gravels	NCM
	II	29-41	Bw	10YR 5/6	Sandy Loam	20% gravels	NCM
	III	41-62	C	10YR 6/3	Loamy Sand	10% gravels	NCM
N0750_E0270	I	0-30	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	30-45	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	45-55	C	7.5YR 5/6	Coarse Sand	40% gravels and cobbles	NCM
N0750_E0280	I	0-19	Ap	10YR 3/3	Sandy Loam		NCM
	II	19-32	Bw	10YR 5/6	Sandy Loam		NCM
	III	32-43	C	10YR 4/6	Sand		NCM
N0750_E0290	I	0-24	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	24-36	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0750_E0300						Did not dig, slope >15 degrees.	NCM
N0760_E0220	I	0-21	Ap	10YR 3/3	Sandy Loam	20% gravels	NCM
	II	21-27	AB	10YR 4/4	Sandy Loam	30% gravels. Terminated at impassable roots.	NCM
N0760_E0230	I	0-23	Ap	10YR 3/3	Sandy Loam	30% gravels	NCM
	II	23-40	Bw	10YR 4/6	Sandy Loam	20% gravels	NCM
N0760_E0240	I	0-15	Ap	10YR 3/3	Sandy Loam	5% gravels	NCM
	II	15-20	Bw	10YR 5/6	Sandy Loam	20% gravels. Terminated at impassable roots.	NCM
N0760_E0250	I	0-24	Ap	10YR 3/3	Sandy Loam	5% gravels	NCM
	II	24-47	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	47-62	C	10YR 6/4	Loamy Sand	5% gravels	NCM

N0760_E0260	I	0-30	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	30-43	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	43-53	C	10YR 4/6	Sand		NCM
N0760_E0270	I	0-23	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	23-34	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	34-50	C	10YR 4/6	Coarse Sand		NCM
N0760_E0280	I	0-51	Ap	10YR 3/3	Sandy Loam	40% gravels	NCM
	II	51-64	Bw	10YR 5/6	Sandy Loam	50% gravels	NCM
N0760_E0290	I	0-27	Ap	10YR 3/2	Sandy Loam	20% gravels	NCM
	II	27-49	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	49-58	C	10YR 6/3	Coarse Sand	50% gravels	NCM
N0760_E0300	I	0-19	Ap	10YR 3/2	Sandy Loam	Terminated at impassable roots.	NCM
N0770_E0210	I	0-10	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	10-23	AB	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	III	23-33	Bw	10YR 4/6	Sandy Loam	40% gravels and cobbles	NCM
N0770_E0220	I	0-41	Ap	10YR 3/2	Sandy Loam	70% gravels	NCM
	II	41-62	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
N0770_E0230	I	0-20	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	20-38	E	10YR 5/6	Sandy Loam	30% gravels	NCM
	III	38-52	C	7.5YR 4/6	Loamy Sand	10% gravels	NCM
N0770_E0240	I	0-24	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	24-43	E	2.5YR 5/4	Loam	30% gravels	NCM
	III	43-53	C	7.5YR 4/6	Sandy Loam	30% gravels and cobbles	NCM
N0770_E0250	I	0-25	Ap	10YR 3/2	Sandy Loam	30% gravels	NCM
	II	25-40	C	7.5YR 5/6	Sandy Loam	40% gravels and cobbles	NCM
N0770_E0260	I	0-28	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	28-38	C	7.5YR 5/6	Coarse Sand	40% gravels and cobbles	NCM
N0770_E0270	I	0-30	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	30-42	C	7.5YR 5/8	Sandy Loam		NCM
N0770_E0280	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	21-42	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	42-52	C	7.5YR 4/6	Coarse Sand	30% gravels and cobbles	NCM
N0770_E0290	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	21-34	Bw	7.5YR 5/6	Sandy Loam	40% gravels and cobbles	NCM
N0770_E0300	I	0-23	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	23-33	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0770_E0310						Did not dig, slope >15 degrees.	NCM
N0780_E0210	I	0-15	Ap	10YR 3/3	Sandy Loam	25% gravels	NCM
	II	15-32	Bw	10YR 4/6	Sandy Loam	10% gravels	NCM
N0780_E0220	I	0-24	Ap	10YR 3/3	Sandy Loam	25% gravels	NCM
	II	24-36	Bw	10YR 4/6	Sandy Loam	10% gravels	NCM
N0780_E0230	I	0-18	Ap	10YR 3/2	Sandy Loam	20% gravels and cobbles	NCM
	II	18-37	AB	10YR 4/3	Sandy Loam	40% gravels and cobbles	NCM
	III	37-48	Bw	10YR 4/4	Sandy Loam	20% gravels and cobbles	NCM
N0780_E0240	I	0-26	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	26-45	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	45-70	C	10YR 4/6	Sand		NCM
N0780_E0250	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	21-35	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
	III	35-45	C	7.5YR 5/6	Sandy Loam	40% gravels and cobbles	NCM
N0780_E0260	I	0-30	Ap	10YR 3/3	Sandy Loam		NCM
	II	30-54	C	7.5YR 5/8	Loamy Sand		NCM
N0780_E0270	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	21-38	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	38-48	C	7.5YR 4/6	Coarse Sand	30% gravels and cobbles	NCM
N0780_E0280	I	0-26	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	26-42	C	7.5YR 5/8	Sand		NCM
N0780_E0290	I	0-23	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	23-35	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM

