APPENDIX CC

Baseline Human Health Risk Assessment (BHHRA)

Baseline Human Health Risk Assessment Report

Combe Fill South Landfill Superfund Site,
Operable Unit 2
Remedial Investigation/Feasibility Study

EPA Work Assignment Number 018-RICO-0256,
EPA Contract Number EP-W-09-009

Chester and Washington Townships,
Morris County, New Jersey
July 30, 2018

Prepared for:
U.S. Environmental Protection Agency
Region 2
New York, NY

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Contents

1 Introduction ... 1
1.1 Purpose ... 1
1.2 Report Organization ... 2
2 Site Description ... 2
2.1 Operable Unit 1 ... 2
2.2 Operable Unit 2 ... 3
2.3 Site Contamination ... 4
3 Sample Collection, Data Refinements and Identification of COPCS ... 4
3.1 Groundwater ... 5
3.2 Seeps/Springs ... 6
3.3 Surface Water ... 6
3.4 Sediment ... 7
3.5 Soil ... 7
3.6 Background Samples ... 8
3.7 Data Refinement ... 8
3.7.1 General Refinements ... 8
3.7.2 Data Refinements Using EPA Core of the Plume Guidance ... 9
3.8 Identification of COPCs ... 10
4 Exposure Assessment ... 12
4.1 Conceptual Site Model ... 13
4.2 Receptors ... 13
4.2.1 Current/Future Resident (Adult/Child) ... 13
4.2.2 Current/Future Recreational User (Adult/Child) ... 14
4.3 Exposure Point Concentrations ... 15
4.3.1 General Approach for EPC Calculations ... 15
4.3.2 EPCs Calculated Using Site-wide and Core of the Plume Data ... 15
4.4 Chemical Exposure Intake ... 15
4.4.1 Exposure Factors ... 16
4.4.2 Age-Based Adjustments for Adult and Child ... 20
4.4.3 Mutagen Adjustments for Early-Life Exposure ... 20
4.4.4 Evaluation of Lead Intake ... 21
5 Toxicity Assessment ... 22
5.1 Sources of Toxicity Values ... 22
5.2 Evaluation of Non-Carcinogenic Effects ... 23
5.3 Evaluation of Carcinogenic Effects ... 24
6 Hazard Identification and Risk Characterization ... 25
6.1 Non-Carcinogenic Hazard Identification ... 25
6.2 Carcinogenic Risk Characterization ... 25
6.3 Risk Assessment Results ... 26
6.3.1 Resident Evaluation ... 26
6.3.2 Recreational User Evaluation ... 28
6.3.3 Lead Exposure Evaluation ... 29

6.3.4 Background Surface Water Data 30
6.3.5 Vapor Intrusion Evaluation 30
6.3.6 Risk Assessment Summary 32

7 Uncertainty Analysis 34
7.1 BHHRA Uncertainties 34
7.2 Fish Ingestion Pathway 35
7.3 Chromium 36
7.4 Pharmaceutical and Personal Care Products 38

8 References 40

Figures

Figure 1-1 ..... Site Location
Figure 2-1 ..... Monitoring Well Locations Sampled Wells Only
Figure 3-1 ..... Locations of November 2014 Surface Water/Sediment Sampling
Figure 3-2 ..... September 2017 Spring, Seep, Background Surface Water/Sediment Sampling Locations
Figure 4-1 ..... Human Health Conceptual Site Model

Tables

Table 3-1 ..... Constituents of Potential Concern
Table 6-1 ..... Resident's Exposure to Site-wide Groundwater
Table 6-2 ..... Resident's Exposure to Groundwater Core of the Plume
Table 6-3 ..... Recreational User's Exposure to Surface Water
Table 6-4 ..... Recreational User's Exposure to Surface Water Downstream of GWTP
Table 6-5 ..... Surface Water Background Data Comparison for Metal Risk Contributors
Table 6-6 ..... Groundwater Data Comparison to VISLs
Table 7-1 ..... Comparison of Chromium Toxicity Values
Table 7-2 ..... Resident's Exposure to Site-wide Groundwater - Trivalent Chromium
Table 7-3 ..... Resident's Exposure to Groundwater Core of the Plume - Trivalent Chromium

Attachments

Attachment A ..... RAGS Part D Planning Tables 0 to 7.6
Attachment B ..... ProUCL Supporting Tables
Attachment C ..... Lead IEUBK Model Outputs
Attachment D ..... Vapor Intrusion Supporting Tables
Attachment E ..... Pharmaceutical and Personal Care Products Supporting Information

ABBREVIATIONS AND ACRONYMS

ADAF	Age-dependent adjustment factor
ARAR	Applicable or Relevant and Appropriate Requirement
AT	Averaging time
BHHRA	Baseline Human Health Risk Assessment
B	Ratio of permeability coefficients for dermal water exposure
BCF	Bioconcentration factor
BHC	Alpha benzene hexachloride
BW	Body weight
Ca	Constituent concentration in air
CAF	Cancer adjustment factor
CDC	Centers for Disease Control and Prevention
CLP	EPA Contract Laboratory Program
cm	Centimeter
COC	Constituent of concern
COPC	Constituent of potential concern
Cr	Chromium
CSM	Conceptual site model
DA-event	Absorbed dermal dose per event
DEHP	Bis (2-ethylhexyl) phthalate
DER	Data evaluation report
DESA	EPA Division of Environmental Sciences and Assessment
DQI	Data quality indicators
ED	Exposure duration
EDD	Electronic data deliverable
EF	Exposure frequency
ELCR	Excess lifetime cancer risk
EPA	United States Environmental Protection Agency
EPC	Exposure point concentration
FA	Fraction absorbed for dermal water exposure
FLUTe	Flexible Liner Underground Technologies, LLC
FSH	Follicle stimulating hormone
FW2	General surface water classification for fresh waters not designated as FW1 or Pinelands Waters by NJDEP

GIABS	Gastrointestinal absorption factor
GWTP	Groundwater treatment plant
HDR	Henningson, Durham and Richardson Architecture and Engineering, P.C., in association with HDR Engineering, Inc.
HI	Hazard Index
HQ	Hazard Quotient
IASL	NJDEP Indoor Air Screening Level
IEUBK	Integrated Exposure and Uptake Biokinetic Model
IR	Intake rate
IRIS	EPA Integrated Risk Information System
IUR	Inhalation unit risk
kg	Kilogram
Kp	Dermal permeability constant
L	Liter
LOAEL	Lowest observable adverse effect level
m^3	cubic meter
MAF	Mutagen adjustment factor
MMOA	Mutagenic mode of action
NJDEP	New Jersey Department of Environmental Protection
NOAEL	No observable adverse effect level
NPL	National Priorities List
OU	Operable Unit
OLEM	EPA Office of Land and Emergency Management
OSWER	EPA Office of Solid Waste and Emergency Response
PAR	Pathway Analysis Report
PCB	Polychlorinated biphenyl
PEST	Pesticide
PPCP	Pharmaceuticals and personal care products
PPRTV	EPA Provisional Peer Reviewed Toxicity Values
QAPP	Quality Assurance Project Plan
QL	Quantitation Limit
RAGS	EPA Risk Assessment Guidance for Superfund
RAL	NJDEP Rapid Action Level
RCRA	Resource Conservation and Recovery Act

RDCSRS	NJDEP Residential Direct Contact Soil Remediation Standards
RfD	Oral reference dose
RfC	Inhalation reference concentration
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RME	Reasonable maximum exposure
ROD	Record of Decision
ROS	Regression on order statistics
RSL	EPA Regional Screening Level
SF	Slope factor
SGSL	NJDEP Soil Gas Screening Level
SLERA	Screening level ecological risk assessment
SOP	Standard operating procedure
STSC	Superfund Health Risk Technical Support Center
SVOC	Semi-volatile organic compound
t*	Time to reach steady state for dermal water exposure
t-event	Event duration for dermal water exposure
TAL/TCL	EPA target analyte list / target chemical list
tau-event	Lag time per event for dermal water exposure
TBC	To Be Considered
TCE	Trichloroethylene
TDS	Total dissolved solids
TIC	Tentatively identified compound
TOC	Total organic carbon
TSS	Total suspended solids
UCL	Upper confidence limit
UNT	Unnamed tributary
VI	Vapor intrusion
VIG	NJDEP Vapor Intrusion Guidance
VISL	Vapor Intrusion Screening Level
VOC	Volatile organic compound

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1 Introduction

Henningson, Durham & Richardson Architecture & Engineering, P.C. in association with HDR Engineering, Inc. (HDR), prepared this Baseline Human Health Risk Assessment (BHHRA) on behalf of the United States Environmental Protection Agency (EPA). This BHHRA assesses the nature, magnitude, and probability of potential harm to public health posed by contamination at the Combe Fill South (CFS) Landfill Superfund Site, located in Chester and Washington Townships, Morris County, New Jersey. Completion of the associated Remedial Investigation/Feasibility Study (RI/FS) was in several phases between 2011 and 2017, focusing mainly on deep groundwater at the perimeter of the landfill and the surrounding areas.

This BHHRA is based upon the February 2, 2010 EPA Statement of Work, 2011 Quality Assurance Project Plan (QAPP) and Subtask 7.1 as described in the EPA-approved April 2011 RI/FS work plan. Performance of the RI/FS is under Work Assignment Number 018-RICO-0256, under EPA RAC 2 Contract Number EP-W-09-009.

A Pathway Analysis Report (PAR) was first prepared to identify the potential exposure points and routes of exposure for each exposure pathway, as well as parameters regarding human receptor characteristics and behavior (e.g., body weight, ingestion rate and exposure frequency) and toxicity criteria. The PAR is a preliminary planning document to allow stakeholders to review and comment on the approach to the identification of constituents of potential concern (COPC), exposure assessment and toxicity assessment, completed before work on the BHHRA is initiated, so that appropriate changes can be made to the assumptions that will be used to estimate exposure and risk (HDR 2016a).

Performance of this BHHRA is in accordance with EPA Risk Assessment Guidance for Superfund (RAGS, EPA 1989), other relevant risk assessment guidance and the detailed information provided in the PAR. It identifies the current and future land use exposure pathways by which human populations may be exposed to contaminants identified in deep groundwater and surface water and presents cancer risks and non-cancer hazard quotients (HQ) for potential receptors for each COPC. COPCs that contribute the most to cancer risks and non-cancer HIs are Constituents of Concern (COC) in the **Section 6 Risk Characterization**.

1.1 Purpose

The purpose of the BHHRA is to evaluate potential exposures and define risks to public health and the environment related to groundwater and surface water. The BHHRA identifies COPCs and exposure media that may pose an unacceptable risk to current and/or future human receptors and subsequently provides information for remedial planning.

This report contains the information necessary to understand how the risks related to potential exposure to deep groundwater are calculated, including the data set used, statistical treatment of the data, evaluation of COPCs (including how analytical data for

TICs are to be evaluated), the exposure pathways, receptors, exposure parameters and current toxicological values (e.g., reference dose and COPC screening levels).

1.2 Report Organization

A description of the BHHRA organization follows.

Section 1 Introduction: Identifies the purpose and organization of this report.

Section 2 Site Description: Presents the location, history, and contamination.

Section 3 Sample Collection, Data Refinements, and COPC Identification: Describes the collection and preparation of data sets and the selection of COPCs identified in the PAR.

Section 4 Exposure Assessment: Presents a conceptual site model (CSM) that identifies the exposure pathways and potentially exposed receptors and describes how exposure intakes are calculated.

Section 5 Toxicity Assessment: Provides a discussion of the toxicity values and the selection hierarchy.

Section 6 Risk Characterization: Provides a description of the carcinogenic classes and the calculation methods for cancer risks and non-cancer HQs.

Section 7 Uncertainty Analysis: Describes the inherent uncertainties in the BHHRA conclusions and an evaluation of pharmaceuticals and personal care products (PPCPs).

Section 8 References: Provides information on the literature cited in the BHHRA.

2 Site Description

This section includes a summary of information on the location, history, and contamination known to be present. Combe Fill South consists of two operable units as described below.

2.1 Operable Unit 1

Combe Fill South Landfill Operable Unit 1 (OU1) is located at 98 Parker Road, Chester Township, Morris County, NJ (**Figure 1-1**). It is an inactive, municipal landfill consisting of three separate fill areas capped and closed in the mid-1990s. OU1 is the areal extent of the landfill area, totaling 65 acres of the 115 acre property on which the landfill is located (USFWS 2018). The site lies within both Washington and Chester Townships.

Beginning in the 1940s, operation of Combe Fill South landfill was for municipal refuse and solid waste and for the disposal of household and industrial wastes, animal carcasses, sewage sludge, septic tank wastes, chemicals, and waste oils. Landfill operations ceased in 1981, followed by the Combe Fill Corporation bankruptcy filing and liquidation. According to records summarized in the 1986 Remedial Investigation (RI) report, conducted by Lawler, Matusky & Skelly Engineers (LMS 1986), about five million cubic yards of waste material are buried in the landfill.

Listing on the Superfund National Priorities List (NPL) occurred on September 1, 1983. EPA filed a Record of Decision (ROD) in 1986 and selected a remedy that included:

1. Providing an alternate water supply system for affected residents;
2. Covering the landfill with clay or a synthetic material to prevent surface water and rainwater from coming into contact with the buried wastes in accordance with Resource Conservation and Recovery Act (RCRA) requirements;
3. Installing a system to collect the landfill gases;
4. Pumping the shallow groundwater and leachate and treating it prior to discharge into East Trout Brook;
5. Installing controls to accommodate storm water runoff and seasonal increases in precipitation; and
6. Performing an additional study to determine if the deep aquifer needs treatment (EPA 2013).

The landfill currently includes a roughly 65-acre multi-layered terraced cap, passive landfill gas venting system, shallow groundwater recovery and treatment system referred to as the groundwater treatment plant (GWTP), security fencing, surface water runoff controls and a perimeter access road. OU1 consists of all media within the landfill property boundary including the overburden and bedrock groundwater aquifers.

2.2 Operable Unit 2

Overburden and bedrock groundwater, surface water and sediment outside the landfill property boundary comprise OU2. Investigations identified groundwater contamination in the deep aquifer, the main source of potable water in the area with the exception of a public water supply constructed in 2015 limited to properties impacted by contamination from the landfill (EPA 2015c). Private residential supply wells northeast of OU1 were previously impacted with chemicals, e.g. volatile organic compounds (VOCs) – 1,4-dioxane in particular - that had migrated from the landfill. Approximately 325 homes along Schoolhouse Lane, Parker Road and parts of Old Farmers Road were defined as being in need of an alternate water supply as a result of groundwater contamination emanating from the landfill.

EPA assumed the lead for a study of the deep aquifer and contaminated media outside the OU1 boundary in July 2009. The RI characterizes the nature and extent of this contamination as well as that within OU1 and evaluates potential exposure and the potential human health and ecological risks.

At the outset of the RI, the OU2 study area extended well beyond the footprint of the landfill property. It was generally bounded to the north by residential parcels on both sides of Schoolhouse Lane, to the east by Parker Road, and to the south and west by individual residential and agricultural (horse farm) lots adjacent to the landfill (**Figure 2-1**), covering approximately 444 acres. Adjustment of these boundaries occurred as necessary as the RI work progressed. The study area was extended to the north to the confluence of a Lamington River Unnamed Tributary (UNT) and the Lamington River (known locally as the Black River), and to the south to a property adjoining a Trout Brook UNT (Trout Brook was historically referred to as West Trout Brook) on the south side of

Parker Road. The other boundaries remain unchanged. Of note, these boundaries define the OU2 study area, not the extent of contamination. The RI provides the extent of contamination within OU1 and OU2.

The RI describes the geology and hydrogeology of the study area; pertinent information from the RI/FS Work Plan was considered in developing the BHHRA.

2.3 Site Contamination

Section 5.4 of the RI describes the sources of site contamination in detail. These include the waste buried in the landfill and unexcavated waste within the portion of the former North Waste Cell that remains beneath the perimeter road. In addition, buried drums potentially exist within portions of the capped landfill, remaining at the time of closure.

Construction of the landfill consisted of clearing overburden and placing waste directly on or near the bedrock surface. Landfill closure consisted of capping the landfill and constructing a shallow groundwater collection and treatment system. The collection system is primarily limited to recovering groundwater from the overburden, with the exception of one shallow bedrock extraction well. Shallow bedrock fractures serve as conduits through which transport of contaminated leachate into the deeper fracture network occurs in the immediate vicinity of the landfill.

Studies of nearby surface water bodies were to determine impacts from contaminated groundwater discharging to surface water. Historically, landfill leachate, as well as groundwater and surface water runoff from the southwestern portion of the landfill constituted the headwaters of East Trout Brook and Trout Brook (LMS 1986). Synoptic depth to groundwater measurement events and water levels measurements during sampling throughout the field investigation provided information used to evaluate the groundwater/surface water interaction. Data loggers installed in each piezometer/stream gauge pair monitored surface water levels for a period of three months. It was determined that shallow groundwater discharges to surface water along Trout Brook to the south, Tanners Brook UNT to the west, and the Lamington River UNT along Schoolhouse Lane to the northeast, making these gaining streams. The upper portion of East Trout Brook to the southeast of the landfill may at times be a losing stream, while the lower portion is often a gaining stream.

East Trout Brook receives the GWTP effluent. In the absence of heavy precipitation and resulting overland flow, the effluent is the main source of water for the stream.

3 Sample Collection, Data Refinements and Identification of COPCS

HDR collected and managed data as outlined in the QAPP (HDR 2011a). The EPA Contract Laboratory Program (CLP) and EPA Division of Environmental Sciences and Assessment (DESA) laboratory performed sample analysis for the 2011 through 2017 sampling events. CLP data underwent Level 3 validation, with a subset of CLP data receiving Level 2B validation (EPA Region 2 2014a). DESA performed validation in

accordance with EPA Region 2 standard operating procedure (SOP) # G26 (EPA Region 2 2014b). EPA provided validated electronic data deliverables (EDDs) to HDR. HDR submitted the EDDs to EPA Region 2 Superfund EDD Database Section personnel.

HDR reviewed and compiled the data in a Data Evaluation Report (DER, **Appendix B** of RI), to determine whether the data met the project's data quality indicators (DQIs) of the QAPP, identify data gaps and determine the usability of the data for the BHHRA.

HDR conducted data refinements to standardize the data to better support the exposure, toxicity and risk assessments, and identified COPCs in the PAR, based on comparison of detected media-specific concentrations to screening levels and other factors in accordance with EPA guidance (EPA 1989). A separate qualitative discussion of the potential toxicity and health effects of PCPPs, reported as TICs in the analytical data packages is in **Section 7.4**.

3.1 Groundwater

HDR conducted groundwater sampling from 2011 through 2017, which included the collection of two samples from each of the ports of the 13 multi-port wells. The multi-port wells are depth-discrete Water FLUTe™ wells provided by Flexible Liner Underground Technologies (FLUTe™). The multi-port wells are CF201D, CF204D, CF206D, CF207D, CF209D, CF211D, CF212D, CF216D, CF218D, CF222D, CF225D, CF227D, and CF228D and combined have 45 sampling ports (also referred to as sampling intervals). Two samples were collected from the screened interval in the six conventional bedrock monitoring wells installed over the course of the RI. The six conventional (single-depth) bedrock monitoring wells are CF205D, CF223D, CF224D, CF226D, CF229D, and CF230D.

Sample collection also occurred at six bedrock wells installed by others prior to the RI: wells CF10D, CF11D, CF22S, WRA2-1, WRA3-2, and WRA3-3. A review of the well construction information for these wells confirmed construction was in accordance with New Jersey Department of Environmental Protection (NJDEP) regulation (NJDEP 2018c).

HDR re-sampled six wells, CF201D, CF206D, CF207D, CF212D, CF218D, and CF222D, in July 2015, as the data validator rejected the previous VOC analytical results for the samples from these wells.

HDR collected 21 additional groundwater samples from monitoring well CF209D before, during, and after the pump and pilot tests conducted in support of the FS. Modification of well CF209D consists of conversion from a multi-port FLUTe™ well to a conventional monitoring well in order to conduct the pump test. The data from the 2017 groundwater sampling are not included in the quantitative evaluation in this BHHRA as prior sampling results are more representative of site conditions compared to those encountered during a month-long pump/pilot test.

A total of 163 groundwater samples were collected; of these, 142 were included in the data set for the BHHRA, as the packer testing and 2017 pump/pilot test data are not included – refer to **Section 3.7.2**. **Figure 2-1** depicts the sampling locations.

Groundwater samples were analyzed for EPA's target compound/analyte list (TCL/TAL) VOCs (including 1,4-dioxane), semi-volatile organic compounds (SVOCs), pesticides,

polychlorinated biphenyls (PCBs) and metals; cyanide, total suspended solids (TSS), total dissolved solids (TDS), total organic carbon (TOC) and chloride.

Evaluation of the usability of the groundwater data is in the DER (**Appendix B** of RI); groundwater impacts are evaluated in the BHHRA with data that meet the project DQIs and are deemed appropriate for use in the risk assessment.

3.2 Seeps/Springs

Seeps and springs, which are expressions of groundwater quality, are in the study area and identified on **Figure 3-1**. Groundwater discharges to the land surface via seepage into streams, ponds, and wetlands; for example, groundwater surfacing at seeps constitutes the headwaters of Trout Brook. A review of the source, location and characteristics of nearby seeps and springs indicates there is evidence that the spring in the southwest corner of a pond on the 21 Schoolhouse Lane property is hydraulically connected to well CF206D (HDR 2015e).

In September 2017, HDR collected three water samples from Seep A, two from Seep B and two from Spring A to further evaluate ecological exposures in the Screening Level Ecological Risk Assessment (SLERA), depicted on **Figure 3-2**. Sample analyses consisted of TCL/TAL VOCs, SVOCs, pesticides, PCBs and metals (total and dissolved); cyanide, TSS, TDS, TOC, alkalinity and chloride.

Seeps and springs will not be evaluated separately in the BHHRA since they are considered groundwater, which is evaluated, and exposure to COPCs at seeps/springs is considered *de minimis* (EPA 2015e, HDR 2015e and f, HDR 2018).

3.3 Surface Water

Investigation of the interaction of groundwater and surface water took place at nine locations along the nearby streams to correlate groundwater and surface water elevations and determine if potentially contaminated groundwater is discharging to surface waters. A site reconnaissance identified depositional areas in the streams and possible groundwater upwelling locations prior to sampling.

HDR conducted OU2 surface water sampling in November 2014 and background surface water sampling in 2017 (see **Section 3.6**); the sampling locations are on **Figure 3-1**. In 2014, there were 26 samples (including two field duplicates) collected along four streams with headwaters near the landfill, i.e., Trout Brook, East Trout Brook, the Lamington River UNT and Tanners Brook UNT.

Evaluation of East Trout Brook data is separated from the other surface water data in the COPC screening to determine if there are any impacts to surface water quality from the GWTP effluent discharge into this stream.

Surface water analyses consisted of TCL/TAL VOCs, SVOCs, pesticides, PCBs and metals (total and dissolved), cyanide, TSS, TDS, TOC, alkalinity and chloride.

The DER evaluates the usability of the surface water data; data that meet the DQIs and deemed appropriate for risk assessment are included in the BHHRA to evaluate surface water impacts.

3.4 Sediment

HDR conducted OU2 sediment sampling in November 2014 and background sediment sampling in 2017 (see **Section 3.6**). In 2014, there were 26 sediment samples (including two field duplicates) collected along the same four streams identified in **Section 3.3** above (see **Figure 3-1** for locations).

As noted, the East Trout Brook sampling locations are downstream of the landfill's GWTP effluent discharge. Evaluation of East Trout Brook data considers potential impacts to sediment quality from the effluent discharge.

Analyses of sediment samples from 0 to 0.5 feet deep in the stream bed consisted of TCL/TAL SVOCs, pesticides, PCBs and metals, cyanide, TOC, grain size, percent moisture and pH. Analyses of deeper sediment samples from 0.5 to 1.0 feet below the stream bed were for TCL VOCs and moisture content because of the increased loss of VOCs from surficial sediment at the 0 to 0.5 feet sample depth.

The DER evaluates the usability of the sediment data; and considers data that meet the project DQIs and deemed appropriate for risk assessment for inclusion in the BHHRA.

In accordance with EPA guidance and for this BHHRA, comparison of sediment constituent concentrations was to the NJ Residential Direct Contact Soil Remediation Standards (RDCSRS). All constituent concentrations are less than the RDCSRS, with the exception of arsenic. Arsenic's maximum detected concentration of 20 milligrams per kilogram (mg/kg) is slightly greater than the NJ RDCSRS of 19 mg/kg.

A review of the potential for bioaccumulation of the following COPCs; 1,4-dioxane, chlordane, arsenic and lead, indicates that chlordane, arsenic and lead are considered bioaccumulative; under what conditions and at what point in the food chain varies. The COPC 1,4-dioxane is not considered to be bioaccumulative, but it is persistent; i.e., it does not degrade easily or quickly in the environment (HDR 2015a).

The site is less accessible and attractive than other recreational areas in the vicinity (e.g. Hacklebarney State Park); expected use for recreation and any related exposure to environmental media would be low. This BHHRA does not include quantitative evaluation of sediment, assuming there is minimal and infrequent contact with sediment based on review of the sediment data, site use and conditions, potential for bioaccumulation, and exposure pathways (EPA 2015e, 2016b).

3.5 Soil

The COPC screening and risk estimates do not include soil data, as soil exposure is not evaluated in this BHHRA. This is because on-site soil is largely landfill perimeter fill and is not indicative of constituent concentrations in local soil. Further, the landfill cap remedy for OU1 addressed soil. The primary purpose of this BHHRA is to characterize the nature and extent of deep aquifer groundwater contamination, which is not in contact with soil, and the potential exposure and risk resulting from this groundwater contamination.

3.6 Background Samples

Based on multiple lines of evidence, HDR investigated areas that do not receive surface water run-off or groundwater recharge emanating from the landfill. Criteria for selection of sample locations included being as distant as possible from development and human activities to be considered as local natural background. In consultation with EPA, the selected areas were north-northwest of the landfill along the Tanners Brook UNT and along Tanner's Brook parallel to East Valley Brook Road.

The background sampling area is in the same hydrologic unit code (HUC 14) boundary, but different sub-hydrologic unit code (HUC) than OU2. The two sub-watersheds and locations have similar characteristics, e.g., neither is part of a mapped Highlands Council groundwater recharge area or wetland that could contribute to varying groundwater quality characteristics (NJGIS 2012, NJDEP GIS 2018). Potentially impacted groundwater discharge to wetlands could affect the water quality in the wetland and therefore, the background samples.

Groundwater quality is concerning relative to surface water quality because the streams in this area are largely groundwater fed (i.e., gaining streams). The background areas are west of the known groundwater divide that runs along the SW-NE trending ridgeline. Groundwater on this side of the divide flows toward the landfill and is upgradient of contaminant sources; therefore, the area would not be impacted by landfill leachate or runoff. The surficial geology of the area along the tributary is gneiss colluvium, which is similar to the predominantly weathered gneiss in the study area. The forested areas are located away from residential properties, reducing other potential anthropogenic impacts.

In September 2017, HDR collected co-located surface water and sediment background samples from nine locations within the two UNTs that feed into Tanners Brook and one pair of co-located surface water and sediment background samples from the main stem of Tanners Brook, for a combined 21 samples (including one sediment field duplicate). See **Figure 3-2** for sampling locations.

Analysis of the background surface water and sediment samples was for the same parameters described in **Sections 3.3** and **3.4** for the site-related surface water and sediment samples.

The usability of the data is evaluated in the DER; surface water data that meet the project DQIs and deemed appropriate for risk assessment are considered for inclusion in the BHHRA in a qualitative discussion in **Section 6.3.4**.

3.7 Data Refinement

Data that were determined appropriate for use in the risk assessments are refined for use in the BHHRA.