N0780_E0300	I	0-16	Ap	10YR 3/2	Sandy Loam	15% gravels	NCM
	II	16-33	Bw	10YR 5/6	Sandy Loam	50% gravels	NCM
	III	33-45	C	10YR 6/3	Loamy Sand	40% gravels	NCM
N0780_E0310	I	0-12	Ap	10YR 3/2	Sandy Loam	10% gravels	NCM
	II	12-35	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	35-51	C	10YR 6/3	Loamy Sand	40% gravels	NCM
N0780_E0320	I	0-26	Ap	10YR 3/2	Sandy Loam	30% gravels	NCM
	II	26-36	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0790_E0210	I	0-22	Ap	10YR 3/3	Sandy Loam	60% gravels and cobbles	NCM
	II	22-33	Bw	10YR 4/6	Sandy Loam		NCM
N0790_E0220	I	0-25	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	25-35	Bw	10YR 4/6	Sandy Loam	40% gravels and cobbles	NCM
N0790_E0230	I	0-21	Ap	10YR 3/2	Sandy Loam	20% gravels and cobbles	NCM
	II	21-32	AB	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	32-42	Bw	7.5YR 5/6	Sandy Loam	40% gravels and cobbles	NCM
N0790_E0240	I	0-29	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	29-43	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	43-53	C	7.5YR 5/6	Sandy Loam	40% gravels and cobbles	NCM
N0790_E0250	I	0-27	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	27-33	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	33-43	C	10YR 4/6	Sand		NCM
N0790_E0260	I	0-28	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	28-38	C	7.5YR 5/6	Coarse Sand	40% gravels and cobbles	NCM
N0790_E0270	I	0-31	Ap	10YR 3/3	Sandy Loam	20% gravels	NCM
	II	31-48	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	48-59	C	10YR 6/4	Sand	5% gravels	NCM
N0790_E0280	I	0-31	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	31-48	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	48-58	C	7.5YR 4/6	Coarse Sand	30% gravels and cobbles	NCM
N0790_E0290	I	0-18	Ap	10YR 3/2	Sandy Loam	70% gravels	NCM
	II	18-45	Bw	10YR 5/6	Sandy Loam	25% gravels	NCM
	III	45-60	C	10YR 6/3	Coarse Sand	20% gravels	NCM
N0790_E0300	I	0-19	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	19-30	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0790_E0310	I	0-23	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	23-33	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0790_E0320	I	0-18	Ap	10YR 3/2	Sandy Loam	20% gravels	NCM
	II	18-31	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	31-43	C	10YR 6/3	Loamy Sand	50% gravels	NCM
N0800_E0220	I	0-35	Ap	10YR 3/3	Sandy Loam	40% gravels and cobbles	NCM
	II	35-55	Bw	10YR 4/6	Sandy Loam		NCM
N0800_E0230	I	0-36	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	36-51	Bw	10YR 4/6	Sandy Loam		NCM
N0800_E0240	I	0-18	Ap	10YR 3/3	Sandy Loam	5% gravels	NCM
	II	18-49	AB	10YR 4/4	Sandy Loam	15% gravels	NCM
	III	49-62	Bw	10YR 5/6	Sandy Loam	15% gravels	NCM
N0800_E0250	I	0-31	Ap	10YR 3/3	Sandy Loam	20% gravels	NCM
	II	31-52	Bw	10YR 5/6	Sandy Loam	35% gravels	NCM
	III	52-80	C	10YR 5/6, 10YR 6/2	Sandy Loam	5% gravels	NCM
N0800_E0260	I	0-24	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	24-34	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	34-46	C	10YR 4/6	Sand	Decomposing tabular rocks.	NCM
N0800_E0270	I	0-27	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	27-40	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	40-50	C	10YR 4/6	Coarse Sand		NCM
N0800_E0280	I	0-19	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	19-33	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	33-48	C	10YR 4/6	Coarse Sand		NCM

N0800_E0290	I	0-18	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	18-30	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0800_E0300	I	0-27	Ap	10YR 3/2	Sandy Loam	30% gravels	NCM
	II	27-37	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0800_E0310	I	0-28	Ap	10YR 3/2	Sandy Loam	30% gravels	NCM
	II	28-38	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0810_E0220	I	0-32	Ap	10YR 3/3	Sandy Loam	60% gravels and cobbles	NCM
	II	32-43	Bw	10YR 4/6	Sandy Loam	30% gravels and cobbles	NCM
N0810_E0230	I	0-15	Ap	10YR 3/3	Sandy Loam	20% gravels and cobbles	NCM
	II	15-32	AB	10YR 4/3	Sandy Loam	30% gravels and cobbles	NCM
	III	32-42	Bw	7.5YR 4/6	Sandy Loam	20% gravels and cobbles	NCM
N0810_E0240	I	0-27	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	27-47	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0810_E0250	I	0-23	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	23-42	Bw	10YR 4/4	Sandy Loam	60% gravels and cobbles	NCM
	III	42-63	C	10YR 5/4	Sand	10% gravels	NCM
N0810_E0260	I	0-20	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	20-41	Bw	2.5YR 5/4	Sandy Loam	30% gravels	NCM
	III	41-51	C	7.5YR 4/6	Coarse Sand	40% gravels and cobbles	NCM
N0810_E0270	I	0-23	Ap	10YR 3/2	Sandy Loam	30% gravels and cobbles	NCM
	II	23-37	Bw	10YR 4/4	Sandy Loam	30% gravels and cobbles	NCM
	III	37-47	C	7.5YR 4/6	Coarse Sand	30% gravels and cobbles	NCM
N0810_E0280	I	0-21	Ap	10YR 3/3	Sandy Loam	15% gravels	NCM
	II	21-38	Bw	10YR 5/6	Sandy Loam	30% gravels	NCM
	III	38-48	C	10YR 6/4	Loamy Sand	5% gravels	NCM
N0810_E0290	I	0-21	Ap	10YR 3/2	Sandy Loam	30% gravels	NCM
	II	21-34	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
N0810_E0300						Did not dig, slope >15 degrees.	NCM
N0820_E0230						Did not dig, slope >15 degrees.	NCM
N0820_E0240	I	0-18	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	18-43	AB	10YR 4/3	Sandy Loam	50% gravels and cobbles	NCM
	III	43-69	Bw	10YR 4/6	Loamy Sand	60% gravels and cobbles	NCM
N0820_E0250	I	0-27	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	27-42	Bw	10YR 5/6	Sandy Loam	40% gravels	NCM
	III	42-52	C	10YR 4/6	Sand	Decomposing tabular rocks.	NCM
N0820_E0260						Did not dig, slope >15 degrees.	NCM
N0820_E0270						Did not dig, slope >15 degrees.	NCM

Table A-2: Area B Shovel Test Pits

STP #	STRAT	DEPTHS	HZN	MUNSELL(S)	TEXTURE(S)	ARTIFACTS/COMMENTS	CULTURAL MATERIAL
JUD1	I	0-21	Ap	10YR 2/1	Sandy Loam	30% cobbles and gravels	NCM
	II	21-45	Bw	10YR 5/4	Sandy Loam	40% cobbles and gravels	NCM
JUD2	I	0-22	Ap	10YR 2/1	Sandy Loam	20% cobbles	NCM
	II	22-44	Bw	10YR 5/4	Sandy Loam	40% cobbles and gravels	NCM
JUD3	I	0-19	Ap	10YR 3/2	Sandy Loam	30% cobbles and gravels	NCM
	II	19-41	Bw	10YR 5/6	Sandy Loam	45% gravels	NCM
	III	41-53	C	10YR 6/4	Loamy Sand	40% gravels	NCM
JUD4	I	0-13	Ap	10YR 2/1	Sandy Loam	20% cobbles	NCM
	II	13-33	Bw	10YR 5/4	Sandy Loam	40% cobbles and gravels	NCM
JUD5	I	0-16	Ap	10YR 3/2	Sandy Loam	20% cobbles and gravels	NCM
	II	16-28	E	10YR 5/4	Sandy Loam	35% gravels	NCM
	III	28-60	Bw	10YR 6/3	Sandy Loam	40% gravels	NCM
JUD6	I	0-16	Ap	10YR 2/1	Sandy Loam	30% cobbles and gravels	NCM
	II	16-31	Bw	10YR 5/4	Sandy Loam	40% cobbles and gravels	NCM
JUD7	I	0-13	Ap	10YR 2/1	Sandy Loam	20% cobbles	NCM
	II	13-25	Bw	10YR 5/4	Sandy Loam	40% cobbles and gravels. Terminated at impassable roots.	NCM
JUD8	I	0-20	Ap	10YR 2/1	Sandy Loam	20% cobbles	NCM
	II	20-34	Bw	10YR 5/4	Sandy Loam	40% cobbles and gravels	NCM