3.7.1 General Refinements

In accordance with EPA *Guidance for Data Useability in Risk Assessment (Part A)* (EPA 1992) data are refined as follows:

- Chemical concentrations qualified as not detected (i.e., U-qualified data) are evaluated as non-detects. Concentrations qualified as estimated (i.e., J-qualified data) are included for quantitative assessment. This BHHRA does not use rejected (R-qualified) data.
- For non-detect results, HDR used the sample quantitation limit (QL), if available, as the result value. If no QL is available, the method detection limit (MDL), and if not the MDL, the reporting detection limit serves as the result value for the risk calculations in accordance with established hierarchy. The non-detects are evaluated using ProUCL software and the value assigned to them is dependent upon the data distribution using the following methods. ProUCL applies the Regression on Order Statistics (ROS) methods for lognormal and gamma distributed data sets to provide a better estimate of the non-detected sample's true value based on actual detected concentrations. For normal distributions, ProUCL utilizes Kaplan-Meier estimates in lieu of the ROS methods because the ROS methods tend to yield biased and negative non-detect values for these distributions (EPA 2015b and c).
- HDR compared the results of the field duplicate samples to the results of the associated parent samples and consolidated them into the data set by using the maximum result if constituents are detected in both the original and duplicate samples. The BHHRA uses the detected value in the case of one detection and one non-detection in a parent/duplicate sample pair.
- The BHHRA individually evaluates PCB Aroclor™ concentrations instead of summing the results to calculate a result for the total. This individual type of evaluation also applies to the following constituents having more than one isomer:
    - Endosulfan I and endosulfan II
    - M,p-xylene and o-xylene
    - Cis and trans 1,3-dichloropropene
    - Alpha and gamma chlordane

3.7.2 Data Refinements Using EPA Core of the Plume Guidance

Exclusion of some groundwater data was necessary to meet the requirements in the EPA memorandum titled *Determining Groundwater Exposure Point Concentrations - Supplemental Guidance* (referred to herein as "Core of the Plume", EPA 2014a). This memorandum specifies which groundwater data are acceptable for calculating the exposure point concentrations based on the type of well sample (e.g., monitoring well) and data quality (e.g., low turbidity). The groundwater data excluded from the BHHRA are summarized below (HDR 2015b, EPA 2015a):

- Several of the NJDEP-owned wells sampled do not meet the Department's well construction requirements N.J.A.C 7:9D (NJDEP 2018c): D1, D3, D5R, D9, CF09D, CF12D, CF15D, MW18D and MW19D, resulting in elimination from the data set as potentially having inferior data quality.[1]

[1] Sampling of these wells was to determine if additional compliant wells were required during the delineation process.

- The samples taken during packer testing from open boreholes, prior to completion with Water FLUTe™ wells and that were used for screening purposes only to determine the final well completion depths are excluded. These samples were not collected using low flow techniques. As 1,4-dioxane is the primary analyte of interest and it is a VOC, the data cannot be relied upon for risk assessment purposes.
- NJDEP-owned wells not installed in competent bedrock or screened in overburden resulted in exclusion from the data set: i.e., DS6, CF20S, and MW6.

Further discussion on the evaluation of data using the EPA memorandum in described in **Section 4.3**.

3.8 Identification of COPCs

The COPC screening tables are in the format of RAGS Part D Planning Tables (EPA 2001) in **Attachment A, Tables 2.1** through **2.3**. **Table 2.1** presents the COPC screening of groundwater, **Table 2.2** that of surface water and **Table 2.3** that of surface water downstream of the GWTP (i.e., East Trout Brook data).

The PAR presented the COPCs initially; the COPC list remains the same after review of recently updated screening levels and toxicity values (EPA 2018b). In accordance with the criteria included in Chapter 5 of EPA RAGS Part A (EPA 1989), the COPCs were determined by comparing the maximum detected concentrations of the target constituents detected in groundwater and surface water to screening levels to assess the potential for adverse impact to human health. Exceedances of screening levels do not in and of themselves indicate that an unacceptable exposure exists. Rather, the exceedance of a screening level indicates the need for further evaluation in the BHHRA.

- Groundwater concentrations were compared to EPA Regional Screening Levels (RSLs) for Residential Tapwater at a target cancer risk of 1E-06 and target noncancer HQ of 0.1 (EPA 2018b) and the NJDEP GWQS, which incorporate the generic NJ Interim-Specific Criteria for synthetic organic chemicals (SOCs) (NJDEP 2018a).
- Surface water concentrations were compared to NJDEP Surface Water Quality Standards Fresh Water (FW2) Human Health (NJDEP 2016) and EPA RSLs for Residential Tapwater (EPA 2018b, HDR 2015e).

If the maximum detected concentration of a target constituent was less than the screening level, this resulted in its elimination as a COPC, assuming it will not contribute significantly to potential unacceptable risk (EPA 1989). Constituents without a screening level necessitated further quantitative evaluation in the BHHRA.

For the remaining constituents, this BHHRA refined the COPC list if there was one or more of the following conditions:

- A target constituent that is detected in fewer than five percent of the samples is eliminated as a COPC if a sufficient number of samples are collected for analysis. According to RAGS Part A (EPA 1989), at least 20 samples are needed in the data set if a frequency of detection limit of 5 percent is used. For this COPC screening, groundwater had eight target constituents with less than five percent detection and at least 20 samples were collected for these constituents; thus, they were determined

not to be COPCs in groundwater (see **Attachment A, Table 2.1)**. Although detections of vinyl chloride were detected in three of 87 results, which is a three percent detection frequency, this BHHRA retained vinyl chloride as a COPC as its maximum detected concentration of 0.24 ug/L is greater than the EPA RSL of 0.019 ug/L and the constituent has high toxicity.

- HDR excluded constituents from the COPC list if known as essential nutrients and present at levels not likely to pose appreciable risk to human health as per RAGS, Part A (EPA 1989). Constituents considered essential nutrients include iron, calcium, chloride, magnesium, potassium, and sodium. This BHHRA retained iron and sodium as COPCs since iron and sodium's maximum concentrations in groundwater and iron in surface water are greater than screening levels (see **Attachment A, Tables 2.1** and **2.2)**.
- Analytical data results that are not chemical-specific (e.g., TOC, chloride) were excluded from the COPC list.
- Screening of tentatively identified compound (TIC) data from HDR's data set was performed in the same manner as target compounds. Frequency of detection was less than 5% for all of the individual TICs in the BHHRA dataset. **Section 7.4** (EPA 2015e, HDR 2015h) and **Attachment E** provide a qualitative discussion of the potential toxicity of and supplemental information for PPCPs, including several TICs. The BHHRA includes this information as many of the named TICs appear to be PPCP-related (the landfill is known to have received waste from the manufacture of PPCPs), and all groundwater samples have detections of named and unnamed TICs.

  HDR did not combine its and NJDEP's groundwater datasets for target compounds as laboratory reports and data validation of the NJDEP dataset were not available.

The PAR identified 28 COPCs in groundwater and surface water and the BHHRA identified 29 COPCs in consideration of vinyl chloride. For groundwater, COPCs include 11 VOCs (including 1,4-dioxane), 13 inorganics, and two each of SVOCs and pesticide constituents. For surface water from Trout Brook, Lamington River UNT and Tanners Brook UNT, COPCs include two VOCs (including 1,4-dioxane) and seven inorganic constituents. For surface water downstream from the GWTP (i.e., East Trout Brook), COPCs consist of 1,4-dioxane, alpha-chlordane, arsenic and manganese. **Table 3.1** and **Attachment A, RAGS Part D Planning Table 2.Supp.1** list the COPCs.

Table 3-1 - Constituents of Potential Concern

Constituent Group	Constituent	Groundwater	**Surface Water** (Trout Brook, Lamington River UNT, Tanners Brook UNT)	**Surface Water** (East Trout Brook)
VOC	1,2-Dichloroethane	Yes		
VOC	1,2-Dichloropropane	Yes		
VOC	1,4-Dichlorobenzene	Yes		
VOC	1,4-Dioxane	Yes	Yes	Yes
VOC	Benzene	Yes		
VOC	Chloroform	Yes		
VOC	cis-1,2-Dichloroethylene	Yes		
VOC	Ethyl Ether	Yes		
VOC	Tetrachloroethylene (PCE)	Yes		
VOC	Trichloroethylene (TCE)	Yes	Yes	
VOC	Vinyl chloride	Yes		
SVOC	Bis(2-ethylhexyl)phthalate (DEHP)	Yes		
SVOC	Caprolactam	Yes		
PEST	BHC alpha	Yes		
PEST	Chlordane, alpha			Yes
PEST	Endrin Aldehyde	Yes		
INORGANIC	Aluminum	Yes	Yes	
INORGANIC	Arsenic	Yes	Yes	Yes
INORGANIC	Barium	Yes		
INORGANIC	Beryllium	Yes		
INORGANIC	Chromium (Total)	Yes		
INORGANIC	Cobalt	Yes	Yes	
INORGANIC	Copper	Yes		
INORGANIC	Iron	Yes	Yes	
INORGANIC	Lead	Yes	Yes	
INORGANIC	Manganese	Yes	Yes	Yes
INORGANIC	Nickel	Yes		
INORGANIC	Sodium	Yes		
INORGANIC	Vanadium	Yes	Yes	

4 Exposure Assessment

The objective of the exposure assessment is to estimate the magnitude, frequency, duration, and routes of current and reasonably anticipated future human exposure to COPCs. The basis for the exposure assessment is receptor scenarios for site-related COPCs via site-specific routes of exposure.

This BHHRA uses the standard default exposure factors recommended by EPA for estimating reasonable maximum exposure (RME), where available. Where standard default exposure factors are not available for an exposure pathway, the evaluation used similarly conservative exposure factors based on site-specific considerations and professional judgment to assure protectiveness.

This section presents a CSM that identifies the exposure pathways and the potentially exposed receptors. It also describes the receptors and exposure pathways and if they will be evaluated quantitatively and qualitatively and the rationale for each chosen pathway.

4.1 Conceptual Site Model

The CSM is a dynamic tool for understanding site conditions and potential exposure scenarios for human receptors that may be exposed to site-related contamination. An exposure pathway consists of:

- A source (e.g., landfill) and mechanism of constituent release from source;
- A retention or transport medium (e.g., groundwater) for the constituent;
- A point of contact (e.g., drinking water) between the human receptor and the medium; and
- A route of exposure (e.g., ingestion) for the potential human receptor at the contact point.

An exposure pathway is complete only if all four components are present. The BHHRA only evaluates complete exposure pathways quantitatively. A schematic presentation of the CSM is included as **Figure 4-1** and in a tabular format in **Attachment A, RAGS Part D Planning Table 1**.

4.2 Receptors

The definition of potential receptors is human populations that are subject to contaminant exposure. Both current and future land- and water-use conditions are considered when determining exposure scenarios. Current land-use consists primarily of low-density residential (lot sizes are generally more than two acres) amidst large parcels of cleared or forested rolling hills. Use of some of the larger parcels is for agricultural purposes. Expectations of future land use are the same - to remain predominantly residential with limited agriculture. Therefore, HDR identified the following potential receptors: current/future adult and child resident, and current/future adult and child recreational user. See **Figure 4-1** for a depiction of these receptors in diagram format, and **Attachment A, RAGS Part D Planning Table 1** in tabular format.

4.2.1 Current/Future Resident (Adult/Child)

The BHHRA includes the potential exposure for residents to COPCs in groundwater, in accordance with the EPA memorandum titled *Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions* (EPA 1991b). This requires the assumption of no treatment of the water source and no institutional (e.g., restrictive ordinances) or engineering (e.g., point of entry treatment) controls. Previous impacts to potable residential wells northeast of the landfill consisted of constituents that had migrated off-site (HDR 2011b). Current exposure is very limited, as the 1986 ROD called for an alternate water supply (HDR 2011b), and construction of a municipal water supply in 2015 now serves properties previously impacted by groundwater contamination (EPA 2015d). EPA abandoned the majority of potable wells upon connection to the potable water supply. However, owners of several properties refused connection to the water line. This BHHRA evaluates risks potentially associated with ingestion and dermal contact of organics and inorganics from tap water; and the inhalation of VOCs in groundwater by residents during showering, in accordance with RAGS. Qualitative evaluation of inhalation via vapor intrusion (VI) is in **Section 6.3.5**.

4.2.2 Current/Future Recreational User (Adult/Child)

Recreational users may incidentally ingest or come into dermal contact with surface water while visiting Trout Brook, East Trout Brook, the Lamington River UNT, and Tanners Brook UNT.

Recreational users may ingest fish in nearby trout-production Trout Brook [classified FW2-TP(C1)] and East Trout Brook [FW2-TP(C1)], as well as trout-maintenance Lamington River UNT [FW2-TM(C1)] (NJDEP 2005, 2016). Tanners Brook is classified as non-trout water [FW2-NT(C1)] (NJDEP 2005, 2016); however, other consumable fish may be present. A review of potential fish species in these water bodies indicates there are 17 fish species identified in the Lamington River. Of these species, four are consumable, i.e., white sucker, American eel, brown trout and sunfish (HDR 2015e, NJDEP 2007). The Lamington River UNT is the largest of the four water bodies and most likely to contain the fish identified as being present in the Lamington River. Both Trout Brook and Tanners Brook also discharge to the Lamington River.

The water bodies at and near the site have relatively small, localized watersheds and are headwater streams. Based on field observations, most of these streams have an ecological community classification of a marsh headwater stream, which consists of small marshy perennial brooks with very low gradients, slow flow rate (<35 feet per second) and cool to warm water that flows through a marsh, fen or swamp where a stream system originates. These water bodies have clearly distinguished meanders or high sinuosity, and are in unconfined watersheds (Edinger et. al, 2002).

The headwaters of the Lamington River UNT consist of a ditch running parallel to the power lines easement and the pond at 21 Schoolhouse Lane. The tributary width is roughly 10 feet and increases downstream. After it daylights on the opposite side of Schoolhouse Lane, the Lamington River UNT runs easterly through wooded sections of a number of residential properties along Schoolhouse Lane and then bends northeast towards the confluence with the Lamington River at County Route 513. Identification of the characteristics of the other three water bodies was from field observations, aerial photographs, and online information. Trout Brook is three to four feet wide and has a depth of less than six inches to approximately two feet. East Trout Brook is approximately two feet wide, has a depth of less than six inches, and has steep banks that make for a well-defined stream channel. Tanners Brook UNT is approximately one foot wide and has a depth of less than six inches (HDR 2015g).

Upon review of sediment data, potential activity in the study area, potential for bioaccumulation and exposure pathways, minimal and infrequent contact with sediment is expected and therefore, the BHHRA does not include a quantitative evaluation (EPA 2015e, 2016b).

The evaluation of risk resulting from a resident's use of untreated groundwater as tap water and including ingestion, dermal contact and inhalation routes of exposure should be protective of the much less intensive recreational exposure to groundwater expressed as seeps/springs (EPA 2016b). The exposure to COPCs in seeps/springs is *de minimis* and not evaluated in the BHHRA (EPA 2015e, 2016a; HDR 2018).

4.3 Exposure Point Concentrations

Estimates of COPC concentrations at points of potential human exposure are necessary for evaluating chemical intakes by potentially exposed individuals. The concentrations of chemicals in the exposure medium at the exposure point are termed "exposure point concentrations" (EPC).

4.3.1 General Approach for EPC Calculations

The EPC for the BHHRA is the 95 percent upper confidence limit (UCL) of the arithmetic mean or maximum observed concentration of an individual COPC, whichever is lower, per media. Calculation of the UCL is conducted in accordance with EPA guidance (EPA 2002a, 2016c). HDR used the ProUCL software package, version 5.1 (2016c) to determine the underlying statistical distributions and the EPCs.

4.3.2 EPCs Calculated Using Site-wide and Core of the Plume Data

The EPA Core of the Plume guidance (EPA 2014a) provides a recommended approach to improve the quality and consistency in calculating groundwater EPCs. The approach involves evaluating data from the “core/center of the plume”, which is defined as the three-dimensional core/center zone of highest concentrations of each constituent within a delineated groundwater plume.

It has been determined that there is radial groundwater flow out from the landfill, which was located on a topographic high on the valley floor (HDR 2015b). The Willowstick® survey identified preferential flow pathways in the fractured bedrock underlying the site (HDR 2015b).

After consultation with EPA, the agency determined that the BHHRA would:

1. Evaluate groundwater EPCs using site-wide groundwater data for the COPCs, and
2. Perform a sensitivity analysis calculating groundwater EPCs for a subset of data with the 10 highest concentrations of the following eight COPCs with exceedance counts greater than or equal to five percent: 1,4-dioxane, benzene, trichloroethylene (TCE), bis(2-ethylhexyl)phthalate (DEHP), alpha-BHC, lead, arsenic, and chromium (EPA 2015a, HDR 2015b, h and i).

Attachment A, RAGS Part D Planning Tables 3.1 through **3.4** presents the EPCs for each medium in the exposure assessment. **Table 3.1** presents the EPCs for site-wide groundwater, **Table 3.2** for Core of the Plume groundwater, **Table 3.3** for surface water, and **Table 3.4** for surface water downstream of the GWTP. The supporting ProUCL data input and outputs are in **Attachment B**.

4.4 Chemical Exposure Intake

The BHHRA uses EPCs in combination with exposure factors from EPA guidance and standard default parameters (EPA 2011a) to estimate chemical intake via each exposure pathway for each receptor. Some default exposure factors have been updated in the 2014 EPA Office of Solid Waste and Emergency Response (OSWER, now Office of

Land and Emergency Management, OLEM) Directive 9200.1-120 (EPA 2014b); these values have been incorporated in the BHHRA.

Expression of chemical intake is in terms of milligrams of chemical per kilogram of body weight per day (mg/kg-day), using the following general equation, adjusted based on the exposure pathway and medium:

$$Intake = \frac{EPC\ x\ IR\ x\ EF\ x\ ED}{BW\ x\ AT}$$

Where:

Intake	=	daily intake or exposure dose (mg/kg-day)
EPC	=	exposure point concentration of COPC [micrograms/liter (ug/L)]
IR	=	ingestion rate; the amount of contaminated medium ingested over the exposure period (L/day)
EF	=	exposure frequency; describes how often exposure occurs (days/year)
ED	=	exposure duration; describes how long exposure occurs (years)
BW	=	body weight; the average body weight over the exposure period (kg)
AT	=	averaging time; period over which exposure is averaged (days)

Each of the intake variables in the above equation consists of a range of values taken from *RAGS, Part A* through *F* (EPA 1989, EPA 2009) and other applicable risk guidance, e.g., the *Exposure Factors Handbook* (EPA 2011a). The exposure factors and intakes for receptor population groups for each exposure pathway are in **Attachment A, RAGS Part D Planning Tables 4.1** and **4.2** and summarized below. **Attachment A, Table 4.1** describes in more detail the exposure factors and equations for pathways related to groundwater exposure scenarios; **Attachment A, Table 4.2** describes the exposure factors related to surface water.

4.4.1 Exposure Factors

The averaging time (AT) for cancer risk and BW are the same for all exposure pathways, as follows:

- The averaging time for evaluating cancer risk is equal to a lifetime of 70 years or 25,550 days (EPA 2014b). The averaging time for evaluating noncancer HQs is equal to the exposure duration, which varies by receptor (EPA 2014b).
- The body weight of 80 kg is the standard EPA-recommended body weight for assessing exposure to adults; a body weight of 15 kg is the standard EPA-recommended body weight for children (0 to 6 years; EPA 2014b).

Ingestion Pathway of Exposure

- *Ingestion Rate*

  The BHHRA assumes residents drink 2.5 L/day of groundwater-derived tap water as an adult and 0.78 L/day as a child (0 to 6 years), which are weighted averages of 90th percentile values, for ingestion of drinking water (EPA 2014b).

  The incidental ingestion rate of surface water for a recreational user is assumed to be less, at 0.02 L/hour for an adult, which is based on a mean recommended value of 20 milliliters/hour (mL/hour) for swimming in Table 3-5 of the *EPA Exposure Factors Handbook* (EPA 2011a, EPA 2016b). A child's incidental ingestion rate is higher, at 0.05 L/hour, based on a 50 mL/hour value for swimming (EPA 2011a, 2016b). The ingestion rates are converted into units of L/day by assuming an exposure time of 2.6 hours/event, which is a commonly used value from RAGS Part A that is based on a national average for time spent swimming (EPA 1989), and one event per day.

- *Exposure Duration and Frequency*

  The BHHRA assumes resident adults ingest groundwater-derived tap water for 350 days/year for 20 years (EPA 2014b), and the same exposure frequency of 350 days/year applies to a resident child, for six years (EPA 2014b).

  The exposure duration for recreational users incidentally ingesting surface water is also six years for a child and 20 years for an adult (EPA 2014b). Recreational users are expected to have an exposure frequency of 52 days/year, which assumes the receptor visits surface water streams two days/week during summer (May, June, July, Aug) and one day/week during spring and fall (Mar, Apr, Sept, Oct, Nov; EPA 2015e, 2016a).

Fish Ingestion Pathway of Exposure

- *Ingestion Rate*

  The BHHRA assumes a fish ingestion rate of 23.2 grams per day (g/day) for evaluating adult fish ingestion based on a regional fish and crab consumption survey of 267 adults who fished from the Newark Bay Complex (Burger 2002). Specifically, the rate is the mean yearly fish consumption (in grams) reported by Burger for only those individuals who fished divided by 350 days to derive the mean daily consumption. According to Burger (2002), this mean yearly fish consumption is the mean value for the 60% of the group who consumed their catch; it does not account for the 40% of the group who did not consume their catch. This ingestion rate is consistent with that used in other similar published risk assessments in EPA Region 2. The fish ingestion rate for a child (age 0-6) is proportionally adjusted (1/3) from the adult ingestion rate to 7.73 g/day; the proportion is consistent with other published risk assessments in EPA Region 2 (EPA 2016b, HDR 2016b).

- *Exposure Frequency*

  The exposure frequency for fish ingestion is 52 days/year for the recreational fisher, as explained above (EPA 2015e, 2016a).

- *Surface Water to Fish Bioconcentration Factors (BCFs)*

  The estimate for chemical exposure intake for fish applied literature-derived BCFs, as there are no fish tissue samples. The BCF is the ratio of the constituent concentration in fish to the concentration in water. The BCFs (in units of L/kg) are taken from two sources using the following hierarchy:

  - EPA National Recommended Water Quality Criteria – Human Health Criteria Calculation Matrix (EPA 2002b)
  - DOE ORNL Risk Assessment Information System – Chemical Parameters, Fish BCFs (DOE 2017)

  Attachment A, RAGS Part D Planning Table 4.Supp.5 presents the surface water to fish BCFs.

Dermal Contact Pathway of Exposure

- *Skin Surface Area*

  The skin surface area available for contact with water during showering for a resident is 19,652 square centimeters (cm^2) for an adult and 6,365 cm^2 for a child (0 to 6 years), which are weighted average of mean values for total surface area of the whole body (EPA 2014b). These values are greater than the skin surface area for contact with surface water, assuming more skin exposure to water during showering.

  The skin surface area for recreational contact with surface water is 10,070 cm^2 for an adult and 3,870 cm^2 for a child (0 to 6 years). HDR calculated the sum of mean values for arms, hands, legs and feet from Table 7-2 of the *Exposure Factors Handbook* (EPA 2011a) for each age group and then the maximum of these values was used as the surface area (see **Attachment A, RAGS Part D Planning Tables 4.Supp.1** and **4.Supp.2)**.

- *Absorbed Dose per Event*

  Calculation of the dermally absorbed dose per event (DA-event) from water contact uses default equations (EPA 2004) and values identified in the RSL Chemical Specific Parameters table (EPA 2018b). The following chemical-specific dermal factors are used in the calculation: dermal permeability constant (Kp), ratio of permeability coefficients (B), lag time per event (tau-event), time to reach steady state (t*) and fraction absorbed water (FA). **Attachment A, RAGS Part D Planning Tables 4.Supp.3A** through **3D** presents the calculations of DA-event for each medium and scenario in *Event Duration (t-event) and Frequency.*

- *Event Duration (t-event) and Frequency*

  The BHHRA assumes the event frequency is one event/day for both groundwater and surface water exposures (EPA 2004).

  The t-event for a resident showering is 0.71 hour/event for an adult and 0.54 hour/event for a child, which are weighted averages of the 90th percentile spent bathing or showering in a day (EPA 2014b).

  The event duration for surface water contact is 2.6 hour/event, which is a commonly used value from RAGS Part A based on a national average for time spent swimming

(EPA 1989). The *Exposure Factors Handbook* presents a similar range of UCL values, 160 to 180 minutes (2.6 to 3 hours), for swimming (EPA 2011a). The time spent wading is similar.

- *Exposure Duration and Frequency*

  The BHHRA assumes resident adults come in dermal contact with groundwater-derived tap water for 350 days/year for 20 years (EPA 2014b) and the same exposure frequency of 350 days/year for a resident child, for only six years (EPA 2014b).

  The exposure duration for recreational users coming in dermal contact with surface water is also six years for a child and 20 years for an adult (EPA 2014b). Recreational users are expected to have a conservative exposure frequency of 52 days/year, which assumes the receptor visits surface water streams two days/week during summer (May, June, July, Aug) and one day/week during spring and fall (Mar, Apr, Sept, Oct, Nov; EPA 2015e, 2016a).

Inhalation Pathway of Exposure

The following refers to residential exposure during showering.

- *Concentration in Air*

  This BHHRA uses the Andelman model as modified by Schaum et al. (Wang 1994) to estimate the chemical concentration in air (C_a) of VOCs during time spent showering and in the bathroom. In the derivation of C_a, it is assumed that the volume of the bathroom is six cubic meters (m^3), the shower water flow rate is 1000 L/hour and the fraction of chemical concentration volatilized is 0.9, which are all based on upper estimates of the range of values presented in the Adelman model (Wang 1994). The calculations are in **Attachment A, RAGS Part D Planning Tables 4.Supp.4A** and **B** for each of the groundwater scenarios (using the site-wide groundwater data set and the Core of the Plume groundwater data set).

  The total exposure time for showering is 0.71 hour for an adult and 0.54 hour for a child (EPA 2014b). Since the Andelman model separates out exposure during showering from exposure while in the bathroom, professional judgment is necessary to split up the time spent for each in the calculation of the air concentration. For adult exposure, HDR assumed 15 minutes (min) for showering followed by 28 min in the bathroom, for a total of 43 min (0.71 hour). For a child, the assumption was approximately 20 min bathing followed by 13 min in the bathroom, for a total of 33 min (0.54 hour). These values are consistent with the exposure time range identified in Table 1 of the Andelman model study (Wang 1994), EPA-recommended assumptions in Exhibit 3-2 of RAGS Part E (EPA 2004) and fall within the range of estimates presented in Table 16-1 of the EPA Exposure Factors Handbook (EPA 2011a).

- *Exposure Time*

  The exposure times for inhalation of groundwater-derived water vapor during showering are 0.71 hour/day for an adult and 0.54 hour/day for a child (0 to 6 years), which are weighted averages of the 90th percentile spent bathing or showering in a day (EPA 2014b).

- *Exposure Duration and Frequency*

  The assumptions are that an adult resident inhales shower water for 350 days/year for 20 years and a resident child inhales shower water for 350 days/year for six years (EPA 2014b).

Evaluation of potential risks related to VI is in **Section 6.3.5**.

4.4.2 Age-Based Adjustments for Adult and Child

The BHHRA calculations incorporate age-adjustments for each COPC in the exposure intake term for calculating the cancer risk over the lifetime of a resident or recreational user as both a child and adult. For the ingestion exposure pathway, the adjusted ingestion rate is a summation of the individual ingestion rates weighted by the body weights and exposure durations of the receptor from birth to 26 years as described in the EPA RSL equations (EPA 2018b).

$$IR_{Adj} = \sum \frac{ED \times IR}{BW}$$

Where:

IR-Adj = Adjusted ingestion rate (mg-year/day-kg)

ED = Exposure duration (year)

IR = Ingestion rate (mg/day)

BW = Body weight (kg)

For the dermal exposure pathway, the adjusted surface area is a summation of the individual surface areas weighted by the body weights and exposure durations of the receptor from birth to 26 years similar to the above equation.

The age-adjustment equations are in **Attachment A, RAGS Part D Planning Tables 4.1** and **4.2** and calculations are in **Table 4.Supp.1**.

The inhalation exposure pathway does not require an age-adjustment as per RAGS Part F, Appendix A, Section 6.1 (EPA 2009).

4.4.3 Mutagen Adjustments for Early-Life Exposure

EPA has identified several carcinogens that act via a mutagenic mode of action (MMOA). Incorporated into the intake equation are age-dependent adjustment factors (ADAFs) to account for their early-life exposures. This approach is consistent with the 2005 *Guidelines for Carcinogen Risk Assessment* (EPA 2005a) and the *Supplemental Guidance for Assessing Susceptibility from Early Life Exposure to Carcinogens* (EPA 2005b). The intake equations are in the EPA RSL equations (EPA 2018b); the equation for the ingestion exposure pathway is:

$$IR_{Adj} = \sum \frac{ED \times IR}{BW} \times ADAF$$

Where:

ADAF = Age dependent adjustment factors, where

0-<2 years applied an ADAF of 10,

2-<6 years applied an ADAF of 3,

6-<16 years applied an ADAF of 3, and

16-26 years applied and ADAF of 1.

For the dermal exposure pathway, the adjusted surface area is a summation of the individual surface areas weighted by the body weights and exposure durations of the receptor from birth to 26 years, multiplied by the ADAF, similar to the above equation.

The MMOA age-adjustment equations are in **Attachment A, RAGS Part D Planning Tables 4.1** and **4.2** and calculated in **Table 4.Supp.2**.

Exposure intakes for the mutagen TCE incorporate specific calculations, as the toxicity assessment for TCE requires that we address the mutagenic effects on the kidney versus the standard cancer effects on the liver and potential for developing non-Hodgkin's lymphoma. To accomplish this, the BHHRA combines the mutagenic and standard cancer equations. The different toxicity values for use in the cancer and mutagen intake equations are incorporated using a toxicity value adjustment factor for cancer (CAF) and mutagens (MAF) for all exposure pathways as described in the EPA RSL equations (EPA 2018b) and in **Attachment A, RAGS Part D Planning Tables 4.1** and **4.2**.

For the mutagen vinyl chloride, exposure intakes also incorporate specific calculations based on the EPA RSL equations (EPA 2018b). When evaluating both early life and adult exposures, the regular cancer equation applies, as well as a non-pro-rated early life exposure. The shower inhalation pathway is the dose for an adult multiplied by a toxicity value of 4.4E-06 ug/m^3 for continuous lifetime exposure during adulthood added to the dose for a child multiplied by the toxicity value of 8.8E-06 ug/m^3 for continuous lifetime exposure from birth.

4.4.4 Evaluation of Lead Intake

The basis for the lead exposure evaluation is blood lead concentrations instead of calculation of chemical intakes and subsequent risk estimates. EPA has not established the toxicity values for lead intake that are necessary for calculating risk (EPA 2018a). EPA and the Centers for Disease Control and Prevention (CDC) have determined that childhood blood lead concentrations at or above 5 micrograms per deciliter (ug/dL) present adverse health effects (EPA 2017e, CDC 2012).

Assessment of lead risks for children uses the EPA Integrated Exposure and Uptake Biokinetic (IEUBK) blood lead model (EPA 2010). The IEUBK model is a computer-based model that estimates the blood lead concentration in children (under the age of seven) resulting from their exposure to lead in soil, dust, drinking water, diet and air.

Specifically, the model estimates the intake and uptake of lead into the body and then uses biokinetic modeling to predict blood lead concentrations.

Lead is a COPC in site-wide groundwater, in groundwater using EPA Core of the Plume guidance, and in surface water. The BHHRA includes IEUBK model runs for each of these data sets using model default values, including default soil, diet, and air concentrations. Site-specific arithmetic mean lead concentrations are input as the drinking water concentrations because the Guidance Manual for the IEUBK model recommends using arithmetic mean concentrations for input (EPA 1994, 2002c). The arithmetic mean groundwater concentrations are 11 ug/L for the evaluation of site-wide groundwater, 47 ug/L for the evaluation of the refined data set using EPA Core of the Plume guidance and 7.3 ug/L for evaluation of surface water (as presented in **Attachment A, RAGS Part D Planning Tables 3.1** to **3.3**). As identified in the CSM and noted in **Section 4.4.1**, recreational users would incidentally ingest untreated surface water as opposed to intentionally drinking the water; further discussion on the uncertainty of evaluating lead in surface water in the IEUBK model is in **Section 7**.

5 Toxicity Assessment

The toxicity assessment provides a framework for characterizing the relationship between the magnitude of exposure to a COPC and the nature and likelihood of adverse health effects that may result from such exposure. For all exposure pathways, there are two approaches for deriving toxicity values. One involves the derivation of a noncancer reference value, i.e., an oral or dermal reference dose (RfD) and inhalation reference concentration (RfC), while the other involves derivation of a predictive cancer risk estimate, i.e., an oral or dermal cancer slope factor (SF) and inhalation unit risk (IUR). An overview of the hierarchy to apply toxicity values is in **Section 5.1**. **Sections 5.2** and **5.3** provide the methodology used to develop a toxicity assessment as part of the BHHRA.

5.1 Sources of Toxicity Values

Selection of pertinent toxicological information on COPCs was from the following sources, in descending order of hierarchy, in accordance with EPA's OSWER Directive 9285.7-53, *Human Health Toxicity Values in Superfund Risk Assessments* (EPA 2003):

- Tier 1 – EPA's Integrated Risk Information System (IRIS) (EPA 2018a);
- Tier 2 – EPA's Provisional Peer Reviewed Toxicity Values (PPRTVs) – The Superfund Health Risk Technical Support Center (STSC) develops PPRTVs on a chemical specific basis when requested by EPA's Superfund program (EPA 2017c); and
- Tier 3 – Other Toxicity Values – Tier 3 includes additional EPA and non-EPA sources of toxicity information (ATSDR 2017, Cal EPA 2017, and EPA 2011b). Priority goes to sources of information that are the most current, transparent, publicly available, and peer reviewed.

The EPA RSL tables provide toxicity values following the above hierarchy; therefore, the May 2018 RSL summary table is the source of toxicity values for this BHHRA (EPA 2018b).

A separate, qualitative discussion of the potential toxicity of PCPPs, reported as TICs in the analytical data packages, is in **Section 7.4**. The source of these toxicity values are through a site-specific request to STSC (refer to **Attachment E, Table E.2)** and the IARC Monographs (2018).

The cancer and noncancer toxicity values for the COPCs used in the risk assessment are in **Attachment A, RAGS Part D Planning Tables 5.1** through **6.2**.

Since chromium (total), identified as a COPC in groundwater, does not have toxicity values, the substitutes input are the cancer and noncancer toxicity values for hexavalent chromium as conservative surrogates. A discussion of the uncertainty with use of hexavalent chromium's toxicity values in comparison to trivalent chromium's toxicity values and the resulting risk estimates is in **Section 7.3**.

5.2 Evaluation of Non-Carcinogenic Effects

Calculation of an oral RfD is for the ingestion exposure pathway; typically expressed as mg/kg-day. Calculation of an RfC is for the inhalation pathway, expressed in terms of the concentration in the air, as mg/m^3.

In the current absence of dermal slope factors, EPA has devised a process that utilizes the dose-response relationship obtained from oral administration studies and makes an adjustment for absorption efficiency to represent the toxicity factor in terms of absorbed dose, using route-to-route (oral-to-dermal) extrapolations for systemic effects. This is performed using a chemical-specific oral absorption factor (GIABS) that accounts for the fact that most slope factors are expressed as the amount administered per unit time and body weight, with exposure estimates for the dermal pathway expressed as a dose absorbed in the gastrointestinal tract (EPA 1989, 2004).

In the calculation of these toxicity values, EPA uses values (i.e., No Observable Adverse Effect Levels [NOAELs] and Lowest Observable Adverse Effect Levels [LOAELs]) that express the potential non-carcinogenic effects to identify thresholds for each chemical, and derive an estimate of the exposure below which adverse health effects are not expected to occur over a lifetime.

Two types of noncancer toxicity values are available from EPA depending on the length of exposure being evaluated (i.e., chronic or sub-chronic). Development of chronic toxicity values are protective for long-term exposure to a compound, and generally used to evaluate the non-carcinogenic effects associated with exposure periods between seven years and a lifetime. Sub-chronic toxicity values are useful for characterizing potential non-carcinogenic effects associated with shorter-term exposures. A combination of chronic and sub-chronic toxicity values are in the May 2018 RSL summary table, which is the source of toxicity values for this BHHRA.

The noncancer toxicity values for the COPCs are in **Attachment A, RAGS Part D Planning Tables 5.1** and **5.2**.

5.3 Evaluation of Carcinogenic Effects

Carcinogenic risks associated with a given level of exposure to potential carcinogens are typically extrapolated based on slope factors or unit risks. Oral slope factors are the upper 95th percent confidence limit of the slope of the dose-response curve, expressed in terms of risk per unit dose [$(mg/kg\text{-}day)^{-1}$]. Inhalation unit risks similarly relate the risk of cancer development with the concentration of carcinogen [$(mg/m^3)^{-1}$].

In the absence of dermal toxicity values for cancer development, EPA uses the oral dose-response relationship obtained from oral administration studies and adjusts for absorption efficiency with a GIABS factor to derive an absorbed dose in order to assess dermal exposure impacts for cancer, described in **Section 5.2** above (EPA 1989, EPA 2004).

The cancer toxicity values for the COPCs are in **Attachment A, RAGS Part D Planning Tables 6.1** and **6.2**.

For constituents that EPA assessed prior to publication of the 2005 *Guidelines for Carcinogen Risk Assessment* (EPA 2005a), EPA considers those belonging to the following cancer weight of evidence groups to be human carcinogens (EPA 1986):

- Group A – Known Human Carcinogen – Sufficient evidence of carcinogenicity in humans;
- Group B1 – Probable Human Carcinogen – Limited evidence of carcinogenicity in humans;
- Group B2 – Probable Human Carcinogen – Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans; and
- Group C – Possible Human Carcinogen – Limited evidence of carcinogenicity in animals and inadequate or lack of evidence in humans.

For constituents that EPA assessed after the 2005 Guidelines were published, EPA uses a narrative approach to characterize carcinogenicity (EPA 2005a):

- Carcinogenic to Humans
- Likely to be Carcinogenic to Humans
- Suggestive Evidence of Carcinogenic Potential
- Inadequate Information to Assess Carcinogenic Potential

As shown in **Attachment A, RAGS Part D Planning Tables 6.1** and **6.2**, few of the COPCs are designated as Group A or as being “Carcinogenic to Humans;” most are considered B1 or “Likely to be Carcinogenic to Humans”. Thus, evaluating these constituents as human carcinogens in the BHHRA is likely to be conservative.

6 Hazard Identification and Risk Characterization

The information obtained from the exposure assessment (**Section 4)** and toxicity assessment (**Section 5**) is integrated to identify the potential non-carcinogenic hazard and characterize excess lifetime cancer risk (ELCR) posed by COPCs selected for evaluation in the BHHRA. Descriptions of the risks associated with exposure to individual COPCs and those associated with exposures to multiple COPCs follows.

6.1 Non-Carcinogenic Hazard Identification

Estimation of potential hazards for non-carcinogenic effects is the calculation of a HQ for each COPC, using the following general equation, which can vary by exposure pathway.

$$HQ = \frac{Intake}{Toxicity}$$

Where:

HQ	=	Hazard quotient (unitless)
Intake	=	Chronic daily intake of chemicals or exposure dose (mg/kg-day or mg/m^3)
Toxicity	=	Oral reference dose (mg/kg-day), dermal reference dose (mg/kg-day) or inhalation reference concentration (mg/m^3)

The cumulative noncancer hazard index (HI) from exposure to the combination of COPCs in an environmental medium and across all media for a receptor uses the following equation (EPA 1989):

$$Hazard\ Index\ = \sum_i HQ_i$$

When the HI for a COPC exceeds unity (one), there may be concern for potential noncancer effects from that COPC. The HI is an indicator that potential hazard for a specific receptor exposed to a COPC in the environment cannot be ruled out, if it is greater than one, not that the hazard actually exists. In interpreting HI values, it is important to understand that the values are estimates, based on predictive models, and are subject to the uncertainties inherent in both the estimates of exposure and toxicity benchmarks.

6.2 Carcinogenic Risk Characterization

Estimation of potential risks for carcinogenic effects is the calculation of an ELCR resulting from exposure to site-related carcinogens. Calculation of an ELCR for an exposure pathway involves multiplying the chronic daily intake for each chemical by its upper-bound cancer slope factor, as described by the following general equation (EPA 1989), which can vary by exposure pathway and COPC:

$$Risk = Intake \ x \ Toxicity$$

Where:

Risk	=	Cancer risk (unitless)
Intake	=	Chronic daily intake of chemicals (expressed in mg/kg-day)
Toxicity	=	Oral slope factor [$(mg/kg\text{-}day)^{-1}$], dermal slope factor [$(mg/kg\text{-}day)^{-1}$] or inhalation unit risk [$(ug/m^3)^{-1}$]

Estimation of the cumulative cancer risk from exposure to the combination of constituents in an environmental medium and across all media for a receptor follows EPA guidance (EPA 1989) and the general equation:

$$Cumulative\ Risk = \sum_i Risk_i$$

For known or suspected carcinogens, EPA considers acceptable exposure levels to generally be concentration levels that represent an ELCR to an individual of between one in ten thousand (1E-04) and one in a million (1E-06).

6.3 Risk Assessment Results

The results of the hazard identification and risk characterization by receptor follow. The cancer risks and noncancer HQs are in **Attachment A, RAGS Part D Tables 7.1** through **7.4**. **Table 7.1** presents risk estimates for exposure of an adult and child resident to site-wide groundwater and **Table 7.2** that for the refined Core of the Plume groundwater data set. **Table 7.3** presents risk estimates for exposure of an adult and child recreational user to surface water and **Table 7.4** for surface water downstream of the GWTP. A separate, qualitative discussion of the potential toxicity of PCPPs, reported as TICs in the analytical data packages, is in **Section 7.4**.

6.3.1 Resident Evaluation

Site-wide Groundwater

The noncancer HIs and cumulative cancer risks by exposure pathway for a resident's exposure to COPCs in site-wide groundwater are in **Table 6-1**. Chemical-specific cancer risks and noncancer HQs are in **Attachment A, RAGS Part D Table 7.1**.

Table 6-1 - Resident's Exposure to Site-wide Groundwater

Exposure Route	Cumulative Cancer Risk	Primary COPCs	Hazard Index		Primary COPCs
	Lifetime		Adult	Child	
Ingestion	7.0E-04	Chromium (5.7E-04), 1,4-dioxane (7.6E-05), arsenic (3.4E-05), vinyl chloride (1.1E-05), benzene (6.6E-06)	1.4E+00	2.3E+00	Iron (4.0E-01 child, 2.4E-01 adult), cobalt (3.4E-01 child, 2.1E-01 adult), manganese & chromium (3.3E-01 child, 2.0E-01 adult), arsenic (2.5E-01 child, 1.5E-01 adult)
Dermal	3.5E-04	Chromium (3.0E-04), DEHP (4.8E-05)	5.7E-01	8.5E-01	DEHP (5.7E-01 child, 3.8E-01 adult), chromium (2.1E-01 child, 1.4E-01 adult)
Inhalation	1.1E-04	1,4-Dioxane (7.7E-05), benzene (1.9E-05), chloroform (6.7E-06), 1,2-dichloroethane (4.0E-06), 1,4-dichlorobenzene (1.4E-06)	2.1E+00	1.8E+00	1,4-Dioxane (1.2E+00 child, 1.4E+00 adult), TCE (2.2E-01 child, 2.6E-01 adult), benzene (1.9E-01 child, 2.3E-01 adult)
Total	1.2E-03	--	4.0E+00	4.9E+00	--

An evaluation of a resident's exposure to COPCs in site-wide groundwater indicates noncancer HIs of 4.0E+00 and 4.9E+00 an adult and child resident, respectively. These are greater than the acceptable limit of one. Ingestion of chromium (evaluated here as hexavalent chromium as noted in **Section 5.1**), cobalt, arsenic, iron and manganese in groundwater contribute to the HI. Inhalation of 1,4-dioxane, benzene and TCE also contribute to the HI. The dermal pathway has HIs below 1. See **Table 6-1**.

The ELCR for a resident's lifetime cancer risk to exposure to COPCs in site-wide groundwater is 1.2E-03. Chromium, 1,4-dioxane, DEHP, arsenic, vinyl chloride, benzene, chloroform, 1,2-dichloroethane and 1,4-dichlorobenzene contribute most to this result, varying by exposure route, as noted in **Table 6-1**.

Groundwater Using EPA Core of the Plume Guidance

The noncancer HIs and cumulative cancer risks by exposure pathway for residential exposure to COPCs in groundwater using EPA Core of the Plume guidance are summarized in **Table 6-2**. Chemical-specific cancer risks and noncancer HQs are in **Attachment A, RAGS Part D Table 7.2**.

The noncancer HIs of 1.3E+01 for an adult and 1.5E+01 for a child resident are greater than one. Inhalation of 1,4-dioxane is the primary contributor to the HI; benzene and TCE also contribute to the HI. Ingestion of chromium, benzene, arsenic, 1,4-dioxane and TCE in groundwater contribute to the HI. Dermal contact with DEHP, chromium and benzene in groundwater also contribute to the HI. See **Table 6-2**.

Table 6-2 - Resident's Exposure to Core of the Plume Groundwater

Exposure Route	Cumulative Cancer Risk	Primary COPCs	Hazard Index		Primary COPCs
	Lifetime		Adult	Child	
Ingestion	4.3E-03	Chromium (3.8E-03), 1,4-dioxane (3.0E-04), arsenic (1.1E-04), benzene (5.6E-05), BHC alpha (4.4E-06), TCE (2.9E-06), DEHP (2.2E-06)	2.7E+00	4.4E+00	Chromium (2.2E+00 child, 1.3E+00 adult), benzene (8.2E-01 child, 4.9E-01 adult), arsenic (7.8E-01 child, 4.7E-01 adult), 1,4-dioxane (3.2E-01 child, 1.9E-01 adult), TCE (2.7E-01 child, 1.6E-01 adult)
Dermal	2.1E-03	Chromium (2.0E-03), DEHP (1.3E-04), benzene (7.3E-06), BHC alpha (3.1E-06)	2.1E+00	3.1E+00	DEHP (1.5E+00 child, 1.0E+00 adult), chromium (1.4E+00 child, 9.4E-01 adult), benzene (1.1E-01 child, 7.4E-02 adult)
Inhalation	4.6E-04	1,4-Dioxane (1.7E-04), benzene (8.9E-05)	8.7E+00	7.3E+00	1,4-Dioxane (4.7E+00 child, 5.6E+00 adult), benzene (1.6E+00 child, 1.9E+00 adult), TCE (9.9E-01 child, 1.2E+00 adult)
Total	6.9E-03	--	1.3E+01	1.5E+01	--

For a resident's lifetime cancer risk to exposure to COPCs in Core of the Plume groundwater, the ELCR is 6.9E-03. Ingestion of total chromium (evaluated here as hexavalent chromium) is the main contributor to the ELCR, this is further discussed in the Uncertainty Section 7. The COPCs 1,4-dioxane, arsenic, benzene, BHC alpha and DEHP also contribute to the ELCR via the ingestion, dermal and inhalation pathways. See **Table 6-2**.

6.3.2 Recreational User Evaluation

Surface Water

The noncancer HIs and cumulative cancer risks by exposure pathway for a recreational user's exposure to COPCs in surface water from Trout Brook, Lamington River UNT and Tanners Brook UNT are summarized in **Table 6-3**. Chemical-specific cancer risks and noncancer HQs are in **Attachment A, RAGS Part D Table 7.3**.

Table 6-3 - Recreational User's Exposure to Surface Water

Exposure Route	Cumulative Cancer Risk	Primary COPCs	Hazard Index		Primary COPCs
	Lifetime		Adult	Child	
Incidental Ingestion	8.7E-07	--	2.8E-03	3.7E-02	--
Fish Ingestion	4.6E-06	Arsenic (4.6E-06)	2.3E-01	4.1E-01	Cobalt (2.7E-01 child, 1.5E-01 adult)
Dermal	1.4E-07	--	5.5E-03	1.1E-02	--
Total	5.7E-06	--	2.4E-01	4.6E-01	--

An evaluation of a recreational user's exposure to COPCs in surface water indicates noncancer HIs below 1 for an adult and child.

The ELCR is 5.7E-06. Ingestion of fish containing arsenic contributes the most to the ELCR. See **Table 6-3**.

Surface Water Downstream of GWTP

The noncancer HIs and cumulative cancer risks for a recreational user's exposure to COPCs in surface water from East Trout Brook, downstream of the GWTP, were calculated separately and are summarized in **Table 6-4**. Chemical-specific cancer risks and noncancer HQs are in **Attachment A, RAGS Part D Table 7.4**.

An evaluation of a recreational user's exposure to COPCs in surface water downstream of the plant indicates noncancer HIs below 1 for an adult and child.

The ELCR is 8.4E-06 for a recreational user's exposure to COPCs in surface water. The incidental ingestion of arsenic and 1,4-dioxane in surface water and ingestion of fish containing arsenic contributes the most to the ELCR. See **Table 6-4**.

Table 6-4 - Recreational User's Exposure to Surface Water Downstream of the GWTP

Exposure Route	Cumulative Cancer Risk	Primary COPCs	Hazard Index		Primary COPCs
	Lifetime		Adult	Child	
Incidental Ingestion	1.6E-06	Arsenic (8.7E-07), 1,4-dioxane (7.6E-07)	1.3E-03	1.7E-02	--
Fish Ingestion	6.6E-06	Arsenic (5.9E-06)	3.3E-02	5.9E-02	--
Dermal	2.2E-07	--	9.9E-04	2.0E-03	--
Total	8.4E-06	--	3.5E-02	7.8E-02	--

6.3.3 Lead Exposure Evaluation

Assessment of lead risks for children uses the IEUBK model (EPA 2010) with default parameters, except for the water concentration. EPA updated the maternal blood lead level to 0.6 ug/dL and an age range of 12 to 72 months (1 to 6 years) in accordance with the 2017 OLEM guidance (2017a, b). The arithmetic mean water concentrations are input in the model as 11.2 ug/L for the evaluation of site-wide groundwater, 47.4 ug/L using Core of the Plume groundwater data set and 7.31 ug/L for the evaluation of surface water (as presented in **Attachment A, RAGS Part D Planning Tables 3.1 to 3.3**). The IEUBK model outputs for the data sets are in **Attachment C, Tables C.1 to C.3**.

An evaluation of a resident's exposure to site-wide groundwater lead data using the arithmetic mean of 11.2 ug/L in the model identifies approximately 22 percent of the population for children between the ages of one and six are predicted to have a blood lead concentration of at least 5 ug/dL.

Using the Core of the Plume groundwater arithmetic mean, the IEUBK model identifies approximately 68 percent of the population for children between the ages of one and six are predicted to have a blood lead concentration of at least 5 ug/dL.

Lead is also a COPC in surface water. An evaluation of a child recreational user's exposure to surface water lead data in the model identifies approximately 16 percent of

the population for children between the ages of one and six are predicted to have a blood lead concentration of at least 5 ug/dL.

6.3.4 Background Surface Water Data

As noted above in **Section 3.6**, HDR collected 10 background sediment and surface water samples in 2017 for the SLERA. This BHHRA does not evaluate sediment exposures. It only provides an evaluation of the background data for surface water.

The background metals concentrations for surface water vary between being less than or within the range of the site-related concentrations from the four water bodies sampled. For essential nutrients, the maximum background concentrations are higher than the site-related maxima (e.g., iron, magnesium). There are also instances where there is a constituent detection in the background data set, but not in the site-related data set (i.e., cyanide, mercury, zinc). The background sampling had lower detection limits compared to those of the site-related samples collected in 2014.

The range of concentrations for metals identified as primary contributors to the risk estimates are in **Table 6.5** along with the range of background concentrations.

Table 6-5 - Surface Water Background Data Comparison for Metal Risk Contributors

COPC	Surface Water (Trout Brook, Lamington River UNT, Tanners Brook UNT)	Surface Water (East Trout Brook)	Background Surface Water
Arsenic	Non-detect to 2.8	Non-detect to 3.6	1.1 to 1.6
Chromium (Total)	0.58 to 3.7	0.95 to 7	0.31 to 2.3
Cobalt	0.87 to 3.9	Non-detect	0.27 to 2.9
Iron	46.2 to 5,410	56.3 to 139	63.2 to 6,110
Manganese	20 to 381	6.8 to 70.5	7.5 to 330
Note: Concentrations are in units of ug/L.			

6.3.5 Vapor Intrusion Evaluation

In April 2010, EPA collected samples of indoor air and sub-slab soil gas from residential properties near the study area. Sample analysis was for VOCs. Initial comparison of the analytical data from these samples to the indoor air screening levels (IASLs) available in 2010 indicated IASL exceedances of 1,2-dichloroethane, benzene, ethylbenzene and TCE in indoor air. None of the concentrations detected exceeded the less stringent 2007 removal action levels (RALs) for indoor air. There were no exceedances of the sub-slab soil gas screening levels in force at that time.

NJDEP updated its Vapor Intrusion Guidance (VIG), which includes screening and action levels and the actions necessary if there are exceedances of criteria, in January 2018 (NJDEP 2018a). EPA updated the Vapor Intrusion Screening Levels (VISLs) in February 2018 (EPA 2018c). The 2010 indoor air and sub-slab soil gas data as well as the 2011 to 2015 groundwater data are compared to these screening levels to determine if further action is needed.

Indoor Air

To address the updated indoor air screening values, HDR compared the 2010 indoor air results at residential properties to the following:

1. Current EPA Residential Indoor Air VISLs (target cancer risk of 1E-06, target hazard quotient of 1, outputs provided in **Attachment D**) (EPA 2018c);
2. NJDEP Generic Residential Indoor Air Vapor Intrusion Screening Levels (IASLs) (NJDEP 2018b); and
3. NJDEP Indoor Air Rapid Action Levels (RALs) (NJDEP 2018b).

That comparison, which is in **Attachment D, Table D.1**, indicates analytical results for eight analytes exceed the EPA Indoor Air VISLs, which are the most stringent of the criteria used. Of these instances, 1,2-dichloroethane, benzene, ethylbenzene and TCE have concentrations exceeding the NJ IASLs.

TCE has a maximum indoor air concentration of 6.4 ug/m^3, which is greater than the NJ RAL of 4 ug/m^3. The TCE in indoor air may originate from sources unrelated to VI within the homes, as there were no detections of TCE in the samples of sub-slab soil gas.

Outdoor air is a negligible pathway of exposure and is not included in the CSM. For information purposes, results are in **Attachment D, Table D.3**.

Soil Gas

Comparison of sub-slab soil gas results to the current EPA Sub-Slab Soil Gas VISLs (target cancer risk of 1E-06, target hazard quotient of 1) (EPA 2018c) and NJDEP Generic Residential Soil Gas VISLs (SGSL) (NJDEP 2018b) is in **Attachment D, Table D.2**. All of the samples have VOC concentrations less than the screening levels, with certain exceptions. Concentrations of benzene, chloroform, and vinyl chloride exceed the applicable criteria at three different properties:

- Benzene concentration of 17 ug/m^3 exceeds the EPA Sub-Slab VISL of 12 ug/m^3 and NJ Soil Gas VISL of 16 ug/m^3;
- Chloroform concentration of 27 ug/m^3 exceeds EPA Sub-Slab VISL of 4.07 ug/m^3 and NJ Soil Gas VISL of 24 ug/m^3; and
- Vinyl chloride detected concentration of 7.7 ug/m^3 exceeds EPA Sub-Slab VISL of 5.59 ug/m^3.

Groundwater

This BHHRA evaluates the groundwater data set for the vapor intrusion pathway for only those constituents that have exceedances of current IASLs and SGSLs as noted above, i.e., 1,2-dichloroethane, 1,2-dichloropropane, benzene, chloroform, and TCE. There were no further evaluations of carbon tetrachloride and ethylbenzene as the groundwater concentrations were non-detect. Vinyl chloride was detected in less than 5% of samples and was not carried forward as a COPC in groundwater.