Table A-3: Area C Shovel Test Pits

STP #	STRAT	DEPTHS	HZN	MUNSELL(S)	TEXTURE(S)	ARTIFACTS/COMMENTS	CULTURAL MATERIAL
N0050_E0470	I	0-10	Ap	10YR 2/2	Sandy Loam	15% cobbles and gravels	NCM
	II	10-24	AB	10YR 3/3	Sandy Loam	20% cobbles and gravels	NCM
	III	24-39	Bw	10YR 5/6	Loamy Sand	30% cobbles and gravels	NCM
N0060_E0450	I	0-10	Ap	10YR 3/3	Sandy Loam		NCM
	II	10-25	Bw	10YR 4/4	Sandy Loam	Disturbed. 70% cobbles. Terminated at impassable rocks.	NCM
N0060_E0460	I	0-11	Ap	10YR 3/3	Sandy Loam	15% gravels	NCM
	II	11-18	AB	2.5YR 3/3	Sandy Loam	20% cobbles and gravels. Terminated at impassable roots.	NCM
N0060_E0470	I	0-13	Ap	10YR 3/3	Sandy Loam		NCM
	II	13-29	Bw	10YR 4/4	Sandy Loam	20% gravels	NCM
	III	29-40	C	10YR 6/4	Loamy Sand	40% cobbles and gravels	NCM
N0060_E0480	I	0-11	Ap	10YR 3/3	Sandy Loam		NCM
	II	11-25	Bw	10YR 4/4	Sandy Loam	25% gravels	NCM
	III	25-38	C	10YR 6/4	Loamy Sand	35% gravels	NCM
N0070_E0430						Did not dig, surface covered by push pile.	NCM
N0070_E0440						Did not dig, surface covered by push pile.	NCM
N0070_E0450	I	0-21	Ap	10YR 3/3	Sandy Loam	15% cobbles and gravels	NCM
	II	21-34	AB	2.5YR 3/3	Sandy Loam	20% cobbles and gravels	NCM
	III	34-44	Bw	10YR 4/4	Sandy Loam	40% cobbles and gravels	NCM
N0070_E0460	I	0-10	Ap	10YR 3/3	Sandy Loam	Terminated at impassable roots.	NCM
N0070_E0470	I	0-21	Ap	10YR3/3	Sandy Loam	15% gravels	NCM
	II	21-35	AB	2.5YR 3/3	Sandy Loam	20% gravels	NCM
	III	35-45	Bw	10YR 5/4	Sandy Loam	30% cobbles and gravels	NCM
N0070_E0480	I	0-10	Ap	10YR 2/2	Sandy Loam	15% cobbles and gravels	NCM
	II	10-23	AB	10YR 3/3	Sandy Loam	20% cobbles and gravels	NCM
	III	23-40	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
N0080_E0440						Did not dig, surface covered by push pile.	NCM
N0080_E0450						Did not dig, slope >15 degrees and surface push pile.	NCM
N0080_E0460	I	0-12	Ap	10YR 2/2	Sandy Loam	15% cobbles and gravels	NCM
	II	12-29	AB	10YR 3/3	Sandy Loam	20% cobbles and gravels	NCM
	III	29-36	Bw	10YR 5/6	Loamy Sand	50% cobbles and gravels. Terminated at impassable rocks.	NCM
N0080_E0470	I	0-8	Ap	10YR 2/2	Sandy Loam	20% cobbles and gravels	NCM
	II	8-20	AB	10YR 3/3	Sandy Loam	20% cobbles and gravels	NCM
	III	20-40	Bw	10YR 5/6	Loamy Sand	40% cobbles and gravels	NCM
N0080_E0480	I	0-11	Ap	10YR 3/3	Sandy Loam	15% gravels	NCM
	II	11-23	AB	2.5YR 3/3	Sandy Loam	20% gravels	NCM
	III	23-33	Bw	10YR 5/4	Sandy Loam	25% cobbles and gravels	NCM
N0090_E0450						Did not dig, slope >15 degrees and surface push pile.	NCM
N0090_E0460	I	0-14	Ap	10YR 3/2	Sandy Loam		NCM
	II	14-38	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
	III	38-50	C	10YR 6/4	Loamy Sand	30% gravels	NCM
N0090_E0470	I	0-21	Ap	10YR 3/3	Sandy Loam		NCM
	II	21-44	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
	III	44-55	C	10YR 6/4	Loamy Sand	40% gravels	NCM
N0090_E0480	I	0-16	Ap	10YR 3/3	Sandy Loam		NCM
	II	16-30	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
	III	30-42	C	10YR 6/4	Loamy Sand	35% gravels	NCM
N0090_E0490	I	0-17	Ap	10YR 3/3	Sandy Loam	15% gravels	NCM
	II	17-36	AB	2.5YR 3/3	Sandy Loam	20% gravels	NCM
	III	36-46	Bw	10YR 4/4	Sandy Loam	25% cobbles and gravels	NCM