Table 6-6 - Groundwater Data Comparison to VISLs

COPC	GW VISL		GW Maximum Detect	GW EPC
1,2-Dichloroethane	2.24		2.8	0.492
1,2-Dichloropropane	6.58		0.87	0.392
Benzene	1.59		90	7.763
Chloroform	0.814		9.2	0.928
TCE	1.19		4	0.592

Notes: VISLs and concentrations are in units of ug/L. VISL based on a target risk of 1E-06 and HQ of 1.

Comparison of the residential groundwater VISLs (target cancer risk of 1E-06, target hazard quotient of 1) to the maximum detected concentrations indicates the COPCs have concentrations greater than their respective VISL, except for 1,2-dichloropropane.

Comparison of the EPCs, which are 95% UCLs, indicates only benzene and chloroform have EPCs greater than their respective VISL.

As the groundwater data are from samples collected in the deep aquifer and the exceedances of the groundwater VISLs are noted starting at least 85 feet below ground surface, this is a conservative analysis, assuming that concentrations could migrate to the surface.

Conclusions

Performance of the 2010 VI sampling was prior to the RI field investigations. HDR did not conduct VI sampling for the RI. Additional VI sampling is necessary for further assessment of VI, as the existing data is eight years old and is unlikely to be representative of current conditions.

While these initial findings indicate there may be a potential VI concern, as both EPA and NJDEP indoor air and soil gas VISLs are exceeded, residents are unlikely to be exposed to contaminants through the VI pathway. TCE in indoor air likely originates from sources unrelated to VI, as TCE is not detected in any of the sub-slab soil gas samples; and there are no TCE concentrations in groundwater exceeding the groundwater screening level of 2 ug/L within a quarter mile or more of residences or any other structure.

6.3.6 Risk Assessment Summary

This BHHRA was prepared to evaluate potential baseline health risks for current/future receptor exposure to COPCs present in groundwater and surface water. The COPC screening of the BHHRA identified 29 COPCs. The potential exposure scenarios considered in this BHHRA include drinking water ingestion, dermal contact, and inhalation of groundwater by residents as well as incidental water ingestion and dermal contact by recreational users, as shown in the CSM, **Figure 4-1**.

The evaluation of potential noncancer hazards and cancer risks to residents and recreational users from exposure to COPCs in groundwater and surface water indicates several COPCs whose concentrations in environmental media contribute to the hazard and risk estimates. Exposure to these COPCs may result in potential adverse health effects. Therefore, these are now identified as COCs in the BHHRA. Note that the

definition of a COC in this BHHRA varies from the definition in the RI. In the RI, definition of a COC for delineation purposes is a contaminant with a five percent or greater frequency of exceeding an applicable standard or comparison criterion (see Section 1.5 of the RI).

Resident Exposure

For a resident's exposure to site-wide groundwater, chromium, 1,4-dioxane, arsenic, benzene, DEHP, chloroform, vinyl chloride, 1,4-dichlorobenzene and 1,2-dichloroethane contribute the most to the ELCR of 1.2E-03; BHC alpha and TCE also contribute in the Core of the Plume evaluation that has an ELCR of 6.9E-03. For noncancer, several COPCs contribute to pathway-specific HIs greater than one, but none of the individual HQs for these COPCs are greater than one (arsenic, chromium, cobalt, iron, manganese, benzene, DEHP and TCE), except for 1,4-dioxane with HQs of 1.4E+00 and 1.2E+00 for an adult and child's inhalation route, respectively. For the Core of the Plume evaluation, chromium, 1,4-dioxane, DEHP, TCE and benzene have HQs greater than one.

As noted above, cobalt, iron, and manganese are COCs for site-wide groundwater, but not for Core of the Plume groundwater, as the Core of the Plume evaluation included only the eight COCs identified in the RI. Metals with aqueous standards based on secondary characteristics (i.e. appearance, odor and taste) i.e., aluminum, iron and manganese, were not treated as COCs in the RI for purposes of delineation in groundwater or surface water although these metals are evaluated in the BHHRA as COPCs. Cobalt did not exceed the groundwater quality criterion. It is not a COC for delineation purposes in the RI.

The cumulative cancer risk and HI for site-wide and Core of the Plume scenarios are 1.2E-03 vs. 6.9E-03 for cancer risk, 4.0E+00 vs. 1.3E+01 for an adult's HI and 4.9E+00 vs. 1.5E+01 for a child's HI, respectively. Total chromium is evaluated as hexavalent chromium in these exposure scenarios (a discussion of the uncertainty introduced by use of hexavalent vs. trivalent chromium is included in **Section 7**); this evaluation indicates that use of toxicity values for trivalent chromium results in chromium no longer being a contributor to the hazard and risks.

Actual exposure to these COCs in groundwater is expected to be limited, as the 1986 ROD called for an alternate water supply (HDR 2011b) and a municipal water supply has been constructed to serve properties impacted by groundwater contamination (EPA 2015d). However, not all affected property owners have connected to the municipal supply.

While the initial findings indicate there may be a potential VI concern, residents are unlikely exposed to contaminants through the VI pathway. TCE in indoor air likely originates from sources unrelated to VI, as TCE is not detected in any of the sub-slab soil gas samples nor are there TCE concentrations in groundwater exceeding the groundwater screening level of 2 ug/L within a quarter mile or more of residences or any other structure.

Recreational User Exposures

For a recreational user's exposure to surface water from Trout Brook, Lamington River UNT, and Tanners Brook UNT, consumption of fish with arsenic contributes the most to the ELCR of 5.7E-06. The noncancer HIs for an adult and child are below one.

For a recreational user's exposure to surface water from East Trout Brook, downstream from the GWTP permitted discharge, arsenic and 1,4-dioxane contribute most to the ELCR of 8.4E-06; the noncancer HIs are below one.

The ELCRs calculated for exposure to COPCs are within EPA's acceptable risk range for surface waters within Trout Brook, Lamington River UNT, Tanners Brook UNT, and East Trout Brook.

7 Uncertainty Analysis

This section includes a discussion on the inherent uncertainties in the BHHRA methods, inputs and conclusions, the additional sensitivity analyses performed and a qualitative evaluation of the toxicity of PPCPs.

7.1 BHHRA Uncertainties

There is uncertainty inherent in the methods, inputs, and conclusions of any BHHRA. This level of uncertainty results from the fact that most every step in the risk assessment process involves assumptions and unknowns, contributing to the total uncertainty in the conclusions. These include, but are not limited to the following:

- Environmental parameters, chemistry and sampling analysis;
- Assumptions in the derivation of screening benchmarks that are used to identify site-related COPCs;
- The exposure factors used for quantifying exposure are conservative and reflect upper-bound assumptions; the resulting hazard and risk values may be overestimated;
- Maximum concentrations applied as a measure of exposure for each medium and receptor, which is a conservative assumption intentionally used to focus the risk assessment on those pathways and receptors potentially at risk. This likely overestimates the risks and HQs;
- This BHHRA assumes bioavailability of 100% of the chemical substance for uptake by humans. This assumption is known to be invalid for most chemical substances under varying environmental conditions and likely overestimates risks and HQs; and

Uncertainties specific to this BHHRA include:

- QAPP data requirements that are not met for precision, accuracy and completeness, which may result in potential data gaps (discussed in the DER, Appendix B);

- Evaluation of a child recreational user's exposure to lead from incidental ingestion of surface water when wading in nearby surface water bodies uses the IEUBK model, which considers primarily drinking water exposure. This likely underestimates the blood lead concentrations for this pathway, as the IEUBK model incorporates lower water ingestion rates (0.2 to 0.59 L/day) in the age groups between six months to seven years (EPA 2010) compared to a water ingestion rate of 1.2 L/day for each age group between birth to six years that is used in the calculation of surface water ingestion for the other COPCs (EPA 2008);
- The concentrations of arsenic detected in surface water may not be entirely site-related; they could be either naturally occurring in geological materials, or of anthropogenic origin, resulting from application of pesticides. The concentrations of cobalt, iron, and manganese in groundwater may also be naturally occurring. However, compounds incorporating these metals were ingredients in personal care products. The RI did not include collection of background data for groundwater concentrations, but review of background surface water concentrations (as noted in **Section 6.3.4**) indicates cobalt, iron, and manganese concentrations are within a similar range to background concentrations while arsenic concentrations tend to be greater.
- The age of the indoor air and soil gas data adds uncertainty to the VI qualitative analysis. In addition, note the exceedances of groundwater VI screening levels are in samples located more than a quarter mile away from any potentially affected residences.

7.2 Fish Ingestion Pathway

A review of several sources to determine whether fish may be present in the four nearby surface water bodies and whether these fish may be consumable indicates that there is limited potential for consumable fish to be present and caught for consumption by recreational users. As noted in **Section 3.3**., the site is less accessible and attractive than other recreational areas in the vicinity. Use by recreational users and exposure to environmental media would be low.

The Lamington River, which connects to Trout Brook and Tanners Brook, is the major water body in the area to evaluate for fish species. The NJDEP Fish Index of Biotic Integrity (IBI) Report for the Lamington River identified the presence of 17 fish species (NJDEP 2007). Most are too small to be consumable and for those that are considered consumable (i.e., white sucker, American eel, brown trout, sunfish), there is minimal expected exposure via ingestion of these fish, for the following reasons:

- The white sucker is a bottom-dweller not popular for fishing;
- The population of American eel has diminished because of over-fishing and export and is not popular with the demographic population living near the site;
- Brown trout are hatchery-raised and released into water bodies at about a 10" size and most likely caught by anglers soon after being released, which reduces their time spent in the water bodies; and

- Sunfish are primarily found in small ponds and occasionally jump to nearby water bodies. However, HDR did not observe sunfish or other fish species during the field surveys.

7.3 Chromium

Total chromium (Cr) is identified as a COPC for groundwater, but there are no toxicity values available for total chromium; however, there are toxicity values for trivalent and hexavalent chromium. The RI did not perform speciation analysis for chromium and it is unknown what the ratio of the species is in groundwater. A literature review of which species is potentially present did not provide any substantive support for one over the other. Regardless, to provide a conservative assessment of potential risk, the hexavalent toxicity values are substituted for evaluation of the total chromium data in the BHHRA.

The risk characterization indicates that total chromium is a COC for several exposure pathways when hexavalent toxicity values are applied. Evaluating total chromium as only hexavalent chromium likely overestimates the risks and HQs; therefore, an analysis using only trivalent chromium toxicity values and dermal factors is below for comparison. IRIS identifies an oral RfD of 1.5 mg/kg-day for trivalent chromium and there are no values for any of the other exposure pathways – see **Table 7-1** for a comparison of toxicity values.

Table 7-1 - Comparison of Chromium Toxicity Values

	Noncancer		Cancer	
Constituent	**Oral Reference Dose** (mg/kg-day)	**Inhalation Reference Concentration** (mg/m^3)	**Oral Slope Factor** $(mg/kg\text{-}day)^{-1}$	**Inhalation Unit Risk** $(ug/m^3)^{-1}$
Trivalent Cr	1.5	Not available	Not available	Not available
Hexavalent Cr	0.003	0.0001	0.5	0.084

A permeability coefficient (Kp) of 0.001 cm/hour for trivalent chromium is applied in the dermal exposure pathway calculations, compared to a Kp of 0.002 cm/hour for hexavalent chromium. The ratio of permeability coefficients (B) of 0.0028 (unitless) for trivalent chromium is in the calculations as opposed to the 0.0055 for hexavalent chromium. The values for the lag time and time to reach steady state remain the same for both.

A review of the noncancer hazards and cancer risks that are a result of applying the trivalent chromium oral RfD and dermal parameters indicates that chromium would no longer be a COC in all exposure pathways.

The noncancer HIs and cumulative cancer risks by exposure pathway for a resident's exposure to COPCs in site-wide groundwater using trivalent chromium values are summarized in **Table 7-2** below and those using hexavalent chromium are presented in **Table 6-1** above. The ELCR for the resident is 1.2E-03 when hexavalent chromium toxicity values are incorporated compared to an ELCR of 2.9E-04 when incorporating trivalent chromium values. The HIs for an adult and child are 4.0E+00 and 4.9E+00, respectively, when incorporating hexavalent chromium compared to 3.7E+00 and 4.4E+00, respectively, when incorporating trivalent chromium. A comparison of these two tables illustrates that chromium is a COC when incorporating toxicity values for

hexavalent chromium, contributing to the ELCR in the ingestion and dermal pathways and increasing the overall ELCR significantly (from 2.9E-04 to 1.2E-03). If the assumption is all chromium is trivalent, chromium is not a COC and much less of a contributor to the ELCR.

Table 7-2 - Resident's Exposure to Site-wide Groundwater - Trivalent Chromium

Exposure Route	Cumulative Cancer Risk	COPCs	Hazard Index		COPCs
	Lifetime		Adult	Child	
Ingestion	1.3E-04	1,4-Dioxane (7.6E-05), arsenic (3.4E-05), vinyl chloride (1.1E-05), benzene (6.6E-06)	1.2E+00	2.0E+00	Iron (4.0E-01 child, 2.4E-01 adult), cobalt (3.4E-01 child, 2.1E-01 adult), manganese (3.3E-01 child, 2.0E-01 adult), arsenic (2.5E-01 child, 1.5E-01 adult)
Dermal	5.1E-05	DEHP (4.8E-05)	4.3E-01	6.5E-01	DEHP (5.7E-01 child, 3.8E-01 adult)
Inhalation	1.1E-04	1,4-Dioxane (7.7E-05), benzene (1.9E-05), chloroform (6.7E-06), 1,2-dichloroethane (4.0E-06), 1,4-dichlorobenzene (1.7E-06)	2.1E+00	1.8E+00	1,4-Dioxane (6.7E-01 child, 8.0E-01 adult), TCE (1.2E-01 child, 1.4E-01 adult), benzene (1.1E-01 child, 1.3E-01 adult)
Total	2.9E-04	--	3.7E+00	4.4E+00	--

HDR observed a similar decrease when evaluating the Core of the Plume groundwater data set incorporating trivalent chromium toxicity and dermal values, presented in **Table 7-3** below. The noncancer HIs and cumulative cancer risks with hexavalent chromium are presented in **Table 6-2**. The ELCR is 6.9E-03 when incorporating hexavalent chromium toxicity values, compared to an ELCR of 1.1E-03 using trivalent chromium toxicity values. Again, this is a significant increase assuming all hexavalent chromium. The HIs for an adult and child are 1.3E+01 and 1.5E+01, respectively, when incorporating hexavalent chromium toxicity values compared to 1.1E+01 and 1.1E+01, respectively, using trivalent chromium toxicity values.

Table 7-3 - Resident's Exposure to Groundwater Core of Plume - Trivalent Chromium

Exposure Route	Cumulative Cancer Risk	COPCs	Hazard Index		COPCs
	Lifetime		Adult	Child	
Ingestion	4.7E-04	1,4-Dioxane (3.0E-04), arsenic (1.1E-04), benzene (5.6E-05), BHC alpha (4.4E-06), TCE (2.9E-06), DEHP (2.2E-06)	1.3E+00	2.2E+00	Benzene (8.2E-01 child, 4.9E-01 adult), arsenic (7.8E-01 child, 4.7E-01 adult), 1,4-dioxane (3.2E-01 child, 1.9E-01 adult), TCE (2.7E-01 child, 1.6E-01 adult)
Dermal	1.4E-04	DEHP (1.3E-04), benzene (7.3E-06), BHC alpha (3.1E-06)	1.1E+00	1.7E+00	DEHP (1.5E+00 child, 1.0E+00 adult)
Inhalation	4.6E-04	1,4-Dioxane (3.0E-04), benzene (1.6E-04)	8.7E+00	7.3E+00	1,4-Dioxane (2.6E+00 child, 3.1E+00 adult), benzene (9.0E-01 child, 1.1E+00 adult), TCE (5.5E-01 child, 6.5E-01 adult)
Total	1.1E-03	--	1.1E+01	1.1E+01	--

7.4 Pharmaceutical and Personal Care Products

The landfill received waste from the manufacture of PPCPs; constituents related to PPCPs were in TICs detected in groundwater (see Appendix BB of the RI report for the TIC analytical data). **Attachment E, Figure E.1** graphically presents the TIC data included in the groundwater data sets evaluated in this BHHRA.

HDR conducted a review of the analytical data for the TICs to determine what PPCPs were present in groundwater and surface water. Of the approximately 100 TICs detected in the groundwater and surface water, 36 of them are PPCPs or related to the manufacture and degradation of PPCPs. The evaluation is in **Attachment E, Table E.1**.

Detected concentrations of PPCPs are identified in most of the samples that the COC 1,4-dioxane is detected, as shown in **Attachment E, Figures E.1** and **E.2**. Further discussion on the TICs and their potential location with COCs is in the RI, Section 4.2.1.2.

This BHHRA does not include a quantitative evaluation of PPCPs, which may underestimate the overall risk estimates due to their exclusion. The impact the presence of PPCPs may have on human health risk, particularly for phenobarbital, and as any that may be acting as endocrine hormone disruptors, is included in a qualitative manner below as part of the BHHRA.

EPA submitted a toxicological data request to the STSC; the response is in **Attachment E, Table E.2**. For the four TICs noted above, STSC indicates that 2-ethylhexanoic acid has noncancer health effects through the oral route, bis-chloromethylether and phenobarbital have cancer health effects through the oral and inhalation routes, and n-butylbenzenesulfonamide was not identified as having toxicity values. None of the TICs in the BHHRA data set is in the initial screening of 52 potential endocrine disruptor chemicals in the EPA *Endocrine Disruptor Screening Program Universe of Chemicals* (EPA 2012), except for n-butylbenzenesulfonamide.

Limited toxicity data is available on IRIS and from other toxicological and chemical data sources for the PPCPs identified in the BHHRA data set. An RfD for chronic oral exposure is available for o-chlorotoluene (2E-02 mg/kg-day), for phthalic anhydride (2 mg/kg-day), and for hexachlorophene (3E-04 mg/kg-day). Phthalic anhydride also has an IUR of 6.2E-02 per $\mu g/m^3$.

The following qualitative information is available for TICs with potential effects on hormonal activity. For TICs not noted here, there was no information indicating a link to hormonal activity. None of the TICs is a hormone; however, several have effects on hormonal activity.

- Research indicates phenobarbital impacts estrogen and thyroid hormones in the body (human and animal studies) when administered (Gaskill et al. 1999; Luoma et al. 1984).
- There is research indicating that palmitic acid mediates hypothalamic insulin resistance; it is also a primary ingredient in the production of napalm (Benoit et al. 2009).
- Tetrahydrofuran is involved in the development of phytoestrogens, plant derived compounds for which there is evidence of endocrine disruption and related

adverse health outcomes in humans and animals. There is other evidence of antioxidant, antibacterial, insecticidal, and tumor-inhibitory activity for tetrahydrofuran (Pohjoispaa 2013).

- 2-ethylhexanoic acid (2-EHXA) is involved in DEHP metabolism and toxic effects of that PAH, involving progesterones, follicle-stimulating hormone (FSH), and estrogens (Treinen 1990).
- Stimulation of progesterone synthesis by FSH is inhibited by 1,2-benzenedicarboxylic acid, butyl 2-methyl pro (MEHP) and also suppresses estradiol. DEHP also suppresses the production of estradiol and ovulation in lab animals. There appears to be a significant body of research indicating various effects on blood sugar regulation, thyroid, and other hormonal-regulated reactions resulting from exposure to DEHP (Treinen 1990; Wrobel 2002).
- Phthalic anhydride is involved in estradiol and other hormone function (Szechnikova 2007).
- Butabarbital, a CNS depressant appears to be involved in serotonin reuptake, which may increase the risk of psychomotor impairment when used in combination with selective serotonin reuptake inhibitors (Drugs.com 2018).
- A possible progesterone receptor antagonist is 2-(3H)-benzothiazolone (Zhang 2001).

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Figures

Contents:

Figure 1-1 Site Location

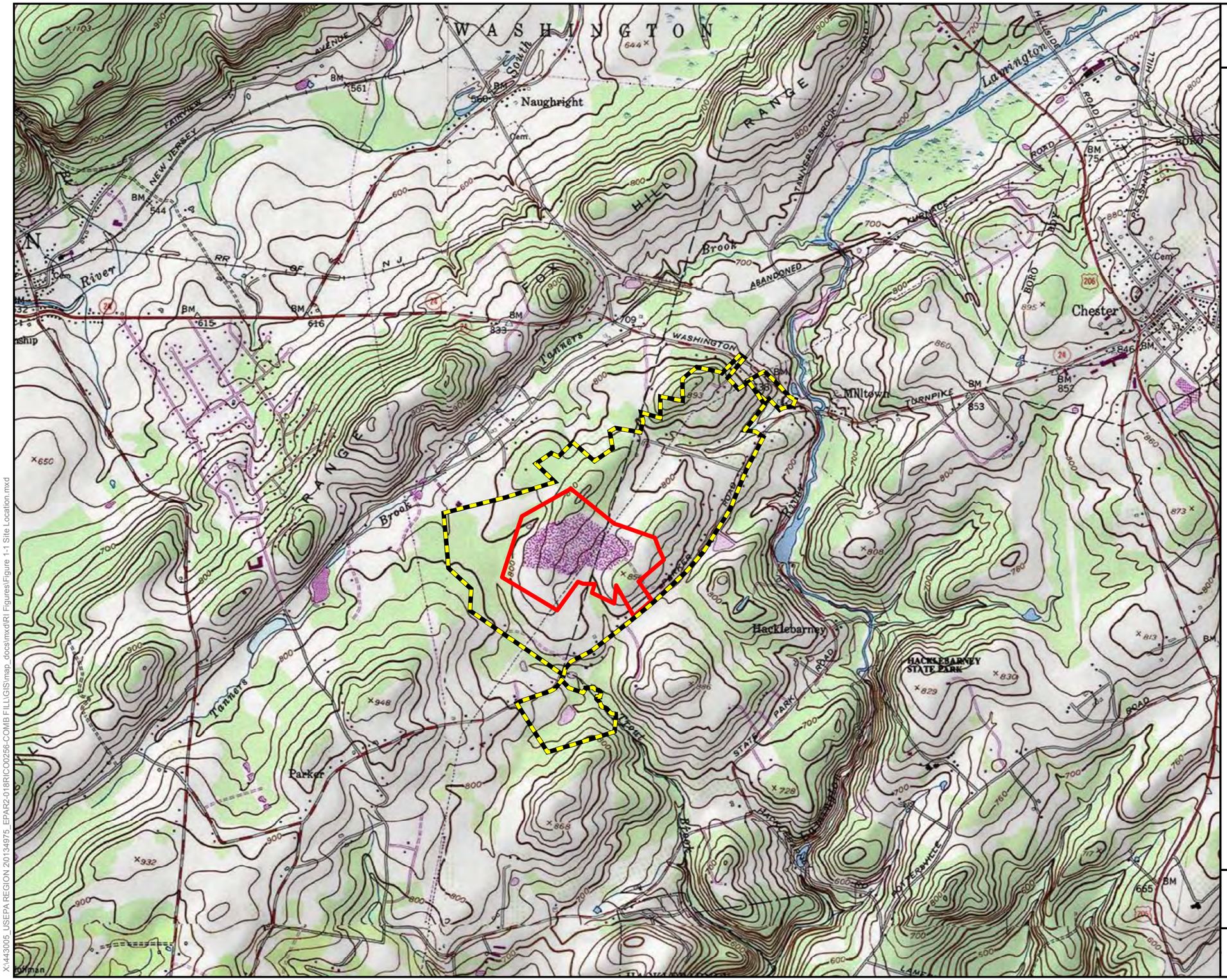
Figure 2-1 Groundwater Monitoring Well Locations

Figure 3-1 Nov 2014 Surface Water & Sediment Locations

Figure 3-2 Sept 2017 Spring, Seep & Background SW and Sediment Locations

Figure 4-1 Human Health Conceptual Site Model

Combe Fill South Landfill Superfund Site OU2 RI/FS



Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

Legend

- OU2 Investigation Area
- OU1 - Landfill Property Boundary

0 1,000 2,000 Feet

Site Location and Overview

Figure 1-1
May, 2018

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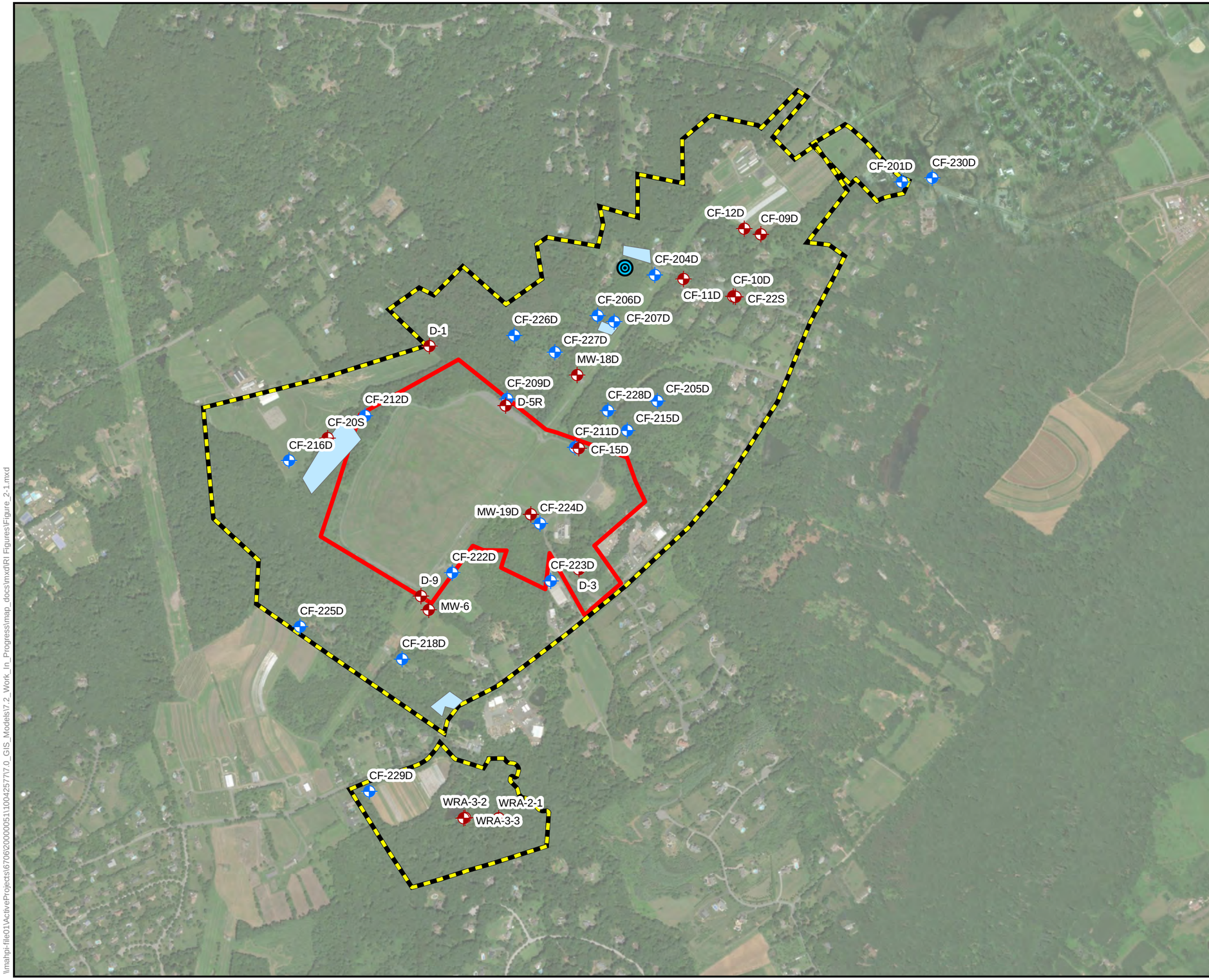

Combe Fill South Landfill
Superfund Site OU2 RI/FS

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Coordinates in New Jersey State Plane
(NAD 1983, survey foot)

Legend

- OU2 Investigation Area
- OU1 - Landfill Property Boundary
- OU 2 Bedrock Monitoring Wells
- NJDEP Subset Monitoring Wells
- Springs
- Seeps

0 500 1,000 2,000 Feet

Monitoring Well Locations
Sampled Wells Only

Figure 2-1
May, 2018

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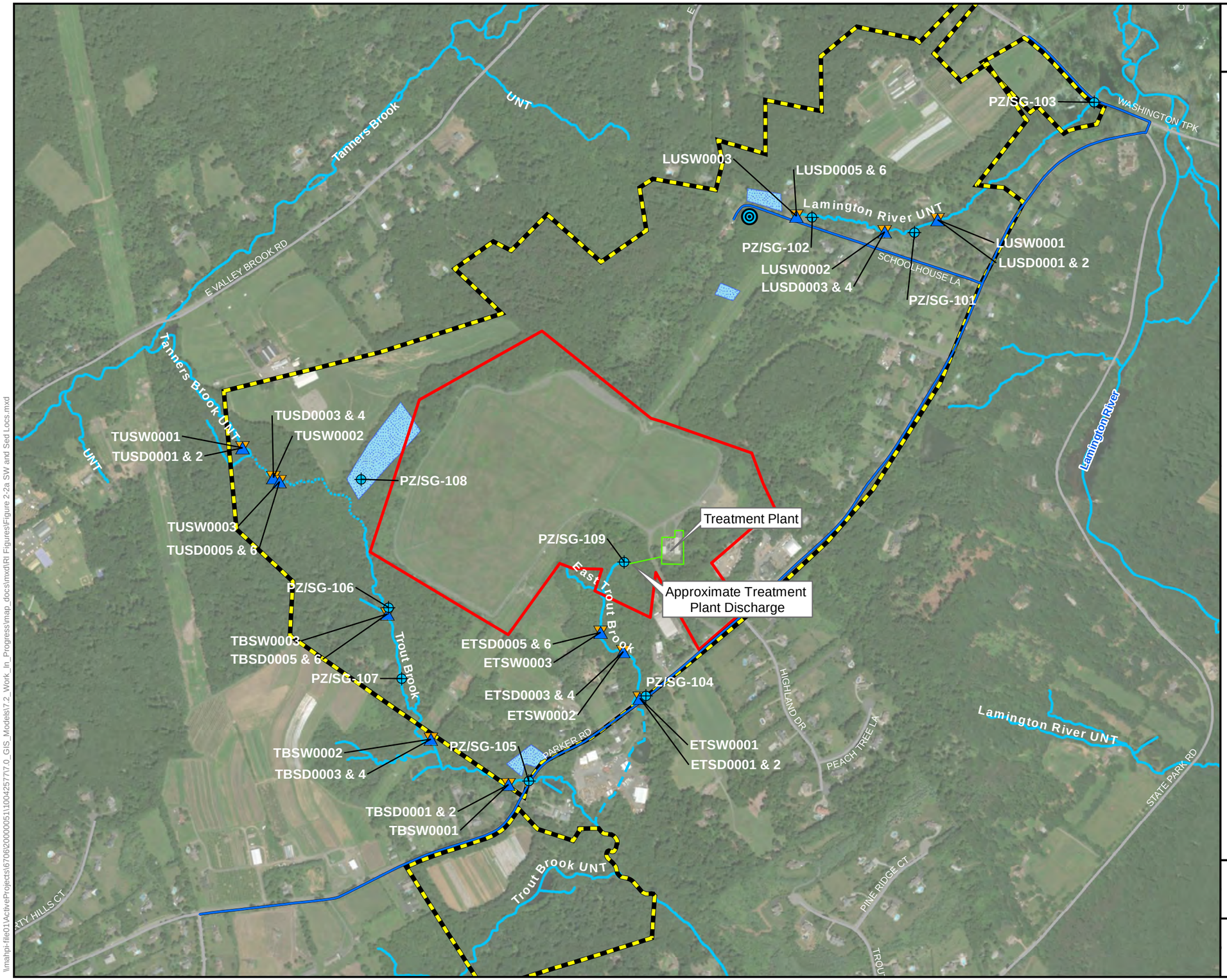


Combe Fill South Landfill Superfund Site OU2 RI/FS

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

Legend

- OU2 Investigation Area
- OU1 - Landfill Property Boundary
- Surface Water Samples
- Sediment Samples
- Stream Gauge / Piezometer
- Surface Water
- Undefined Surface Water
- East Trout Brook culvert
- Springs
- Seeps
- Approximate Extent of 2015 Water Main Extension
- Streets

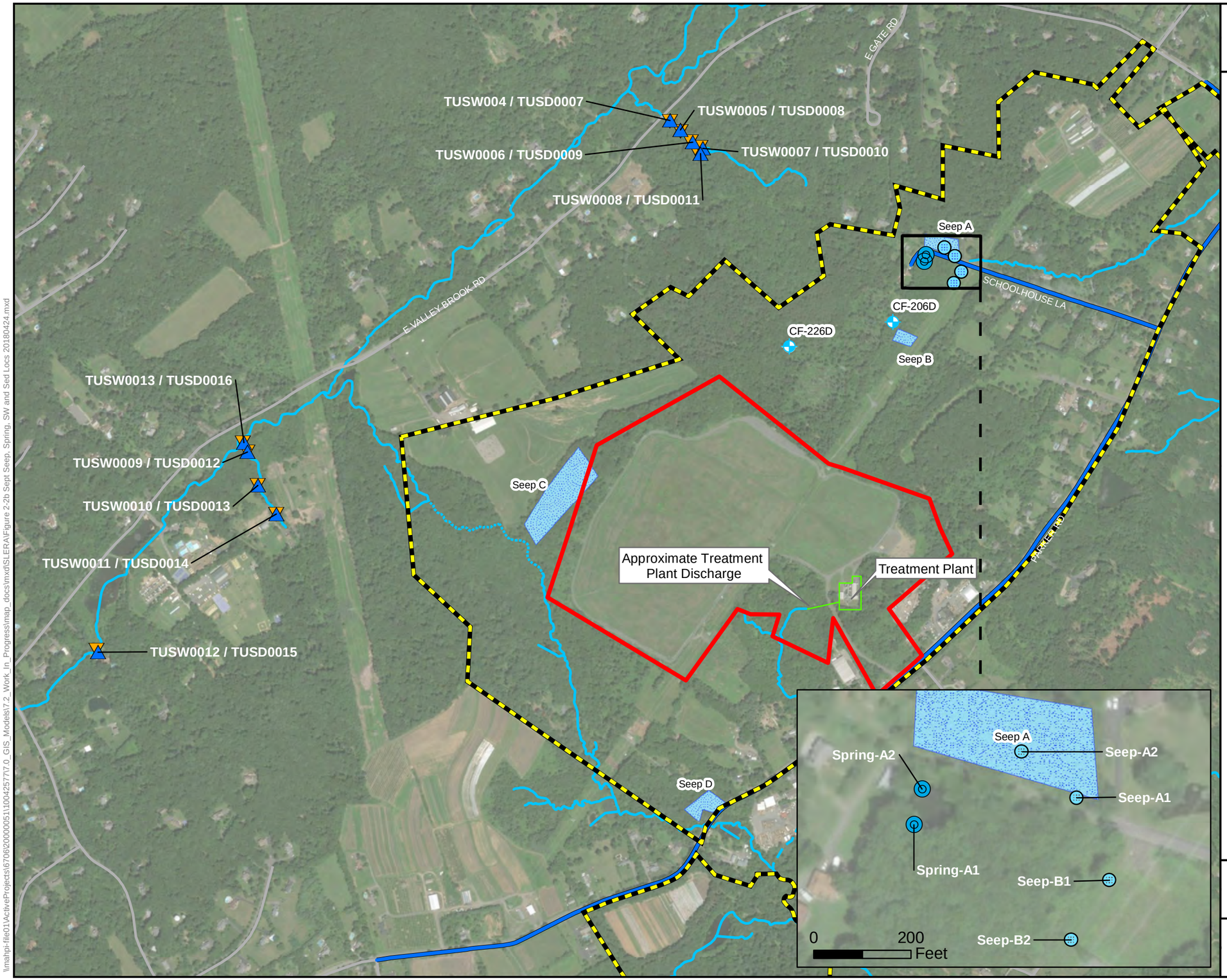
UNT = Unnamed Tributary

0 400 800 Feet

Locations of November 2014 Surface Water/Sediment Sampling; Piezometers and Stream Gauges

Figure 3-1
May, 2018

\\mahpi-file01\ActiveProjects\6706\2000005\1100425777\7.0_GIS_Models\7.2_Work_In_Progress\map_docs\mxd\RI Figures\Figure 2-2a SW and Sed Locs.mxd



Combe Fill South Landfill Superfund Site OU2 RI/FS

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

Legend

- OU2 Investigation Area
- OU1 - Landfill Property Boundary
- Surface Water Samples
- Sediment Samples
- Seeps
- Springs
- Groundwater Monitoring Wells
- Surface Water
- Undefined Surface Water
- East Trout Brook culvert
- Approximate Extent of 2015 Water Main Extension
- Streets

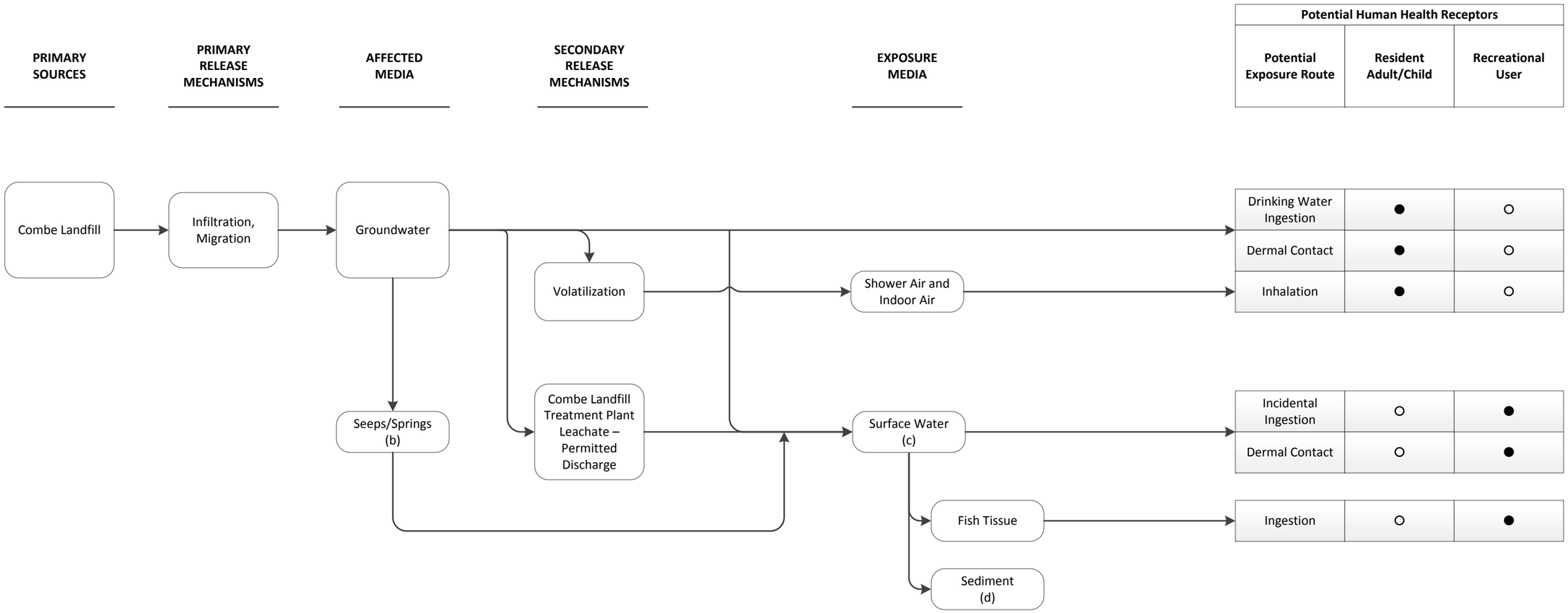
UNT = Unnamed Tributary

0 400 800 Feet

September 2017 Spring, Seep, Background Surface Water, and Sediment Sampling Locations

Figure 3-2
April, 2018

\\mahpi-file01\ActiveProjects\6706\20000051\10042577\7.0_GIS_Models\7.2_Work_In_Progress\map_docs\mxd\SLERA\Figure 2-2b Sept Seep, Spring, SW and Sed Locs 20180424.mxd



NOTES

● Pathway assumed to be complete.

○ Pathway assumed to be incomplete or insignificant.

(a) Exposure pathways are based on the current understanding of the Site and are subject to change.

(b) Seeps and springs are not evaluated separately as they are considered to be groundwater, which is evaluated, and exposure to COPCs at seeps and springs is considered *de minimis*.

(c) Surface water was evaluated for the nearby water bodies:
Trout Brook, East Trout Brook, a Lamington River unnamed tributary (UNT) and a Tanners Brook UNT.
East Trout Brook represents impacts downstream of the permitted discharge from the Treatment Plant.

(d) Sediment is not evaluated. Upon review of the sediment analytical data, site use and conditions, potential for bioaccumulation and exposure pathways, it was determined that minimal and infrequent contact with sediment is expected.

U.S. Environmental Protection Agency
Combe Fill South Landfill RI/FS
Chester & Washington Townships, New Jersey

Figure 4-1
Human Health Conceptual Site Model
June, 2018

Attachment A

Contents:

Table 0	Site Risk Assessment Identification Information
Table 1	Selection of Exposure Pathways
Table 2.1	Occurrence, Distribution and Selection of COPCs for Site-wide Groundwater
Table 2.2	Occurrence, Distribution and Selection of COPCs for Surface Water
Table 2.3	Occurrence, Distribution and Selection of COPCs for Surface Water Downstream of the Leachate Treatment Plant
Table 2.Supp.1	Summary of Human Health COPCs
Table 3.1	Exposure Point Concentration Summary for Site-wide Groundwater
Table 3.2	Exposure Point Concentration Summary for Groundwater Core of the Plume
Table 3.3	Exposure Point Concentration Summary for Surface Water
Table 3.4	Exposure Point Concentration Summary for Surface Water Downstream of the Leachate Treatment Plant
Table 4.1	Values used for Daily Intake Calculations for Groundwater
Table 4.2	Values used for Daily Intake Calculations for Surface Water
Table 4.Supp.1	Calculation of Age-Adjusted Exposure Factors for a Resident and Recreational User
Table 4.Supp.2	Calculation of Age-Adjusted Exposure Factors for Constituents with a Mutagenic Mode of Action for a Resident and Recreational User
Table 4.Supp.3A	Calculation of DA-Event for Dermal Exposure to Site-wide Groundwater
Table 4.Supp.3B	Calculation of DA-Event for Dermal Exposure to Groundwater Core of the Plume
Table 4.Supp.3C	Calculation of DA-Event for Dermal Exposure to Surface Water
Table 4.Supp.3D	Calculation of DA-Event for Dermal Exposure to Surface Water Downstream of the Leachate Treatment Plant
Table 4.Supp.4A	Bathroom Air Concentrations from Exposure to Tapwater for a Resident using Site-wide Groundwater
Table 4.Supp.4B	Bathroom Air Concentrations from Exposure to Tapwater for a Resident using Groundwater Core of the Plume
Table 4.Supp.5	Bioconcentration Factors
Table 5.1	Noncancer Toxicity Data – Oral/Dermal
Table 5.2	Noncancer Toxicity Data – Inhalation
Table 6.1	Cancer Toxicity Data – Oral/Dermal

Contents continued:

Table 6.2 Cancer Toxicity Data – Inhalation

Table 7.1 Calculation of Chemical Cancer Risks and Noncancer Hazards for a Resident to Site-wide Groundwater

Table 7.2 Calculation of Chemical Cancer Risks and Noncancer Hazards for a Resident to Groundwater Core of the Plume

Table 7.3 Calculation of Chemical Cancer Risks and Noncancer Hazards for a Recreational User to Surface Water

Table 7.4 Calculation of Chemical Cancer Risks and Noncancer Hazards for a Recreational User to Surface Water Downstream of the Leachate Treatment Plant

Table 9.1 Summary of COPC Cancer Risks and Noncancer Hazards for a Resident to Site-wide Groundwater

Table 9.2 Summary of COPC Cancer Risks and Noncancer Hazards for a Resident to Core of the Plume Groundwater

Table 9.3 Summary of COPC Cancer Risks and Noncancer Hazards for a Recreational User to Surface Water

Table 9.4 Summary of COPC Cancer Risks and Noncancer Hazards for a Recreational User to Surface Water Downstream of the Leachate Treatment Plant

TABLE 0
SITE RISK ASSESSMENT IDENTIFICATION INFORMATION
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Site Name/OU:	Combe Fill South Landfill Site Operable Unit 2
Region:	2
EPA ID Number:	EP-W-09-009
State:	NJ
Status:	Remedial Investigation Report
Federal Facility (Y/N):	N
EPA Project Manager:	Pamela Baxter
EPA Risk Assessor:	Abbey States
Prepared by (Organization):	HDR
Prepared for (Organization):	EPA
Document Title:	Baseline Human Health Risk Assessment Report
Document Date:	June 2018
Probabilistic Risk Assessment (Y/N):	N
Comments:	None

TABLE 1
SELECTION OF EXPOSURE PATHWAYS
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe	Source	Receptor Population	Receptor Age	Medium / Exposure Medium	Exposure Point	Exposure Route	Type of Evaluation	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Combe Fill South Landfill Site OU2	Resident	Adult	Groundwater	Tapwater	Ingestion	Quantitative	The deep aquifer is a major source of potable water in the vicinity of the site. Private residential wells northeast of the site have been impacted with chemicals that have migrated off site. Residents may come in contact with tapwater in the home and inhaling vapors volatilizing in the shower.
						Dermal		
					Air	Inhalation		
			Child	Groundwater	Tapwater	Ingestion	Quantitative	The deep aquifer is a major source of potable water in the vicinity of the site. Private residential wells northeast of the site have been impacted with chemicals that have migrated off site. Residents may come in contact with tapwater in the home and inhaling vapors volatilizing in the shower.
						Dermal		
					Air	Inhalation		
		Recreational User	Adult	Groundwater	Seeps/Springs	Ingestion	None	Recreational users may come into contact with seeps and springs that are present along Schoolhouse Lane. No water data was collected from these sources, actual groundwater data is evaluated, and exposure to seeps/springs is considered *de minimis;* therefore, this pathway is not evaluated. Resident exposure to deep groundwater as tapwater is expected to be protective of a recreational exposure to deep groundwater expressed as seeps/springs.
						Dermal		
				Surface Water	Surface Water	Ingestion	Quantitative	Recreational users may come into contact with surface water while visiting Trout Brook, the Lamington River UNT and Tanners Brook UNT.
						Dermal		
					Fish	Ingestion		Recreational users may ingest fish in nearby tributaries of trout-production Trout Brook and trout-maintenance Lamington River; Tanners Brook is non-trout waters. The species identified in these water bodies are either too small to be considered consumable or not commonly fished by the population; however, this pathway is evaluated quantitatively.
				Sediment	Sediment	Ingestion	None	Minimal contact with sediment is expected, given site use and conditions. Any exceedances of screening levels are minimal; there are only exceedances of NJDEP RDCSRS for arsenic at 20 mg/kg max conc vs. 19 mg/kg SRS and for benzo(a)pyrene at 0.34 mg/kg max conc vs. 0.2 mg/kg RDCSRS. The site is less accessible and attractive than other recreational areas in the vicinity; use by recreators and exposure in OU2 would be low. This pathway is not evaluated.
						Dermal		
			Child	Groundwater	Seeps/Springs	Ingestion	None	Recreational users may come into contact with seeps and springs that are present along Schoolhouse Lane. No water data was collected from these sources, actual groundwater data is evaluated, and exposure to seeps/springs is considered *de minimis* ; therefore, this pathway will not be evaluated. Resident exposure to deep groundwater as tapwater is expected to be protective of a recreational exposure to deep groundwater expressed as seeps/springs.
						Dermal		
				Surface Water	Surface Water	Ingestion	Quantitative	Recreational users may come into contact with surface water while visiting Trout Brook, the Lamington River UNT and Tanners Brook UNT.
						Dermal		
					Fish	Ingestion		Recreational users may ingest fish in nearby tributaries of trout-production Trout Brook and trout-maintenance Lamington River; Tanners Brook is non-trout waters. The species identified in these water bodies are either too small to be considered consumable or not commonly fished by the population; however, this pathway is evaluated quantitatively.
				Sediment	Sediment	Ingestion	None	Minimal contact with sediment is expected, given site use and conditions. Any exceedances of screening levels are minimal; there are only exceedances of NJDEP RDCSRS for arsenic at 20 mg/kg max conc vs. 19 mg/kg SRS and for benzo(a)pyrene at 0.34 mg/kg max conc vs. 0.2 mg/kg RDCSRS. The site is less accessible and attractive than other recreational areas in the vicinity; use by recreators and exposure in OU2 would be low. This pathway is not evaluated.
						Dermal		

TABLE 1
SELECTION OF EXPOSURE PATHWAYS
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe	Source	Receptor Population	Receptor Age	Medium / Exposure Medium	Exposure Point	Exposure Route	Type of Evaluation	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Combe Landfill Leachate Treatment Plant	Recreational User	Adult	Groundwater	Seeps/Springs	Ingestion	None	Recreational users may come into contact with seeps and springs that are present along Schoolhouse Lane. No water data was collected from these sources, actual groundwater data is evaluated, and exposure to seeps/springs is considered *de minimis* ; therefore, this pathway is not evaluated. Resident exposure to deep groundwater as tapwater is expected to be protective of a recreational exposure to deep groundwater expressed as seeps/springs.
						Dermal		
				Surface Water	Surface Water	Ingestion	Quantitative	Recreational users may come into contact with surface water while visiting East Trout Brook.
						Dermal		
					Fish	Ingestion		Recreational users may ingest fish in nearby trout-production East Trout Brook. The species identified in these water bodies are either too small to be considered consumable or not commonly fished by the population; however, this pathway is evaluated quantitatively.
				Sediment	Sediment	Ingestion	None	Minimal contact with sediment is expected, given site use and conditions. None of the NJDEP RDCSRS are exceeded. In addition, any exceedances of EPA Regional Screening Levels (RSL) are minimal (benzo(a)pyrene at 0.1 mg/kg vs. 0.015 mg/kg RSL and cobalt at 4.8 mg/kg vs. 2.3 mg/kg RSL). The site is less accessible and attractive than other recreational areas in the vicinity; use by recreators and exposure in OU2 would be low. This pathway is not evaluated.
						Dermal		
			Child	Groundwater	Seeps/Springs	Ingestion	None	Recreational users may come into contact with seeps and springs that are present along Schoolhouse Lane. No water data was collected from these sources, actual groundwater data is evaluated, and exposure to seeps/springs is considered *de minimis* ; therefore, this pathway is not evaluated. Resident exposure to deep groundwater as tapwater is expected to be protective of a recreational exposure to deep groundwater expressed as seeps/springs.
						Dermal		
				Surface Water	Surface Water	Ingestion	Quantitative	Recreational users may come into contact with surface water while visiting East Trout Brook.
						Dermal		
					Fish	Ingestion		Recreational users may ingest fish in nearby trout-production East Trout Brook. The species identified in these water bodies are either too small to be considered consumable or not commonly fished by the population; however, this pathway is evaluated quantitatively.
				Sediment	Sediment	Ingestion	None	Minimal contact with sediment is expected, given site use and conditions. None of the NJDEP RDCSRS are exceeded. In addition, any exceedances of EPA Regional Screening Levels (RSL) are minimal (benzo(a)pyrene at 0.1 mg/kg vs. 0.015 mg/kg RSL and cobalt at 4.8 mg/kg vs. 2.3 mg/kg RSL). The site is less accessible and attractive than other recreational areas in the vicinity; use by recreators and exposure in OU2 would be low. This pathway is not evaluated.
						Dermal		

Notes:

The evaluation of surface water includes data collected from Trout Brook, East Trout Brook, a Lamington River unnamed tributary (UNT) and a Tanners Brook UNT. East Trout Brook data will represent potential impacts downstream of permitted discharge from the Combe Landfill Leachate Treatment Plant.

Combe Fill South Landfill Site OU2 is an evaluation of groundwater in the deep aquifer, but since there is flow from groundwater to surface water, surface water will also be considered for evaluation in the BHHRA.