N0100_E0450						Did not dig, slope >15 degrees and surface push pile.	NCM
N0100_E0460	I	0-11	Ap	10YR 3/3	Sandy Loam	15% cobbles and gravels	NCM
	II	11-31	AB	10YR 4/4	Sandy Loam	20% cobbles and gravels	NCM
	III	31-45	C	10YR 5/4	Coarse Sand	30% cobbles and gravels	NCM
N0100_E0470	I	0-11	Ap	10YR 2/2	Sandy Loam		NCM
	II	11-20	AB	10YR 3/3	Sandy Loam	Dense roots	NCM
	III	20-30	Bw	10YR 4/4	Sandy Loam	Dense roots	NCM
N0100_E0480	I	0-14	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	14-25	Bw	10YR 4/4	Sandy Loam	30% gravels. Terminated at impassable roots.	NCM
N0100_E0490	I	0-12	Ap	10YR 2/2	Sandy Loam	20% cobbles	NCM
	II	12-35	AB	10YR 3/3	Sandy Loam	30% gravels	NCM
	III	35-55	Bw	10YR 5/6	Loamy Sand		NCM
N0110_E0450						Did not dig, slope >15 degrees.	NCM
N0110_E0460	I	0-13	Ap	10YR 2/2	Sandy Loam	20% cobbles	NCM
	II	13-30	AB	10YR 3/3	Sandy Loam	30% gravels	NCM
	III	30-40	Bw	10YR 5/6	Loamy Sand		NCM
N0110_E0470	I	0-11	Ap	10YR 3/3	Sandy Loam	20% gravels	NCM
	II	11-32	AB	10YR 4/4	Sandy Loam	30% cobbles and gravels	NCM
	III	32-42	C	10YR 5/4	Coarse Sand	40% cobbles and gravels	NCM
N0110_E0480	I	0-15	Ap	10YR 3/3	Sandy Loam		NCM
	II	15-29	Bw	10YR 4/4	Sandy Loam	30% gravels	NCM
	III	29-52	C	10YR 6/4	Loamy Sand	40% gravels	NCM
N0110_E0490	I	0-12	Ap	10YR 3/3	Sandy Loam		NCM
	II	12-34	Bw	10YR 5/6	Sandy Loam	30% gravels	NCM
	III	34-55	C	10YR 6/4	Loamy Sand	35% gravels	NCM
N0120_E0450						Did not dig, slope >15 degrees.	NCM
N0120_E0460	I	0-21	Ap	10YR 3/3	Sandy Loam	15% gravels	NCM
	II	21-31	AB	2.5YR 3/3	Sandy Loam	20% gravels	NCM
	III	31-42	Bw	10YR 5/4	Sandy Loam	25% cobbles and gravels	NCM
N0120_E0470	I	0-12	Ap	10YR 2/2	Sandy Loam	20% cobbles	NCM
	II	12-25	AB	10YR 3/3	Sandy Loam	30% gravels	NCM
	III	25-45	Bw	10YR 5/6	Coarse Sand		NCM
N0120_E0480	I	0-12	Ap	10YR 2/2	Sandy Loam	20% cobbles	NCM
	II	12-25	AB	10YR 3/3	Sandy Loam	30% gravels	NCM
	III	25-45	Bw	10YR 5/6	Coarse Sand		NCM
N0120_E0490	I	0-22	Ap	10YR 3/3	Sandy Loam	20% cobbles	NCM
	II	22-41	Bw	10YR 5/6	Sandy Loam	30% gravels	NCM
N0130_E0490	I	0-12	Ap	10YR 3/3	Sandy Loam	15% gravels	NCM
	II	12-32	AB	2.5YR 3/3	Sandy Loam	20% gravels	NCM
	III	32-42	Bw	10YR 4/4	Sandy Loam	25% cobbles and gravels	NCM

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com