References:

NJDEP. 2016. Surface Water Quality Standards. N.J.A.C. 7:9B. Re-adopted Oct 17. Available online: http://www.nj.gov/dep/rules/rules/njac7_9b.pdf

NJDEP. 2005. Coldwater Fisheries Management Plan: Classification of NJ Trout Waters. Division of Fish and Wildlife. December. Available online: http://www.state.nj.us/dep/fgw/pdf/cwfmp/cwfmp-full.pdf

TABLE 2.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Site-wide Groundwater

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP GWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
															Value	Basis		
Groundwater	VOC	1,1,1-Trichloroethane	71-55-6	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	30	800	n	N	Not detected.
Groundwater	VOC	1,1,2,2-Tetrachloroethane	79-34-5	ND		ND		--	85	0 / 85	0	0.5 - 0.5	ND	1	0.076	c	N	Not detected.
Groundwater	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	20000	1000	n	N	Not detected.
Groundwater	VOC	1,1,2-Trichloroethane	79-00-5	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	3	0.041	n	N	Not detected.
Groundwater	VOC	1,1-Dichloroethane	75-34-3	0.1	J	1.7	J	CF-207D	98	38 / 98	39	0.5 - 0.5	1.7	50	2.8	c	N	Below screening level.
Groundwater	VOC	1,1-Dichloroethene	75-35-4	0.091	J	0.17	J	CF-222D	87	11 / 87	13	0.5 - 0.5	0.17	1	28	n	N	Below screening level.
Groundwater	VOC	1,2,3-Trichlorobenzene	87-61-6	0.29	J	0.29	J	CF-228D	87	1 / 87	1	0.5 - 0.5	0.29	NC	0.7	n	N	Below screening level.
Groundwater	VOC	1,2,4-Trichlorobenzene	120-82-1	0.25	J	0.25	J	CF-201D	88	2 / 88	2	0.5 - 0.5	0.25	9	0.4	n	N	Below screening level.
Groundwater	VOC	1,2-Dibromo-3-chloropropane	96-12-8	ND		ND		--	85	0 / 85	0	0.5 - 0.5	ND	0.02	0.00033	c	N	Not detected.
Groundwater	VOC	1,2-Dibromoethane	106-93-4	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	0.03	0.0075	c	N	Not detected.
Groundwater	VOC	1,2-Dichlorobenzene	95-50-1	0.11	J	0.48	J	CF-207D	90	10 / 90	11	0.5 - 0.5	0.48	600	30	n	N	Below screening level.
Groundwater	VOC	1,2-Dichloroethane	107-06-2	0.18	J	2.8	J	CF-207D	104	38 / 104	37	0.5 - 0.5	2.8	2	0.17	c**	Y	Above screening level.
Groundwater	VOC	1,2-Dichloropropane	78-87-5	0.11	J	0.87	J	CF-207D	88	4 / 88	5	0.5 - 0.5	0.87	1	0.82	n	Y	Above screening level.
Groundwater	VOC	1,3-Dichlorobenzene	541-73-1	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	600	NC		N	Not detected.
Groundwater	VOC	1,4-Dichlorobenzene	106-46-7	0.095	J	2.6	J	CF-207D	94	32 / 94	34	0.5 - 0.5	2.6	75	0.48	c	Y	Above screening level.
Groundwater	VOC	1,4-Dioxane	123-91-1	0.44	J	290	J	CF-209D	110	95 / 110	86	0.5 - 0.5	290	0.4	0.46	c*	Y	Above screening level.
Groundwater	VOC	2-Hexanone	591-78-6	ND		ND		--	87	0 / 87	0	5 - 5	ND	40	3.8	n	N	Not detected.
Groundwater	VOC	Acetone	67-64-1	2.3	J	200	J	CF-225D	100	26 / 100	26	5 - 5	200	6000	1400	n	N	Below screening level.
Groundwater	VOC	Benzene	71-43-2	0.1	J	90	J	CF-207D	102	37 / 102	36	0.5 - 0.5	90	1	0.46	c**	Y	Above screening level.
Groundwater	VOC	Bromochloromethane	74-97-5	0.17	J	0.29	J	CF-204D	87	2 / 87	2	0.5 - 0.5	0.29	NC	8.3	n	N	Below screening level.
Groundwater	VOC	Bromodichloromethane	75-27-4	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	1	0.13	c	N	Not detected.
Groundwater	VOC	Bromoform	75-25-2	ND		ND		--	86	0 / 86	0	0.5 - 0.5	ND	4	3.3	c*	N	Not detected.
Groundwater	VOC	Bromomethane	74-83-9	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	10	0.75	n	N	Not detected.
Groundwater	VOC	Carbon disulfide	75-15-0	0.14	J	13	J	CF-207D	93	8 / 93	9	0.5 - 0.5	13	700	81	n	N	Below screening level.
Groundwater	VOC	Carbon tetrachloride	56-23-5	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	1	0.46	c*	N	Not detected.
Groundwater	VOC	Chlorobenzene	108-90-7	0.064	J	4.4		CF-222D	96	27 / 96	28	0.5 - 0.5	4.4	50	7.8	n	N	Below screening level.
Groundwater	VOC	Chloroethane	75-00-3	0.4	J	0.4	J	CF-218D	87	1 / 87	1	0.5 - 0.5	0.4	5	2100	n	N	Below screening level.
Groundwater	VOC	Chloroform	67-66-3	0.12	J	9.2	J	CF-212D	91	13 / 91	14	0.5 - 0.5	9.2	70	0.22	c*	Y	Above screening level.
Groundwater	VOC	Chloromethane	74-87-3	0.17	J	0.17	J	CF-207D	87	1 / 87	1	0.5 - 0.5	0.17	NC	19	n	N	Below screening level.
Groundwater	VOC	cis-1,2-Dichloroethylene	156-59-2	0.11	J	6	J	CF-207D	104	69 / 104	66	0.5 - 0.5	6	70	3.6	n	Y	Above screening level.
Groundwater	VOC	cis-1,3-Dichloropropene	10061-01-5	0.31	J	0.31	J	CF-212D	88	1 / 88	1	0.5 - 0.5	0.31	1	0.47	c**	N	Below screening level.
Groundwater	VOC	Cyclohexane	110-82-7	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	NC	1300	n	N	Not detected.
Groundwater	VOC	Dibromochloromethane	124-48-1	ND		ND		--	86	0 / 86	0	0.5 - 0.5	ND	1	0.87	c*	N	Not detected.
Groundwater	VOC	Dichlorodifluoromethane	75-71-8	0.12	J	11	J	CF-207D	103	48 / 103	47	0.5 - 0.5	11	1000	20	n	N	Below screening level.
Groundwater	VOC	Ethyl Ether	60-29-7	1.1	J	620	J	CF-207D	119	79 / 119	66	50 - 50	620	1000	390	n	Y	Above screening level.
Groundwater	VOC	Ethylbenzene	100-41-4	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	700	1.5	c*	N	Not detected.
Groundwater	VOC	Isopropylbenzene (Cumene)	98-82-8	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	700	45	n	N	Not detected.
Groundwater	VOC	Methyl acetate	79-20-9	0.34	J	0.82		CF-207D	87	2 / 87	2	0.5 - 0.5	0.82	7000	2000	n	N	Below screening level.
Groundwater	VOC	Methyl Ethyl Ketone	78-93-3	5	J	22		CF-209D	87	4 / 87	5	5 - 5	22	300	560	n	N	Below screening level.
Groundwater	VOC	Methyl Isobutyl Ketone	108-10-1	ND		ND		--	87	0 / 87	0	5 - 5	ND	NC	630	n	N	Not detected.
Groundwater	VOC	Methyl tert-butyl ether	1634-04-4	0.19	J	0.26	J	CF-218D	88	3 / 88	3	0.5 - 0.5	0.26	70	14	c*	N	Below screening level.
Groundwater	VOC	Methylcyclohexane	108-87-2	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	NC	NC		N	Not detected.
Groundwater	VOC	Methylene chloride	75-09-2	0.1	J	0.24	J	CF-211D	102	3 / 102	3	0.5 - 0.5	0.24	3	11	n	N	Below screening level.
Groundwater	VOC	Styrene	100-42-5	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	100	120	n	N	Not detected.
Groundwater	VOC	Tert-butyl Alcohol	75-65-0	6.1	J	92		CF-218D	78	21 / 78	27	10 - 10	92	100	NC		N	Below screening level.
Groundwater	VOC	Tetrachloroethylene (PCE)	127-18-4	0.12	J	2	J	CF-207D	90	20 / 90	22	0.5 - 0.5	2	1	4.1	n	Y	Above screening level.
Groundwater	VOC	Toluene	108-88-3	0.067	J	35		CF-209D	110	58 / 110	53	0.5 - 0.5	35	600	110	n	N	Below screening level.
Groundwater	VOC	trans-1,2-Dichloroethylene	156-60-5	0.37	J	0.37	J	CF-207D	88	1 / 88	1	0.5 - 0.5	0.37	100	36	n	N	Below screening level.
Groundwater	VOC	trans-1,3-Dichloropropene	10061-02-6	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	1	0.47	c**	N	Not detected.
Groundwater	VOC	Trichloroethylene (TCE)	79-01-6	0.075	J	4	J	CF-211D	98	55 / 98	56	0.5 - 0.5	4	1	0.28	n	Y	Above screening level.
Groundwater	VOC	Trichlorofluoromethane	75-69-4	0.42	J	6.5		CF-212D	90	4 / 90	4	0.5 - 0.5	6.5	2000	520	n	N	Below screening level.
Groundwater	VOC	Vinyl chloride	75-01-4	0.18	J	0.24	J	CF-222D	87	3 / 87	3	0.5 - 0.5	0.24	1	0.019	c	Y	Detection frequency less than 5%, but max above screening level and has high toxicity.
Groundwater	VOC	Xylenes-m,p	179601-23-1	ND		ND		--	87	0 / 87	0	0.5 - 0.5	ND	1000	19	n	N	Not detected.
Groundwater	VOC	Xylenes-o	95-47-6	0.21	J	0.21	J	CF-224D	87	1 / 87	1	0.5 - 0.5	0.21	1000	19	n	N	Below screening level.
Groundwater	SVOC	1,2,4,5-Tetrachlorobenzene	95-94-3	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	0.17	n	N	Not detected.
Groundwater	SVOC	2,3,4,6-Tetrachlorophenol	58-90-2	ND		ND		--	110	0 / 110	0	5 - 5	ND	200	24	n	N	Not detected.

TABLE 2.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Site-wide Groundwater

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP GWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
															Value	Basis		
Groundwater	SVOC	2,4,5-Trichlorophenol	95-95-4	ND		ND		--	110	0 / 110	0	5 - 5	ND	700	120	n	N	Not detected.
Groundwater	SVOC	2,4,6-Trichlorophenol	88-06-2	ND		ND		--	110	0 / 110	0	5 - 5	ND	20	1.2	n	N	Not detected.
Groundwater	SVOC	2,4-Dichlorophenol	120-83-2	ND		ND		--	110	0 / 110	0	5 - 5	ND	20	4.6	n	N	Not detected.
Groundwater	SVOC	2,4-Dimethylphenol	105-67-9	ND		ND		--	110	0 / 110	0	5 - 5	ND	100	36	n	N	Not detected.
Groundwater	SVOC	2,4-Dinitrophenol	51-28-5	ND		ND		--	110	0 / 110	0	10 - 10	ND	40	3.9	n	N	Not detected.
Groundwater	SVOC	2,4-Dinitrotoluene	121-14-2	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	0.24	c*	N	Not detected.
Groundwater	SVOC	2,6-Dinitrotoluene	606-20-2	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	0.049	c*	N	Not detected.
Groundwater	SVOC	2-Chloronaphthalene	91-58-7	ND		ND		--	110	0 / 110	0	5 - 5	ND	600	75	n	N	Not detected.
Groundwater	SVOC	2-Chlorophenol	95-57-8	ND		ND		--	110	0 / 110	0	5 - 5	ND	40	9.1	n	N	Not detected.
Groundwater	SVOC	2-Methylnaphthalene	91-57-6	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	30	3.6	n	N	Not detected.
Groundwater	SVOC	2-Methylphenol	95-48-7	ND		ND		--	110	0 / 110	0	5 - 5	ND	50	93	n	N	Not detected.
Groundwater	SVOC	2-Nitroaniline	88-74-4	ND		ND		--	110	0 / 110	0	10 - 10	ND	NC	19	n	N	Not detected.
Groundwater	SVOC	2-Nitrophenol	88-75-5	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	NC		N	Not detected.
Groundwater	SVOC	3,3-Dichlorobenzidine	91-94-1	ND		ND		--	110	0 / 110	0	5 - 5	ND	30	0.13	c	N	Not detected.
Groundwater	SVOC	3-Nitroaniline	99-09-2	ND		ND		--	110	0 / 110	0	10 - 10	ND	NC	NC		N	Not detected.
Groundwater	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	ND		ND		--	110	0 / 110	0	10 - 10	ND	0.7	0.15	n	N	Not detected.
Groundwater	SVOC	4-Bromophenyl-phenylether	101-55-3	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	NC		N	Not detected.
Groundwater	SVOC	4-Chloro-3-methylphenol	59-50-7	ND		ND		--	110	0 / 110	0	5 - 5	ND	100	140	n	N	Not detected.
Groundwater	SVOC	4-Chloroaniline	106-47-8	ND		ND		--	110	0 / 110	0	5 - 5	ND	30	0.37	c*	N	Not detected.
Groundwater	SVOC	4-Chlorophenyl-phenylether	7005-72-3	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	NC		N	Not detected.
Groundwater	SVOC	4-Methylphenol (p-Cresol)	106-44-5	1.1	J	1.1	J	CF-228D	110	1 / 110	0.9	5 - 5	1.1	50	190	n	N	Below screening level.
Groundwater	SVOC	4-Nitroaniline	100-01-6	ND		ND		--	110	0 / 110	0	10 - 10	ND	NC	3.8	c**	N	Not detected.
Groundwater	SVOC	4-Nitrophenol	100-02-7	ND		ND		--	110	0 / 110	0	10 - 10	ND	NC	NC		N	Not detected.
Groundwater	SVOC	Acenaphthene	83-32-9	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	400	53	n	N	Not detected.
Groundwater	SVOC	Acenaphthylene	208-96-8	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	100	NC		N	Not detected.
Groundwater	SVOC	Acetophenone	98-86-2	2.3	J	2.3	J	CF-201D	110	1 / 110	0.9	5 - 5	2.3	700	190	n	N	Below screening level.
Groundwater	SVOC	Anthracene	120-12-7	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	2000	180	n	N	Not detected.
Groundwater	SVOC	Atrazine	1912-24-9	ND		ND		--	110	0 / 110	0	5 - 5	ND	3	0.3	c	N	Not detected.
Groundwater	SVOC	Benzaldehyde	100-52-7	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	19	c*	N	Not detected.
Groundwater	SVOC	Benzo(a)anthracene	56-55-3	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	0.1	0.03	c	N	Not detected.
Groundwater	SVOC	Benzo(a)pyrene	50-32-8	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	0.1	0.025	c*	N	Not detected.
Groundwater	SVOC	Benzo(b)fluoranthene	205-99-2	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	0.2	0.25	c	N	Not detected.
Groundwater	SVOC	Benzo(g,h,i)perylene	191-24-2	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	100	NC		N	Not detected.
Groundwater	SVOC	Benzo(k)fluoranthene	207-08-9	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	0.5	2.5	c	N	Not detected.
Groundwater	SVOC	Benzyl Butyl Phthalate	85-68-7	1.2	J	1.2	J	CF-227D	110	1 / 110	1	5 - 5	1.2	100	16	c*	N	Below screening level.
Groundwater	SVOC	Biphenyl (diphenyl)	92-52-4	ND		ND		--	110	0 / 110	0	5 - 5	ND	400	0.083	n	N	Not detected.
Groundwater	SVOC	Bis(2-chloroethoxy) Methane	111-91-1	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	5.9	n	N	Not detected.
Groundwater	SVOC	Bis(2-chloroethyl)ether	111-44-4	ND		ND		--	110	0 / 110	0	5 - 5	ND	7	0.014	c	N	Not detected.
Groundwater	SVOC	Bis(2-chloroisopropyl)ether	108-60-1	ND		ND		--	110	0 / 110	0	5 - 5	ND	300	71	n	N	Not detected.
Groundwater	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	2	J	15		CF-206D	110	17 / 110	15	5 - 5	15	3	5.6	c**	Y	Above screening level.
Groundwater	SVOC	Caprolactam	105-60-2	2	J	1100		CF-224D	110	22 / 110	20	5 - 5	1100	4000	990	n	Y	Above screening level.
Groundwater	SVOC	Carbazole	86-74-8	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	NC		N	Not detected.
Groundwater	SVOC	Chrysene	218-01-9	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	5	25	c	N	Not detected.
Groundwater	SVOC	Dibenz(a,h)anthracene	53-70-3	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	0.3	0.025	c	N	Not detected.
Groundwater	SVOC	Diethyl phthalate	84-66-2	3.5	J	3.5	J	CF-205D	110	1 / 110	1	5 - 5	3.5	6000	1500	n	N	Below screening level.
Groundwater	SVOC	Dimethylphthalate	131-11-3	ND		ND		--	110	0 / 110	0	5 - 5	ND	100	NC		N	Not detected.
Groundwater	SVOC	Di-n-butyl phthalate	84-74-2	1.1	J	2.8	J	CF-229D	110	7 / 110	6	5 - 5	2.8	700	90	n	N	Below screening level.
Groundwater	SVOC	Di-n-octylphthalate	117-84-0	ND		ND		--	110	0 / 110	0	5 - 5	ND	100	20	n	N	Not detected.
Groundwater	SVOC	Fluoranthene	206-44-0	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	300	80	n	N	Not detected.
Groundwater	SVOC	Fluorene	86-73-7	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	300	29	n	N	Not detected.
Groundwater	SVOC	Hexachlorobenzene	118-74-1	ND		ND		--	110	0 / 110	0	5 - 5	ND	0.02	0.0098	c	N	Not detected.
Groundwater	SVOC	Hexachlorobutadiene	87-68-3	ND		ND		--	110	0 / 110	0	5 - 5	ND	1	0.14	c**	N	Not detected.
Groundwater	SVOC	Hexachlorocyclopentadiene	77-47-4	ND		ND		--	110	0 / 110	0	5 - 5	ND	40	0.041	n	N	Not detected.
Groundwater	SVOC	Hexachloroethane	67-72-1	ND		ND		--	110	0 / 110	0	5 - 5	ND	7	0.33	c**	N	Not detected.
Groundwater	SVOC	Indeno (1,2,3-cd)pyrene	193-39-5	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	0.2	0.25	c	N	Not detected.
Groundwater	SVOC	Isophorone	78-59-1	ND		ND		--	110	0 / 110	0	5 - 5	ND	40	78	c**	N	Not detected.
Groundwater	SVOC	Naphthalene	91-20-3	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	300	0.17	c**	N	Not detected.

TABLE 2.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Site-wide Groundwater

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP GWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
															Value	Basis		
Groundwater	SVOC	Nitrobenzene	98-95-3	ND		ND		--	110	0 / 110	0	5 - 5	ND	6	0.14	c**	N	Not detected.
Groundwater	SVOC	N-Nitrosodi-n-propylamine	621-64-7	ND		ND		--	110	0 / 110	0	5 - 5	ND	10	0.011	c	N	Not detected.
Groundwater	SVOC	N-Nitrosodiphenylamine	86-30-6	ND		ND		--	110	0 / 110	0	5 - 5	ND	10	12	c	N	Not detected.
Groundwater	SVOC	Pentachlorophenol	87-86-5	ND		ND		--	99	0 / 99	0	0.2 - 10	ND	0.3	0.041	c*	N	Not detected.
Groundwater	SVOC	Phenanthrene	85-01-8	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	100	NC		N	Not detected.
Groundwater	SVOC	Phenol	108-95-2	4	J	8.1		CF-207D	110	2 / 110	2	5 - 5	8.1	2000	580	n	N	Below screening level.
Groundwater	SVOC	Pyrene	129-00-0	ND		ND		--	110	0 / 110	0	0.1 - 5	ND	200	12	n	N	Not detected.
Groundwater	PEST	4,4'-DDD	72-54-8	ND		ND		--	110	0 / 110	0	0.01 - 0.01	ND	0.1	0.0063	n	N	Not detected.
Groundwater	PEST	4,4'-DDE	72-55-9	0.0052	J	0.024	J	CF-211D	110	2 / 110	2	0.01 - 0.01	0.024	0.1	0.046	c*	N	Below screening level.
Groundwater	PEST	4,4'-DDT	50-29-3	0.017	JN	0.017	JN	CF-222D	110	1 / 110	1	0.01 - 0.01	0.017	0.1	0.23	c**	N	Below screening level.
Groundwater	PEST	Aldrin	309-00-2	ND		ND		--	110	0 / 110	0	0.005 - 0.005	ND	0.04	0.00092	c*	N	Not detected.
Groundwater	PEST	alpha-Endosulfan (Endosulfan I)	959-98-8	0.0058	J-	0.01	J	CF-227D	108	4 / 108	4	0.005 - 0.005	0.01	40	10	n	N	Below screening level.
Groundwater	PEST	beta-Endosulfan (Endosulfan II)	33213-65-9	ND		ND		--	110	0 / 110	0	0.01 - 0.01	ND	40	10	n	N	Not detected.
Groundwater	PEST	BHC alpha	319-84-6	0.0025	J	0.073		CF-209D	109	19 / 109	17	0.005 - 0.005	0.073	0.02	0.0072	c	Y	Above screening level.
Groundwater	PEST	BHC beta	319-85-7	0.0037	J	0.024	J	CF-205D	110	9 / 110	8	0.005 - 0.005	0.024	0.04	0.025	c	N	Below screening level.
Groundwater	PEST	BHC delta	319-86-8	ND		ND		--	110	0 / 110	0	0.005 - 0.005	ND	NC	NC		N	Not detected.
Groundwater	PEST	BHC gamma (Lindane)	58-89-9	0.0053	J	0.0053	J	CF-204D	110	1 / 110	0.9	0.005 - 0.005	0.0053	0.03	0.042	c**	N	Below screening level.
Groundwater	PEST	Chlordane, alpha	5103-71-9	0.0087	NJ	0.033		CF-222D	108	2 / 108	2	0.005 - 0.005	0.033	0.5	0.02	c**	N	Detection frequency less than 5%.
Groundwater	PEST	Dibenzofuran	132-64-9	ND		ND		--	110	0 / 110	0	5 - 5	ND	NC	0.79	n	N	Not detected.
Groundwater	PEST	Dieldrin	60-57-1	ND		ND		--	110	0 / 110	0	0.01 - 0.01	ND	0.03	0.0018	c*	N	Not detected.
Groundwater	PEST	Endosulfan sulfate	1031-07-8	ND		ND		--	110	0 / 110	0	0.01 - 0.01	ND	40	10	n	N	Not detected.
Groundwater	PEST	Endrin	72-20-8	ND		ND		--	103	0 / 103	0	0.01 - 0.01	ND	2	0.23	n	N	Not detected.
Groundwater	PEST	Endrin Aldehyde	7421-93-4	0.0085	J	0.02	J	CF-211D	110	6 / 110	5	0.01 - 0.01	0.02	NC	NC		Y	No screening level.
Groundwater	PEST	Endrin Ketone	53494-70-5	ND		ND		--	110	0 / 110	0	0.01 - 0.01	ND	NC	NC		N	Not detected.
Groundwater	PEST	Heptachlor	76-44-8	0.014	J	0.021	J	CF-204D	110	2 / 110	2	0.005 - 0.005	0.021	0.05	0.0014	c*	N	Detection frequency less than 5%.
Groundwater	PEST	Heptachlor epoxide	1024-57-3	0.025	NJ	0.025	NJ	CF-209D	110	1 / 110	0.9	0.005 - 0.005	0.025	0.2	0.0014	c**	N	Detection frequency less than 5%.
Groundwater	PEST	Methoxychlor	72-43-5	0.012	J	0.076	NJ	CF-218D	110	13 / 110	12	0.05 - 0.05	0.076	40	3.7	n	N	Below screening level.
Groundwater	PEST	Toxaphene	8001-35-2	ND		ND		--	110	0 / 110	0	0.5 - 0.5	ND	2	0.071	c	N	Not detected.
Groundwater	PCB	PCB-1016 (Aroclor 1016)	12674-11-2	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	0.14	n	N	Not detected.
Groundwater	PCB	PCB-1221 (Aroclor 1221)	11104-28-2	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	0.0047	c	N	Not detected.
Groundwater	PCB	PCB-1232 (Aroclor 1232)	11141-16-5	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	0.0047	c	N	Not detected.
Groundwater	PCB	PCB-1242 (Aroclor 1242)	53469-21-9	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	0.0078	c	N	Not detected.
Groundwater	PCB	PCB-1248 (Aroclor 1248)	12672-29-6	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	0.0078	c	N	Not detected.
Groundwater	PCB	PCB-1254 (Aroclor 1254)	11097-69-1	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	0.0078	c**	N	Not detected.
Groundwater	PCB	PCB-1260 (Aroclor 1260)	11096-82-5	0.12	J	0.2		CF-204D	110	2 / 110	2	0.05 - 0.05	0.2	0.5	0.0078	c	N	Detection frequency less than 5%.
Groundwater	PCB	PCB-1262 (Aroclor 1262)	37324-23-5	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	NC		N	Not detected.
Groundwater	PCB	PCB-1268 (Aroclor 1268)	11100-14-4	ND		ND		--	110	0 / 110	0	0.05 - 0.05	ND	0.5	NC		N	Not detected.
Groundwater	INORGANIC	Aluminum	7429-90-5	20.7		18400		CF-207D	110	16 / 110	15	20 - 200	18400	200	2000	n	Y	Above screening level.
Groundwater	INORGANIC	Antimony	7440-36-0	ND		ND		--	110	0 / 110	0	1 - 60	ND	6	0.78	n	N	Not detected.
Groundwater	INORGANIC	Arsenic	7440-38-2	0.47	J	6.4	J	CF-207D	110	15 / 110	14	1 - 10	6.4	3	0.052	c*	Y	Above screening level.
Groundwater	INORGANIC	Barium	7440-39-3	2	J	2390		CF-207D	110	92 / 110	84	1 - 200	2390	6000	380	n	Y	Above screening level.
Groundwater	INORGANIC	Beryllium	7440-41-7	0.23	J	2.5	J	CF-207D	110	8 / 110	7	1 - 5	2.5	1	2.5	n	Y	Above screening level.
Groundwater	INORGANIC	Cadmium	7440-43-9	0.33	J	20.3		CF-226D	110	3 / 110	3	1 - 5	20.3	4	0.92		N	Detection frequency less than 5%.
Groundwater	INORGANIC	Calcium	7440-70-2	4560		125000		CF-218D	110	110 / 110	100	500 - 5000	125000	NC	NC		N	Essential nutrient.
Groundwater	INORGANIC	Chromium (Total)	7440-47-3	0.53	J	262	J	CF-206D	110	34 / 110	31	2 - 10	262	70	NC		Y	Above screening level.
Groundwater	INORGANIC	Cobalt	7440-48-4	0.96	J	10.8	J	CF-207D	110	15 / 110	14	1 - 50	10.8	100	0.6	n	Y	Above screening level.
Groundwater	INORGANIC	Copper	7440-50-8	1		1170		CF-204D	109	25 / 109	23	1 - 25	1170	1300	80	n	Y	Above screening level.
Groundwater	INORGANIC	Cyanide	57-12-5	12		12		CF-10D	109	1 / 109	1	10 - 10	12	100	0.15	n	N	Detection frequency less than 5%.
Groundwater	INORGANIC	Iron	7439-89-6	31.6	J	44700		WRA-3-3	110	94 / 110	85	50 - 200	44700	300	1400	n	Y	Above screening level.
Groundwater	INORGANIC	Lead	7439-92-1	1		175		CF-207D	110	51 / 110	46	1 - 10	175	5	15	L	Y	Above screening level.
Groundwater	INORGANIC	Magnesium	7439-95-4	193	J	32500		CF-209D	110	110 / 110	100	500 - 5000	32500	NC	NC		N	Essential nutrient.
Groundwater	INORGANIC	Manganese	7439-96-5	1.7	J	4960		CF-222D	110	108 / 110	98	1 - 50	4960	50	43		Y	Above screening level.
Groundwater	INORGANIC	Mercury	7439-97-6	0.021	J	0.36		CF-207D	110	4 / 110	4	0.2 - 0.2	0.36	2	0.063	n	N	Detection frequency less than 5%.
Groundwater	INORGANIC	Nickel	7440-02-0	0.44	J	149		CF-207D	106	57 / 106	54	1 - 40	149	100	39	n	Y	Above screening level.
Groundwater	INORGANIC	Potassium	7440-09-7	199	J	189000		CF-224D	110	78 / 110	71	500 - 5000	189000	NC	NC		N	Essential nutrient.

TABLE 2.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Site-wide Groundwater

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP GWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
															Value	Basis		
Groundwater	INORGANIC	Selenium	7782-49-2	1.5	J	7.2		CF-224D	110	11 / 110	10	1 - 35	7.2	40	10	n	N	Below screening level.
Groundwater	INORGANIC	Silver	7440-22-4	ND		ND		--	110	0 / 110	0	1 - 10	ND	40	9.4	n	N	Not detected.
Groundwater	INORGANIC	Sodium	7440-23-5	3100		489000		CF-10D	110	110 / 110	100	500 - 5000	489000	50000	NC		Y	Above screening level.
Groundwater	INORGANIC	Thallium	7440-28-0	ND		ND		--	110	0 / 110	0	1 - 25	ND	2	0.02	n	N	Not detected.
Groundwater	INORGANIC	Vanadium	7440-62-2	0.3	J	32.2	J	CF-207D	110	11 / 110	10	1 - 50	32.2	NC	8.6	n	Y	Above screening level.
Groundwater	INORGANIC	Zinc	7440-66-6	2.2		352		CF-207D	89	67 / 89	75	2 - 60	352	2000	600	n	N	Below screening level.

Notes:

(1) The maximum detected concentrations for site-wide groundwater are used for the COPC screening. Groundwater data that do not meet the requirements in the EPA memorandum titled Determining Groundwater Exposure Point Concentrations, Supplemental Guidance are excluded from the evaluation, e.g., samples collected during packer testing whose purpose was for screening only to determine well completion depths (EPA 2014, HDR 2015a and b). The remaining site-wide groundwater data are evaluated for the COPC screening.

(2) NJDEP Groundwater Quality Standards

(3) USEPA Regional Screening Levels (RSLs) at a target risk of 1E-06 and target hazard quotient of 0.1 for residential exposure to tapwater.

Only unfiltered (total) groundwater data is used for COPC screening.

Constituents that RAGS Part A identifies as essential nutrients (i.e., iron, magnesium, calcium, potassium and sodium) as essential nutrients and that are present at low levels are not considered for the COPC list.

Constituents that are detected in less than 5% of the samples are not considered for the COPC list.

The RSLs for chlordane, xylenes and 1,3-dichloropropene are applied for their isomers. The RSL for endosulfan is applied for endosulfan I and II.

Abbreviations:

COPC -- Constituent of potential concern
EPA -- United States Environmental Protection Agency
NC -- No criteria
ND -- Not detected
NJDEP -- New Jersey Department of Environmental Protection
Qual -- Qualifier
PCB -- Polychlorinated biphenyl
PEST -- Pesticide
RSL -- EPA Regional Screening Levels
SVOC -- Semi-volatile organic compound
ug/L -- Micrograms per liter
VOC -- Volatile organic compound

RSL Basis:

* -- Where noncancer RSL < 100 times cancer RSL
** -- Where noncancer RSL < 10 times cancer RSL
c -- Cancer
L -- See RSL User Guide on lead
n -- Noncancer

Qualifiers:

B -- Blank contamination
J -- Estimated concentration
J- -- Estimated concentration biased low
L -- Estimated concentration biased low
NJ -- Tentative and estimated concentration

References:

EPA. 2014. Memorandum – Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. March 11. Available online: https://www.epa.gov/risk/exposure-point-concentrations-groundwater
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HDR. 2015a. "Core of Plume" Assessment for Exposure Point Concentration Calculations. Memorandum. April 6.
HDR. 2015b. Risk Assessment Points of Discussion. Memorandum. November 3.
NJDEP. 2018. Ground Water Quality Standards. N.J.A.C. 7:9C. January 16. Available online: http://www.nj.gov/dep/rules/rules/njac7_9c.pdf

TABLE 2.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from Trout Brook, Lamington River UNT, Tanners Brook UNT

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detect Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP SWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
																Value	Basis		
Surface water	VOC	1,1,1-Trichloroethane	71-55-6	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	120	800	n	N	Not detected.
Surface water	VOC	1,1,2,2-Tetrachloroethane	79-34-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	4.7	0.076	c	N	Not detected.
Surface water	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	1000	n	N	Not detected.
Surface water	VOC	1,1,2-Trichloroethane	79-00-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	13	0.041	n	N	Not detected.
Surface water	VOC	1,1-Dichloroethane	75-34-3	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	2.8	c	N	Not detected.
Surface water	VOC	1,1-Dichloroethene	75-35-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	4.7	28	n	N	Not detected.
Surface water	VOC	1,2,3-Trichlorobenzene	87-61-6	0.41	J	0.41	J	TBSW0003	11	1	1 / 11	9	0.5 - 0.5	0.41	NC	0.7	n	N	Below screening level.
Surface water	VOC	1,2,4-Trichlorobenzene	120-82-1	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	21	0.4	n	N	Not detected.
Surface water	VOC	1,2-Dibromo-3-chloropropane	96-12-8	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	0.00033	c	N	Not detected.
Surface water	VOC	1,2-Dibromoethane	106-93-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	0.0075	c	N	Not detected.
Surface water	VOC	1,2-Dichlorobenzene	95-50-1	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	2000	30	n	N	Not detected.
Surface water	VOC	1,2-Dichloroethane	107-06-2	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.29	0.17	c**	N	Not detected.
Surface water	VOC	1,2-Dichloropropane	78-87-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.5	0.14	n	N	Not detected.
Surface water	VOC	1,3-Dichlorobenzene	541-73-1	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	2200	NC		N	Not detected.
Surface water	VOC	1,4-Dichlorobenzene	106-46-7	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	550	0.48	c	N	Not detected.
Surface water	VOC	1,4-Dioxane	123-91-1	0.48	J	35		TUSW0001	18	12	12 / 18	67	0.5 - 0.5	35	NC	0.46	c*	Y	Above screening level.
Surface water	VOC	2-Hexanone	591-78-6	ND		ND		--	11	0	0 / 11	0	5 - 5	ND	NC	3.8	n	N	Not detected.
Surface water	VOC	Acetone	67-64-1	ND		ND		--	11	0	0 / 11	0	5 - 5	ND	NC	1400	n	N	Not detected.
Surface water	VOC	Benzene	71-43-2	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.15	0.46	c**	N	Not detected.
Surface water	VOC	Bromochloromethane	74-97-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	8.3	n	N	Not detected.
Surface water	VOC	Bromodichloromethane	75-27-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.55	0.13	c	N	Not detected.
Surface water	VOC	Bromoform	75-25-2	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	4.3	3.3	c*	N	Not detected.
Surface water	VOC	Bromomethane	74-83-9	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	47	0.75	n	N	Not detected.
Surface water	VOC	Carbon disulfide	75-15-0	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	81	n	N	Not detected.
Surface water	VOC	Carbon tetrachloride	56-23-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.33	0.46	c*	N	Not detected.
Surface water	VOC	Chlorobenzene	108-90-7	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	210	7.8	n	N	Not detected.
Surface water	VOC	Chloroethane	75-00-3	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	2100	n	N	Not detected.
Surface water	VOC	Chloroform	67-66-3	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	68	0.22	c*	N	Not detected.
Surface water	VOC	Chloromethane	74-87-3	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	19	n	N	Not detected.
Surface water	VOC	cis-1,2-Dichloroethylene	156-59-2	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	3.6	n	N	Not detected.
Surface water	VOC	cis-1,3-Dichloropropene	10061-01-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	0.47	c**	N	Not detected.
Surface water	VOC	Cyclohexane	110-82-7	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	1300	n	N	Not detected.
Surface water	VOC	Dibromochloromethane	124-48-1	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.4	0.87	c*	N	Not detected.
Surface water	VOC	Dichlorodifluoromethane	75-71-8	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	20	n	N	Not detected.
Surface water	VOC	Ethyl Ether	60-29-7	2.2	J	4	J	TBSW0003	11	2	2 / 11	18	50 - 50	4	NC	390	n	N	Below screening level.
Surface water	VOC	Ethylbenzene	100-41-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	530	1.5	c*	N	Not detected.
Surface water	VOC	Isopropylbenzene (Cumene)	98-82-8	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	45	n	N	Not detected.
Surface water	VOC	Methyl acetate	79-20-9	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	2000	n	N	Not detected.
Surface water	VOC	Methyl Ethyl Ketone	78-93-3	ND		ND		--	11	0	0 / 11	0	5 - 5	ND	NC	560	n	N	Not detected.
Surface water	VOC	Methyl Isobutyl Ketone	108-10-1	ND		ND		--	11	0	0 / 11	0	5 - 5	ND	NC	630	n	N	Not detected.
Surface water	VOC	Methyl tert-butyl ether	1634-04-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	70	14	c*	N	Not detected.
Surface water	VOC	Methylcyclohexane	108-87-2	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	NC		N	Not detected.
Surface water	VOC	Methylene chloride	75-09-2	ND		ND		--	14	0	0 / 14	0	0.5 - 0.5	ND	2.5	11	n	N	Not detected.
Surface water	VOC	Styrene	100-42-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	120	n	N	Not detected.
Surface water	VOC	Tert-butyl Alcohol	75-65-0	ND		ND		--	11	0	0 / 11	0	10 - 10	ND	NC	NC		N	Not detected.
Surface water	VOC	Tetrachloroethylene (PCE)	127-18-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.34	4.1	n	N	Not detected.
Surface water	VOC	Toluene	108-88-3	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	1300	110	n	N	Not detected.
Surface water	VOC	trans-1,2-Dichloroethylene	156-60-5	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	590	36	n	N	Not detected.
Surface water	VOC	trans-1,3-Dichloropropene	10061-02-6	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	0.47	c**	N	Not detected.
Surface water	VOC	Trichloroethylene (TCE)	79-01-6	0.22	J	0.4	J	TBSW0001	11	2	2 / 11	18	0.5 - 0.5	0.4	1	0.28	n	Y	Above screening level.
Surface water	VOC	Trichlorofluoromethane	75-69-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	520	n	N	Not detected.
Surface water	VOC	Vinyl chloride	75-01-4	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	0.082	0.019	c	N	Not detected.
Surface water	VOC	Xylenes-m,p	179601-23-1	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	19	n	N	Not detected.
Surface water	VOC	Xylenes-o	95-47-6	ND		ND		--	11	0	0 / 11	0	0.5 - 0.5	ND	NC	19	n	N	Not detected.
Surface water	SVOC	1,2,4,5-Tetrachlorobenzene	95-94-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.97	0.17	n	N	Not detected.
Surface water	SVOC	2,3,4,6-Tetrachlorophenol	58-90-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	24	n	N	Not detected.
Surface water	SVOC	2,4,5-Trichlorophenol	95-95-4	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	1800	120	n	N	Not detected.
Surface water	SVOC	2,4,6-Trichlorophenol	88-06-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.58	1.2	n	N	Not detected.
Surface water	SVOC	2,4-Dichlorophenol	120-83-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	77	4.6	n	N	Not detected.
Surface water	SVOC	2,4-Dimethylphenol	105-67-9	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	380	36	n	N	Not detected.
Surface water	SVOC	2,4-Dinitrophenol	51-28-5	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	69	3.9	n	N	Not detected.
Surface water	SVOC	2,4-Dinitrotoluene	121-14-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.11	0.24	c*	N	Not detected.
Surface water	SVOC	2,6-Dinitrotoluene	606-20-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	0.049	c*	N	Not detected.
Surface water	SVOC	2-Chloronaphthalene	91-58-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	1000	75	n	N	Not detected.
Surface water	SVOC	2-Chlorophenol	95-57-8	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	81	9.1	n	N	Not detected.
Surface water	SVOC	2-Methylnaphthalene	91-57-6	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	3.6	n	N	Not detected.
Surface water	SVOC	2-Methylphenol	95-48-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	93	n	N	Not detected.
Surface water	SVOC	2-Nitroaniline	88-74-4	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	NC	19	n	N	Not detected.
Surface water	SVOC	2-Nitrophenol	88-75-5	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.

TABLE 2.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from Trout Brook, Lamington River UNT, Tanners Brook UNT

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detect Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP SWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
																Value	Basis		
Surface water	SVOC	3,3-Dichlorobenzidine	91-94-1	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.021	0.13	c	N	Not detected.
Surface water	SVOC	3-Nitroaniline	99-09-2	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	NC	NC		N	Not detected.
Surface water	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	13	0.15	n	N	Not detected.
Surface water	SVOC	4-Bromophenyl-phenylether	101-55-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	4-Chloro-3-methylphenol	59-50-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	140	n	N	Not detected.
Surface water	SVOC	4-Chloroaniline	106-47-8	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	0.37	c*	N	Not detected.
Surface water	SVOC	4-Chlorophenyl-phenylether	7005-72-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	4-Methylphenol (p-Cresol)	106-44-5	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	190	n	N	Not detected.
Surface water	SVOC	4-Nitroaniline	100-01-6	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	NC	3.8	c**	N	Not detected.
Surface water	SVOC	4-Nitrophenol	100-02-7	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	NC	NC		N	Not detected.
Surface water	SVOC	Acenaphthene	83-32-9	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	670	53	n	N	Not detected.
Surface water	SVOC	Acenaphthylene	208-96-8	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Acetophenone	98-86-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	190	n	N	Not detected.
Surface water	SVOC	Anthracene	120-12-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	8300	180	n	N	Not detected.
Surface water	SVOC	Atrazine	1912-24-9	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	0.3	c	N	Not detected.
Surface water	SVOC	Benzaldehyde	100-52-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	19	c*	N	Not detected.
Surface water	SVOC	Benzo(a)anthracene	56-55-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.038	0.03	c	N	Not detected.
Surface water	SVOC	Benzo(a)pyrene	50-32-8	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.0038	0.025	c*	N	Not detected.
Surface water	SVOC	Benzo(b)fluoranthene	205-99-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.038	0.25	c	N	Not detected.
Surface water	SVOC	Benzo(g,h,i)perylene	191-24-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Benzo(k)fluoranthene	207-08-9	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.38	2.5	c	N	Not detected.
Surface water	SVOC	Benzyl Butyl Phthalate	85-68-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	150	16	c*	N	Not detected.
Surface water	SVOC	Biphenyl (diphenyl)	92-52-4	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	0.083	n	N	Not detected.
Surface water	SVOC	Bis(2-chloroethoxy) Methane	111-91-1	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	5.9	n	N	Not detected.
Surface water	SVOC	Bis(2-chloroethyl)ether	111-44-4	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.03	0.014	c	N	Not detected.
Surface water	SVOC	Bis(2-chloroisopropyl)ether	108-60-1	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	1400	71	n	N	Not detected.
Surface water	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	1.2	5.6	c**	N	Not detected.
Surface water	SVOC	Caprolactam	105-60-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	990	n	N	Not detected.
Surface water	SVOC	Carbazole	86-74-8	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Chrysene	218-01-9	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	3.8	25	c	N	Not detected.
Surface water	SVOC	Dibenz(a,h)anthracene	53-70-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.0038	0.025	c	N	Not detected.
Surface water	SVOC	Diethyl phthalate	84-66-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	17000	1500	n	N	Not detected.
Surface water	SVOC	Dimethylphthalate	131-11-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Di-n-butyl phthalate	84-74-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	2000	90	n	N	Not detected.
Surface water	SVOC	Di-n-octylphthalate	117-84-0	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	20	n	N	Not detected.
Surface water	SVOC	Fluoranthene	206-44-0	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	130	80	n	N	Not detected.
Surface water	SVOC	Fluorene	86-73-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	1100	29	n	N	Not detected.
Surface water	SVOC	Hexachlorobenzene	118-74-1	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.00028	0.0098	c	N	Not detected.
Surface water	SVOC	Hexachlorobutadiene	87-68-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.44	0.14	c**	N	Not detected.
Surface water	SVOC	Hexachlorocyclopentadiene	77-47-4	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	40	0.041	n	N	Not detected.
Surface water	SVOC	Hexachloroethane	67-72-1	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	1.4	0.33	c**	N	Not detected.
Surface water	SVOC	Indeno (1,2,3-cd)pyrene	193-39-5	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.038	0.25	c	N	Not detected.
Surface water	SVOC	Isophorone	78-59-1	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	35	78	c**	N	Not detected.
Surface water	SVOC	Naphthalene	91-20-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	0.17	c**	N	Not detected.
Surface water	SVOC	Nitrobenzene	98-95-3	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	17	0.14	c**	N	Not detected.
Surface water	SVOC	N-Nitrosodi-n-propylamine	621-64-7	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	0.005	0.011	c	N	Not detected.
Surface water	SVOC	N-Nitrosodiphenylamine	86-30-6	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	3.3	12	c	N	Not detected.
Surface water	SVOC	Pentachlorophenol	87-86-5	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	0.27	0.041	c*	N	Not detected.
Surface water	SVOC	Phenanthrene	85-01-8	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Phenol	108-95-2	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	10000	580	n	N	Not detected.
Surface water	SVOC	Pyrene	129-00-0	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	830	12	n	N	Not detected.
Surface water	PEST	4,4'-DDD	72-54-8	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	0.00031	0.032	n	N	Not detected.
Surface water	PEST	4,4'-DDE	72-55-9	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	0.00022	0.046	c*	N	Not detected.
Surface water	PEST	4,4'-DDT	50-29-3	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	0.00022	0.23	c**	N	Not detected.
Surface water	PEST	Aldrin	309-00-2	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.000049	0.00092	c*	N	Not detected.
Surface water	PEST	alpha-Endosulfan (Endosulfan I)	959-98-8	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	NC	10	n	N	Not detected.
Surface water	PEST	beta-Endosulfan (Endosulfan II)	33213-65-9	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	NC	10	n	N	Not detected.
Surface water	PEST	BHC alpha	319-84-6	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.0026	0.0072	c	N	Not detected.
Surface water	PEST	BHC beta	319-85-7	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.0091	0.025	c	N	Not detected.
Surface water	PEST	BHC delta	319-86-8	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	NC	NC		N	Not detected.
Surface water	PEST	BHC gamma (Lindane)	58-89-9	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.98	0.042	c**	N	Not detected.
Surface water	PEST	Chlordane, alpha	5103-71-9	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.0001	0.02	c**	N	Not detected.
Surface water	PEST	Chlordane, gamma	5103-74-2	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.0001	0.02	c**	N	Not detected.
Surface water	PEST	Dibenzofuran	132-64-9	ND		ND		--	18	0	0 / 18	0	5 - 5	ND	NC	0.79	n	N	Not detected.
Surface water	PEST	Dieldrin	60-57-1	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	0.000052	0.0018	c*	N	Not detected.
Surface water	PEST	Endosulfan sulfate	1031-07-8	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	62	NC		N	Not detected.
Surface water	PEST	Endrin	72-20-8	ND		ND		--	11	0	0 / 11	0	0.01 - 0.01	ND	0.059	0.23	n	N	Not detected.
Surface water	PEST	Endrin Aldehyde	7421-93-4	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	0.059	NC		N	Not detected.
Surface water	PEST	Endrin Ketone	53494-70-5	ND		ND		--	18	0	0 / 18	0	0.01 - 0.01	ND	NC	NC		N	Not detected.
Surface water	PEST	Heptachlor	76-44-8	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.000079	0.0014	c*	N	Not detected.
Surface water	PEST	Heptachlor epoxide	1024-57-3	ND		ND		--	18	0	0 / 18	0	0.005 - 0.005	ND	0.000039	0.0014	c**	N	Not detected.

TABLE 2.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from Trout Brook, Lamington River UNT, Tanners Brook UNT

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detect Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP SWQS (ug/L) (2)	EPA RSL Resident Tapwater (ug/L) (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion
																Value	Basis		
Surface water	PEST	Methoxychlor	72-43-5	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	40	3.7	n	N	Not detected.
Surface water	PEST	Toxaphene	8001-35-2	ND		ND		--	18	0	0 / 18	0	0.5 - 0.5	ND	0.00028	0.071	c	N	Not detected.
Surface water	PCB	PCB-1016 (Aroclor 1016)	12674-11-2	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.14	n	N	Not detected.
Surface water	PCB	PCB-1221 (Aroclor 1221)	11104-28-2	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.0047	c	N	Not detected.
Surface water	PCB	PCB-1232 (Aroclor 1232)	11141-16-5	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.0047	c	N	Not detected.
Surface water	PCB	PCB-1242 (Aroclor 1242)	53469-21-9	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.0078	c	N	Not detected.
Surface water	PCB	PCB-1248 (Aroclor 1248)	12672-29-6	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.0078	c	N	Not detected.
Surface water	PCB	PCB-1254 (Aroclor 1254)	11097-69-1	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.0078	c**	N	Not detected.
Surface water	PCB	PCB-1260 (Aroclor 1260)	11096-82-5	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	0.0078	c	N	Not detected.
Surface water	PCB	PCB-1262 (Aroclor 1262)	37324-23-5	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	NC		N	Not detected.
Surface water	PCB	PCB-1268 (Aroclor 1268)	11100-14-4	ND		ND		--	18	0	0 / 18	0	0.05 - 0.05	ND	NC	NC		N	Not detected.
Surface water	INORGANIC	Aluminum	7429-90-5	77.8	J	2100		TUSW0003	18	12	12 / 18	67	200 - 200	2100	NC	2000	n	Y	Above screening level.
Surface water	INORGANIC	Antimony	7440-36-0	ND		ND		--	18	0	0 / 18	0	60 - 60	ND	5.6	0.78	n	N	Not detected.
Surface water	INORGANIC	Arsenic	7440-38-2	2.8	J	2.8	J	TBSW0002	18	1	1 / 18	6	10 - 10	2.8	0.017	0.052	c*	Y	Above screening level.
Surface water	INORGANIC	Barium	7440-39-3	12.3	J	49.3	J	LUSW0003	18	18	18 / 18	100	200 - 200	49.3	2000	380	n	N	Below screening level.
Surface water	INORGANIC	Beryllium	7440-41-7	1.1	J	1.1	J	TUSW0003	18	1	1 / 18	6	5 - 5	1.1	6	2.5	n	N	Below screening level.
Surface water	INORGANIC	Cadmium	7440-43-9	0.28	J	0.28	J	TUSW0003	18	1	1 / 18	6	5 - 5	0.28	3.4	0.92	n	N	Below screening level.
Surface water	INORGANIC	Calcium	7440-70-2	8150		24100		TBSW0002	18	18	18 / 18	100	5000 - 5000	24100	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Chromium (Total)	7440-47-3	0.58	J	3.7	J	TUSW0003	18	6	6 / 18	33	10 - 10	3.7	92	NC		N	Below screening level.
Surface water	INORGANIC	Cobalt	7440-48-4	0.87	J	3.9	J	TUSW0003	18	3	3 / 18	17	50 - 50	3.9	NC	0.6	n	Y	Above screening level.
Surface water	INORGANIC	Copper	7440-50-8	4.1	J	8	J	TUSW0003	18	3	3 / 18	17	25 - 25	8	1300	80	n	N	Below screening level.
Surface water	INORGANIC	Cyanide	57-12-5	ND		ND		--	17	0	0 / 17	0	10 - 10	ND	140	0.15	n	N	Not detected.
Surface water	INORGANIC	Iron	7439-89-6	46.2	J	5410		LUSW0003	18	18	18 / 18	100	100 - 100	5410	NC	1400	n	Y	Above screening level.
Surface water	INORGANIC	Lead	7439-92-1	2	J	26.6		TUSW0003	18	10	10 / 18	56	10 - 10	26.6	5	15	L	Y	Above screening level.
Surface water	INORGANIC	Magnesium	7439-95-4	2780	J	7040		TBSW0001	18	18	18 / 18	100	5000 - 5000	7040	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Manganese	7439-96-5	20		381		TUSW0003	18	17	17 / 18	94	15 - 15	381	NC	43	n	Y	Above screening level.
Surface water	INORGANIC	Mercury	7439-97-6	ND		ND		--	18	0	0 / 18	0	0.2 - 0.2	ND	0.05	0.063	n	N	Not detected.
Surface water	INORGANIC	Nickel	7440-02-0	1.8	J	4	J	TUSW0003	18	6	6 / 18	33	40 - 40	4	500	39	n	N	Below screening level.
Surface water	INORGANIC	Potassium	7440-09-7	567	J	1020	J	TBSW0002	18	7	7 / 18	39	5000 - 5000	1020	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Selenium	7782-49-2	ND		ND		--	18	0	0 / 18	0	35 - 35	ND	170	10	n	N	Not detected.
Surface water	INORGANIC	Silver	7440-22-4	ND		ND		--	18	0	0 / 18	0	10 - 10	ND	170	9.4	n	N	Not detected.
Surface water	INORGANIC	Sodium	7440-23-5	2350	J	18300		TBSW0002	18	18	18 / 18	100	5000 - 5000	18300	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Thallium	7440-28-0	ND		ND		--	18	0	0 / 18	0	25 - 25	ND	0.24	0.02	n	N	Not detected.
Surface water	INORGANIC	Vanadium	7440-62-2	5	J	9.2	J	TUSW0003	18	2	2 / 18	11	50 - 50	9.2	NC	8.6	n	Y	Above screening level.
Surface water	INORGANIC	Zinc	7440-66-6	ND		ND		--	18	0	0 / 18	0	60 - 60	ND	7400	600	n	N	Not detected.

Notes:
(1) The maximum detected concentrations from Trout Brook, a Lamington River unnamed tributary (UNT) and Tanners Brook UNT are used for the COPC screening.
(2) NJDEP Surface Water Quality Standards
(3) USEPA Regional Screening Levels (RSLs) at a target risk of 1E-06 and target hazard quotient of 0.1 for residential exposure to tap water.
Only unfiltered (total) surface water data are used for COPC screening.
Constituents that RAGS Part A identifies as essential nutrients (i.e., iron, magnesium, calcium, potassium and sodium) as essential nutrients and that are present at low levels are not considered for the COPC list.
The RSLs for chlordane, xylenes and 1,3-dichloropropene are applied for their isomers. The RSL for endosulfan is applied for endosulfan I and II.

Abbreviations:
COPC -- Constituent of potential concern
EPA -- United States Environmental Protection Agency
NC -- No criteria
ND -- Not detected
NJDEP -- New Jersey Department of Environmental Protection
PCB -- Polychlorinated biphenyl
PEST -- Pesticide
Qual -- Qualifier
RSL -- EPA Regional Screening Levels
SVOC -- Semi-volatile organic compound
SWQS -- Surface water quality standard
ug/L -- Micrograms per liter
UNT -- Unnamed tributary
VOC -- Volatile organic compound

RSL Basis:
* -- Where noncancer RSL < 100 times cancer RSL
** -- Where noncancer RSL < 10 times cancer RSL
c -- Cancer
L -- See RSL User Guide on lead
n -- Noncancer

Qualifier:
J -- Estimated concentration

References:
NJDEP. 2016. Surface Water Quality Standards. N.J.A.C. 7:9B. Re-adopted October 17, 2016. Available online: http://www.nj.gov/dep/rules/rules/njac7_9b.pdf
EPA. 2018. Regional Screening Levels Generic Tables. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 2.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from East Trout Brook

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detect Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP SWQS (ug/L)	EPA RSL Resident Tapwater (ug/L) (2) Value	EPA RSL Resident Tapwater (ug/L) (2) Basis	COPC Flag (Y/N)	Rationale for Selection or Deletion
Surface water	VOC	1,1,1-Trichloroethane	71-55-6	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	120	800	n	N	Not detected.
Surface water	VOC	1,1,2,2-Tetrachloroethane	79-34-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	4.7	0.076	c	N	Not detected.
Surface water	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	1000	n	N	Not detected.
Surface water	VOC	1,1,2-Trichloroethane	79-00-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	13	0.041	n	N	Not detected.
Surface water	VOC	1,1-Dichloroethane	75-34-3	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	2.8	c	N	Not detected.
Surface water	VOC	1,1-Dichloroethene	75-35-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	4.7	28	n	N	Not detected.
Surface water	VOC	1,2,3-Trichlorobenzene	87-61-6	0.25	J	0.25	J	ETSW0003	6	1	1 / 6	17	0.5 - 0.5	0.25	NC	0.7	n	N	Below screening level.
Surface water	VOC	1,2,4-Trichlorobenzene	120-82-1	0.3	J	0.3	J	ETSW0003	6	1	1 / 6	17	0.5 - 0.5	0.3	21	0.4	n	N	Below screening level.
Surface water	VOC	1,2-Dibromo-3-chloropropane	96-12-8	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	0.00033	c	N	Not detected.
Surface water	VOC	1,2-Dibromoethane	106-93-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	0.0075	c	N	Not detected.
Surface water	VOC	1,2-Dichlorobenzene	95-50-1	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	2000	30	n	N	Not detected.
Surface water	VOC	1,2-Dichloroethane	107-06-2	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.29	0.17	c**	N	Not detected.
Surface water	VOC	1,2-Dichloropropane	78-87-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.5	0.14	n	N	Not detected.
Surface water	VOC	1,3-Dichlorobenzene	541-73-1	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	2200	NC		N	Not detected.
Surface water	VOC	1,4-Dichlorobenzene	106-46-7	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	550	0.48	c	N	Not detected.
Surface water	VOC	1,4-Dioxane	123-91-1	21		61		ETSW0002	6	6	6 / 6	100	0.5 - 0.5	61	NC	0.46	c*	Y	Above screening level.
Surface water	VOC	2-Hexanone	591-78-6	ND		ND		NA	5	0	0 / 5	0	5 - 5	ND	NC	3.8	n	N	Not detected.
Surface water	VOC	Acetone	67-64-1	2.7	J	2.7	J	ETSW0003	6	1	1 / 6	17	5 - 5	2.7	NC	1400	n	N	Below screening level.
Surface water	VOC	Benzene	71-43-2	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.15	0.46	c**	N	Not detected.
Surface water	VOC	Bromochloromethane	74-97-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	8.3	n	N	Not detected.
Surface water	VOC	Bromodichloromethane	75-27-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.55	0.13	c	N	Not detected.
Surface water	VOC	Bromoform	75-25-2	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	4.3	3.3	c*	N	Not detected.
Surface water	VOC	Bromomethane	74-83-9	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	47	0.75	n	N	Not detected.
Surface water	VOC	Carbon disulfide	75-15-0	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	81	n	N	Not detected.
Surface water	VOC	Carbon tetrachloride	56-23-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.33	0.46	c*	N	Not detected.
Surface water	VOC	Chlorobenzene	108-90-7	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	210	7.8	n	N	Not detected.
Surface water	VOC	Chloroethane	75-00-3	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	2100	n	N	Not detected.
Surface water	VOC	Chloroform	67-66-3	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	68	0.22	c*	N	Not detected.
Surface water	VOC	Chloromethane	74-87-3	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	19	n	N	Not detected.
Surface water	VOC	cis-1,2-Dichloroethylene	156-59-2	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	3.6	n	N	Not detected.
Surface water	VOC	cis-1,3-Dichloropropene	10061-01-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	0.47	c**	N	Not detected.
Surface water	VOC	Cyclohexane	110-82-7	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	1300	n	N	Not detected.
Surface water	VOC	Dibromochloromethane	124-48-1	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.4	0.87	c*	N	Not detected.
Surface water	VOC	Dichlorodifluoromethane	75-71-8	0.16	J	0.16	J	ETSW0003	6	1	1 / 6	17	0.5 - 0.5	0.16	NC	20	n	N	Below screening level.
Surface water	VOC	Ethyl Ether	60-29-7	2.5	J	2.5	J	ETSW0003	6	1	1 / 6	17	50 - 50	2.5	NC	390	n	N	Below screening level.
Surface water	VOC	Ethylbenzene	100-41-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	530	1.5	c*	N	Not detected.
Surface water	VOC	Isopropylbenzene (Cumene)	98-82-8	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	45	n	N	Not detected.
Surface water	VOC	Methyl acetate	79-20-9	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	2000	n	N	Not detected.
Surface water	VOC	Methyl Ethyl Ketone	78-93-3	ND		ND		NA	5	0	0 / 5	0	5 - 5	ND	NC	560	n	N	Not detected.
Surface water	VOC	Methyl Isobutyl Ketone	108-10-1	ND		ND		NA	5	0	0 / 5	0	5 - 5	ND	NC	630	n	N	Not detected.
Surface water	VOC	Methyl tert-butyl ether	1634-04-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	70	14	c*	N	Not detected.
Surface water	VOC	Methylcyclohexane	108-87-2	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	NC		N	Not detected.
Surface water	VOC	Methylene chloride	75-09-2	ND		ND		NA	6	0	0 / 6	0	0.5 - 0.5	ND	2.5	11	n	N	Not detected.
Surface water	VOC	Styrene	100-42-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	120	n	N	Not detected.
Surface water	VOC	Tert-butyl Alcohol	75-65-0	ND		ND		NA	5	0	0 / 5	0	10 - 10	ND	NC	NC		N	Not detected.
Surface water	VOC	Tetrachloroethylene (PCE)	127-18-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.34	4.1	n	N	Not detected.
Surface water	VOC	Toluene	108-88-3	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	1300	110	n	N	Not detected.
Surface water	VOC	trans-1,2-Dichloroethylene	156-60-5	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	590	36	n	N	Not detected.
Surface water	VOC	trans-1,3-Dichloropropene	10061-02-6	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	0.47	c**	N	Not detected.
Surface water	VOC	Trichloroethylene (TCE)	79-01-6	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	1	0.28	n	N	Not detected.
Surface water	VOC	Trichlorofluoromethane	75-69-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	520	n	N	Not detected.
Surface water	VOC	Vinyl chloride	75-01-4	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	0.082	0.019	c	N	Not detected.
Surface water	VOC	Xylenes-m,p	179601-23-1	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	NC	n	N	Not detected.
Surface water	VOC	Xylenes-o	95-47-6	ND		ND		NA	5	0	0 / 5	0	0.5 - 0.5	ND	NC	19	n	N	Not detected.
Surface water	SVOC	1,2,4,5-Tetrachlorobenzene	95-94-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.97	0.17	n	N	Not detected.
Surface water	SVOC	2,3,4,6-Tetrachlorophenol	58-90-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	24	n	N	Not detected.
Surface water	SVOC	2,4,5-Trichlorophenol	95-95-4	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	1800	120	n	N	Not detected.
Surface water	SVOC	2,4,6-Trichlorophenol	88-06-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.58	1.2	n	N	Not detected.
Surface water	SVOC	2,4-Dichlorophenol	120-83-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	77	4.6	n	N	Not detected.
Surface water	SVOC	2,4-Dimethylphenol	105-67-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	380	36	n	N	Not detected.
Surface water	SVOC	2,4-Dinitrophenol	51-28-5	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	69	3.9	n	N	Not detected.
Surface water	SVOC	2,4-Dinitrotoluene	121-14-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.11	0.24	c*	N	Not detected.
Surface water	SVOC	2,6-Dinitrotoluene	606-20-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	0.049	c*	N	Not detected.
Surface water	SVOC	2-Chloronaphthalene	91-58-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	1000	75	n	N	Not detected.
Surface water	SVOC	2-Chlorophenol	95-57-8	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	81	9.1	n	N	Not detected.
Surface water	SVOC	2-Methylnaphthalene	91-57-6	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	3.6	n	N	Not detected.
Surface water	SVOC	2-Methylphenol	95-48-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	93	n	N	Not detected.
Surface water	SVOC	2-Nitroaniline	88-74-4	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	NC	19	n	N	Not detected.
Surface water	SVOC	2-Nitrophenol	88-75-5	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	3,3-Dichlorobenzidine	91-94-1	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.021	0.13	c	N	Not detected.

TABLE 2.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from East Trout Brook

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detect Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP SWQS (ug/L)	EPA RSL Resident Tapwater (ug/L) (2) Value	EPA RSL Resident Tapwater (ug/L) (2) Basis	COPC Flag (Y/N)	Rationale for Selection or Deletion
Surface water	SVOC	3-Nitroaniline	99-09-2	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	NC	NC		N	Not detected.
Surface water	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	13	0.15	n	N	Not detected.
Surface water	SVOC	4-Bromophenyl-phenylether	101-55-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	4-Chloro-3-methylphenol	59-50-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	140	n	N	Not detected.
Surface water	SVOC	4-Chloroaniline	106-47-8	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	0.37	c*	N	Not detected.
Surface water	SVOC	4-Chlorophenyl-phenylether	7005-72-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	4-Methylphenol (p-Cresol)	106-44-5	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	190	n	N	Not detected.
Surface water	SVOC	4-Nitroaniline	100-01-6	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	NC	3.8	c**	N	Not detected.
Surface water	SVOC	4-Nitrophenol	100-02-7	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	NC	NC		N	Not detected.
Surface water	SVOC	Acenaphthene	83-32-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	670	53	n	N	Not detected.
Surface water	SVOC	Acenaphthylene	208-96-8	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Acetophenone	98-86-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	190	n	N	Not detected.
Surface water	SVOC	Anthracene	120-12-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	8300	180	n	N	Not detected.
Surface water	SVOC	Atrazine	1912-24-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	0.3	c	N	Not detected.
Surface water	SVOC	Benzaldehyde	100-52-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	19	c*	N	Not detected.
Surface water	SVOC	Benzo(a)anthracene	56-55-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.038	0.03	c	N	Not detected.
Surface water	SVOC	Benzo(a)pyrene	50-32-8	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.0038	0.025	c*	N	Not detected.
Surface water	SVOC	Benzo(b)fluoranthene	205-99-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.038	0.25	c	N	Not detected.
Surface water	SVOC	Benzo(g,h,i)perylene	191-24-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Benzo(k)fluoranthene	207-08-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.38	2.5	c	N	Not detected.
Surface water	SVOC	Benzyl Butyl Phthalate	85-68-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	150	16	c*	N	Not detected.
Surface water	SVOC	Biphenyl (diphenyl)	92-52-4	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	0.083	n	N	Not detected.
Surface water	SVOC	Bis(2-chloroethoxy) Methane	111-91-1	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	5.9	n	N	Not detected.
Surface water	SVOC	Bis(2-chloroethyl)ether	111-44-4	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.03	0.014	c	N	Not detected.
Surface water	SVOC	Bis(2-chloroisopropyl)ether	108-60-1	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	1400	71	n	N	Not detected.
Surface water	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	1.2	5.6	c**	N	Not detected.
Surface water	SVOC	Caprolactam	105-60-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	990	n	N	Not detected.
Surface water	SVOC	Carbazole	86-74-8	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Chrysene	218-01-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	3.8	25	c	N	Not detected.
Surface water	SVOC	Dibenz(a,h)anthracene	53-70-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.0038	0.025	c	N	Not detected.
Surface water	SVOC	Diethyl phthalate	84-66-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	17000	1500	n	N	Not detected.
Surface water	SVOC	Dimethylphthalate	131-11-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Di-n-butyl phthalate	84-74-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	2000	90	n	N	Not detected.
Surface water	SVOC	Di-n-octylphthalate	117-84-0	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	20	n	N	Not detected.
Surface water	SVOC	Fluoranthene	206-44-0	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	130	80	n	N	Not detected.
Surface water	SVOC	Fluorene	86-73-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	1100	29	n	N	Not detected.
Surface water	SVOC	Hexachlorobenzene	118-74-1	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.00028	0.0098	c	N	Not detected.
Surface water	SVOC	Hexachlorobutadiene	87-68-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.44	0.14	c**	N	Not detected.
Surface water	SVOC	Hexachlorocyclopentadiene	77-47-4	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	40	0.041	n	N	Not detected.
Surface water	SVOC	Hexachloroethane	67-72-1	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	1.4	0.33	c**	N	Not detected.
Surface water	SVOC	Indeno (1,2,3-cd)pyrene	193-39-5	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.038	0.25	c	N	Not detected.
Surface water	SVOC	Isophorone	78-59-1	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	35	78	c**	N	Not detected.
Surface water	SVOC	Naphthalene	91-20-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	0.17	c**	N	Not detected.
Surface water	SVOC	Nitrobenzene	98-95-3	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	17	0.14	c**	N	Not detected.
Surface water	SVOC	N-Nitrosodi-n-propylamine	621-64-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	0.005	0.011	c	N	Not detected.
Surface water	SVOC	N-Nitrosodiphenylamine	86-30-6	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	3.3	12	c	N	Not detected.
Surface water	SVOC	Pentachlorophenol	87-86-5	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	0.27	0.041	c*	N	Not detected.
Surface water	SVOC	Phenanthrene	85-01-8	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	NC		N	Not detected.
Surface water	SVOC	Phenol	108-95-2	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	10000	580	n	N	Not detected.
Surface water	SVOC	Pyrene	129-00-0	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	830	12	n	N	Not detected.
Surface water	PEST	4,4'-DDD	72-54-8	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	0.00031	0.032	n	N	Not detected.
Surface water	PEST	4,4'-DDE	72-55-9	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	0.00022	0.046	c*	N	Not detected.
Surface water	PEST	4,4'-DDT	50-29-3	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	0.00022	0.23	c**	N	Not detected.
Surface water	PEST	Aldrin	309-00-2	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.000049	0.00092	c*	N	Not detected.
Surface water	PEST	alpha-Endosulfan (Endosulfan I)	959-98-8	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	NC	10	n	N	Not detected.
Surface water	PEST	beta-Endosulfan (Endosulfan II)	33213-65-9	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	NC	10	n	N	Not detected.
Surface water	PEST	BHC alpha	319-84-6	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.0026	0.0072	c	N	Not detected.
Surface water	PEST	BHC beta	319-85-7	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.0091	0.025	c	N	Not detected.
Surface water	PEST	BHC delta	319-86-8	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	NC	NC		N	Not detected.
Surface water	PEST	BHC gamma (Lindane)	58-89-9	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.98	0.042	c**	N	Not detected.
Surface water	PEST	Chlordane, alpha	5103-71-9	0.0021	J	0.0048	J	ETSW0001	6	2	2 / 6	33	0.005 - 0.005	0.0048	0.0001	0.02	c**	Y	Above screening level.
Surface water	PEST	Chlordane, gamma	5103-74-2	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.0001	0.02	c**	N	Not detected.
Surface water	PEST	Dibenzofuran	132-64-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	NC	0.79	n	N	Not detected.
Surface water	PEST	Dieldrin	60-57-1	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	0.000052	0.0018	c*	N	Not detected.
Surface water	PEST	Endosulfan sulfate	1031-07-8	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	62	NC		N	Not detected.
Surface water	PEST	Endrin	72-20-8	ND		ND		NA	5	0	0 / 5	0	0.01 - 0.01	ND	0.059	0.23	n	N	Not detected.
Surface water	PEST	Endrin Aldehyde	7421-93-4	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	0.059	NC		N	Not detected.
Surface water	PEST	Endrin Ketone	53494-70-5	ND		ND		NA	6	0	0 / 6	0	0.01 - 0.01	ND	NC	NC		N	Not detected.
Surface water	PEST	Heptachlor	76-44-8	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.000079	0.0014	c*	N	Not detected.
Surface water	PEST	Heptachlor epoxide	1024-57-3	ND		ND		NA	6	0	0 / 6	0	0.005 - 0.005	ND	0.000039	0.0014	c**	N	Not detected.
Surface water	PEST	Methoxychlor	72-43-5	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	40	3.7	n	N	Not detected.
Surface water	PEST	Toxaphene	8001-35-2	ND		ND		NA	6	0	0 / 6	0	0.5 - 0.5	ND	0.00028	0.071	c	N	Not detected.

TABLE 2.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF COPCS FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from East Trout Brook

Exposure Point	Constituent Group	Constituent	CASRN	Minimum Detected Concentration (ug/L)	Qual	Maximum Detected Concentration (ug/L)	Qual	Location of Maximum Detected Concentration	Sample Count	Detect Count	Detection Frequency (Ratio)	Detection Frequency (%)	Range of Detection Limits	Concentration used for Screening (ug/L) (1)	NJDEP SWQS (ug/L)	EPA RSL Resident Tapwater (ug/L) (2)		COPC Flag (Y/N)	Rationale for Selection or Deletion
																Value	Basis		
Surface water	PCB	PCB-1016 (Aroclor 1016)	12674-11-2	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.14	n	N	Not detected.
Surface water	PCB	PCB-1221 (Aroclor 1221)	11104-28-2	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.0047	c	N	Not detected.
Surface water	PCB	PCB-1232 (Aroclor 1232)	11141-16-5	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.0047	c	N	Not detected.
Surface water	PCB	PCB-1242 (Aroclor 1242)	53469-21-9	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.0078	c	N	Not detected.
Surface water	PCB	PCB-1248 (Aroclor 1248)	12672-29-6	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.0078	c	N	Not detected.
Surface water	PCB	PCB-1254 (Aroclor 1254)	11097-69-1	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.0078	c**	N	Not detected.
Surface water	PCB	PCB-1260 (Aroclor 1260)	11096-82-5	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	0.0078	c	N	Not detected.
Surface water	PCB	PCB-1262 (Aroclor 1262)	37324-23-5	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	NC		N	Not detected.
Surface water	PCB	PCB-1268 (Aroclor 1268)	11100-14-4	ND		ND		NA	6	0	0 / 6	0	0.05 - 0.05	ND	NC	NC		N	Not detected.
Surface water	INORGANIC	Aluminum	7429-90-5	ND		ND		NA	6	0	0 / 6	0	200 - 200	ND	NC	2000	n	N	Not detected.
Surface water	INORGANIC	Antimony	7440-36-0	ND		ND		NA	6	0	0 / 6	0	60 - 60	ND	5.6	0.78	n	N	Not detected.
Surface water	INORGANIC	Arsenic	7440-38-2	3.6	J	3.6	J	ETSW0002	6	1	1 / 6	17	10 - 10	3.6	0.017	0.052	c*	Y	Above screening level.
Surface water	INORGANIC	Barium	7440-39-3	8.3	J	15.7	J	ETSW0001	6	6	6 / 6	100	200 - 200	15.7	2000	380	n	N	Below screening level.
Surface water	INORGANIC	Beryllium	7440-41-7	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	6	2.5	n	N	Not detected.
Surface water	INORGANIC	Cadmium	7440-43-9	ND		ND		NA	6	0	0 / 6	0	5 - 5	ND	3.4	0.92	n	N	Not detected.
Surface water	INORGANIC	Calcium	7440-70-2	30900		45100		ETSW0003	6	6	6 / 6	100	5000 - 5000	45100	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Chromium (Total)	7440-47-3	0.95	J	7	J	ETSW0003	6	5	5 / 6	83	10 - 10	7	92	NC		N	Below screening level.
Surface water	INORGANIC	Cobalt	7440-48-4	ND		ND		NA	6	0	0 / 6	0	50 - 50	ND	NC	0.6	n	N	Not detected.
Surface water	INORGANIC	Copper	7440-50-8	3.5	J	3.9	J	ETSW0002	6	3	3 / 6	50	25 - 25	3.9	1300	80	n	N	Below screening level.
Surface water	INORGANIC	Cyanide	57-12-5	ND		ND		NA	6	0	0 / 6	0	10 - 10	ND	140	0.15	n	N	Not detected.
Surface water	INORGANIC	Iron	7439-89-6	56.3	J	139		ETSW0001	6	6	6 / 6	100	100 - 100	139	NC	1400	n	N	Below screening level.
Surface water	INORGANIC	Lead	7439-92-1	3	J	3.8	J	ETSW0002	6	5	5 / 6	83	10 - 10	3.8	5	15	L	N	Below screening level.
Surface water	INORGANIC	Magnesium	7439-95-4	11200		16200		ETSW0002	6	6	6 / 6	100	5000 - 5000	16200	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Manganese	7439-96-5	6.8	J	70.5		ETSW0001	6	6	6 / 6	100	15 - 15	70.5	NC	43	n	Y	Above screening level.
Surface water	INORGANIC	Mercury	7439-97-6	ND		ND		NA	6	0	0 / 6	0	0.2 - 0.2	ND	0.05	0.063	n	N	Not detected.
Surface water	INORGANIC	Nickel	7440-02-0	1.3	J	4	J	ETSW0001	6	5	5 / 6	83	40 - 40	4	500	39	n	N	Below screening level.
Surface water	INORGANIC	Potassium	7440-09-7	2500	J	3130	J	ETSW0003	6	6	6 / 6	100	5000 - 5000	3130	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Selenium	7782-49-2	ND		ND		NA	6	0	0 / 6	0	35 - 35	ND	170	10	n	N	Not detected.
Surface water	INORGANIC	Silver	7440-22-4	0.46	J	0.54	J	ETSW0002	6	2	2 / 6	33	10 - 10	0.54	170	9.4	n	N	Below screening level.
Surface water	INORGANIC	Sodium	7440-23-5	62200		134000		ETSW0002	6	6	6 / 6	100	5000 - 5000	134000	NC	NC		N	Essential nutrient.
Surface water	INORGANIC	Thallium	7440-28-0	ND		ND		NA	6	0	0 / 6	0	25 - 25	ND	0.24	0.02	n	N	Not detected.
Surface water	INORGANIC	Vanadium	7440-62-2	ND		ND		NA	6	0	0 / 6	0	50 - 50	ND	NC	8.6	n	N	Not detected.
Surface water	INORGANIC	Zinc	7440-66-6	ND		ND		NA	6	0	0 / 6	0	60 - 60	ND	7400	600	n	N	Not detected.

Notes:
(1) The maximum detected concentrations of East Trout Brook are used for the COPC screening to evaluate impacts downstream of permitted discharge from the Leachate Treatment Plant.
(2) USEPA Regional Screening Levels (RSLs) at a target risk of 1E-06 and target hazard quotient of 0.1 for residential exposure to tapwater.
Only unfiltered (total) surface water data are used for COPC screening.
Constituents that RAGS Part A identifies as essential nutrients (i.e., iron, magnesium, calcium, potassium and sodium) as essential nutrients and that are present at low levels are not considered for the COPC list.
The RSLs for chlordane, xylenes and 1,3-dichloropropene are applied for their isomers. The RSL for endosulfan is applied for endosulfan I and II.

Abbreviations:
COPC -- Constituent of potential concern
EPA -- United States Environmental Protection Agency
INORG -- Inorganic
NC -- No criteria
NJDEP -- New Jersey Department of Environmental Protection
PCB -- Polychlorinated biphenyl
PEST -- Pesticide
Qual -- Qualifier
RSL -- EPA Regional Screening Levels
SVOC -- Semi-volatile organic compound
SWQS -- Surface water quality standard
ug/L -- Micrograms per liter
VOC -- Volatile organic compound

RSL Basis:
* -- Where noncancer RSL < 100 times cancer RSL
c -- Cancer
L -- See RSL User Guide on lead
n -- Noncancer

Qualifiers:
J -- Estimated concentration

References:
NJDEP. 2016. Surface Water Quality Standards. N.J.A.C. 7:9B. Re-adopted October 17, 2016. Available online: http://www.nj.gov/dep/rules/rules/njac7_9b.pdf
EPA. 2018. Regional Screening Levels Generic Tables. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 2.SUPP.1
SUMMARY OF HUMAN HEALTH COPCS
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Constituent Group	Constituent	CASRN	Site-wide Groundwater	Surface Water (Trout Brook, Lamington River UNT, Tanners Brook UNT)	Surface Water (East Trout Brook)
VOC	1,2-Dichloroethane	107-06-2	Yes		
VOC	1,2-Dichloropropane	78-87-5	Yes		
VOC	1,4-Dichlorobenzene	106-46-7	Yes		
VOC	1,4-Dioxane	123-91-1	Yes	Yes	Yes
VOC	Benzene	71-43-2	Yes		
VOC	Chloroform	67-66-3	Yes		
VOC	cis-1,2-Dichloroethylene	156-59-2	Yes		
VOC	Ethyl Ether	60-29-7	Yes		
VOC	Tetrachloroethylene (PCE)	127-18-4	Yes		
VOC	Trichloroethylene (TCE)	79-01-6	Yes	Yes	
VOC	Vinyl chloride	75-01-4	Yes		
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	Yes		
SVOC	Caprolactam	105-60-2	Yes		
PEST	BHC alpha	319-84-6	Yes		
PEST	Chlordane, alpha	5103-71-9			Yes
PEST	Endrin Aldehyde	7421-93-4	Yes		
INORGANIC	Aluminum	7429-90-5	Yes	Yes	
INORGANIC	Arsenic	7440-38-2	Yes	Yes	Yes
INORGANIC	Barium	7440-39-3	Yes		
INORGANIC	Beryllium	7440-41-7	Yes		
INORGANIC	Chromium (Total)	7440-47-3	Yes		
INORGANIC	Cobalt	7440-48-4	Yes	Yes	
INORGANIC	Copper	7440-50-8	Yes		
INORGANIC	Iron	7439-89-6	Yes	Yes	
INORGANIC	Lead	7439-92-1	Yes	Yes	
INORGANIC	Manganese	7439-96-5	Yes	Yes	Yes
INORGANIC	Nickel	7440-02-0	Yes		
INORGANIC	Sodium	7440-23-5	Yes		

Abbreviations:
PEST -- Pesticide
SVOC -- Semi-volatile organic compound
VOC -- Volatile organic compound

TABLE 3.1
EXPOSURE POINT CONCENTRATION SUMMARY FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

T or D	Constituent Group	Constituent	CASRN	Medium-Specific COPC	Arithmetic Detected Mean (ug/L)	Maximum Detected Concentration (ug/L)	Qual	95% UCL (ug/L)	95% UCL Method	ProUCL Notes	Sample Count	Detect Count	% Detects	Exposure Point Concentration (EPC)		
														Value (ug/L)	Statistic	Rationale
T	VOC	1,2-Dichloroethane	107-06-2	Yes	0.61	2.8	J	0.492	95% KM (% Bootstrap) UCL	a	104	38	37	0.492	UCL	Lower of the max and UCL.
T	VOC	1,2-Dichloropropane	78-87-5	Yes	0.39	0.87	J	0.392	95% KM (t) UCL	b	88	4	5	0.392	UCL	Lower of the max and UCL.
T	VOC	1,4-Dichlorobenzene	106-46-7	Yes	0.73	2.6	J	0.506	95% Approximate Gamma KM-UCL	i	94	32	34	0.506	UCL	Lower of the max and UCL.
T	VOC	1,4-Dioxane	123-91-1	Yes	24	290	J	49.09	97.5% KM (Chebyshev) UCL		110	95	86	49.09	UCL	Lower of the max and UCL.
T	VOC	Benzene	71-43-2	Yes	7.3	90	J	7.763	95% KM (Chebyshev) UCL		102	37	36	7.763	UCL	Lower of the max and UCL.
T	VOC	Chloroform	67-66-3	Yes	3.0	9.2	J	0.928	95% KM (Percentile Bootstrap) UCL	a	91	13	14	0.928	UCL	Lower of the max and UCL.
T	VOC	cis-1,2-Dichloroethylene	156-59-2	Yes	0.68	6	J	0.689	95% KM (BCA) UCL		104	69	66	0.689	UCL	Lower of the max and UCL.
T	VOC	Ethyl Ether	60-29-7	Yes	116	620	J	102.1	95% Approximate Gamma KM-UCL	i	119	79	66	102.1	UCL	Lower of the max and UCL.
T	VOC	Tetrachloroethylene (PCE)	127-18-4	Yes	0.51	2	J	0.364	95% KM (t) UCL	a	90	20	22	0.364	UCL	Lower of the max and UCL.
T	VOC	Trichloroethylene (TCE)	79-01-6	Yes	0.68	4	J	0.592	95% GROS Approximate Gamma UCL	i	98	55	56	0.592	UCL	Lower of the max and UCL.
T	VOC	Vinyl chloride	75-01-4	Yes	0.20	0.24	J	0.234	95% KM (t) UCL	e	87	3	3	0.234	UCL	Lower of the max and UCL.
T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	Yes	5.3	15		3.798	95% KM (t) UCL	a	110	17	15	3.798	UCL	Lower of the max and UCL.
T	SVOC	Caprolactam	105-60-2	Yes	77	1100		62.85	95% KM (Chebyshev) UCL		110	22	20	62.85	UCL	Lower of the max and UCL.
T	PEST	BHC alpha	319-84-6	Yes	0.024	0.073		0.00845	95% Approximate Gamma KM-UCL	i	109	19	17	0.00845	UCL	Lower of the max and UCL.
T	PEST	Endrin Aldehyde	7421-93-4	Yes	0.013	0.02	J	0.0101	95% KM (t) UCL	a	110	6	5	0.0101	UCL	Lower of the max and UCL.
T	INORGANIC	Aluminum	7429-90-5	Yes	2615	18400		1877	97.5% KM (Chebyshev) UCL		110	16	15	1877	UCL	Lower of the max and UCL.
T	INORGANIC	Arsenic	7440-38-2	Yes	3.2	6.4	J	1.488	95% KM (t) UCL	a	110	15	14	1.488	UCL	Lower of the max and UCL.
T	INORGANIC	Barium	7440-39-3	Yes	63	2390		167.8	95% KM (Chebyshev) UCL		110	92	84	167.8	UCL	Lower of the max and UCL.
T	INORGANIC	Beryllium	7440-41-7	Yes	1.1	2.5	J	0.918	95% KM (Percentile Bootstrap) UCL	a	110	8	7	0.918	UCL	Lower of the max and UCL.
T	INORGANIC	Chromium (Total)	7440-47-3	Yes	39	262	J	19.98	95% GROS Approximate Gamma UCL	i	110	34	31	19.98	UCL	Lower of the max and UCL.
T	INORGANIC	Cobalt	7440-48-4	Yes	3.8	10.8	J	2.071	95% KM (t) UCL	a	110	15	14	2.071	UCL	Lower of the max and UCL.
T	INORGANIC	Copper	7440-50-8	Yes	54	1170		61.25	95% KM (Chebyshev) UCL		109	25	23	61.25	UCL	Lower of the max and UCL.
T	INORGANIC	Iron	7439-89-6	Yes	2477	44700		5551	97.5% KM (Chebyshev) UCL		110	94	85	5551	UCL	Lower of the max and UCL.
T	INORGANIC	Lead	7439-92-1	Yes	11	175		10.6	95% KM (BCA) UCL		110	51	46	10.6	UCL	Lower of the max and UCL.
T	INORGANIC	Manganese	7439-96-5	Yes	375	4960		914.2	97.5% KM (Chebyshev) UCL		110	108	98	914.2	UCL	Lower of the max and UCL.
T	INORGANIC	Nickel	7440-02-0	Yes	17	149		26.02	97.5% KM (Chebyshev) UCL		106	57	54	26.02	UCL	Lower of the max and UCL.
T	INORGANIC	Sodium	7440-23-5	Yes	18412	489000		38377	95% Chebyshev (Mean, Sd) UCL		110	110	100	38377	UCL	Lower of the max and UCL.
T	INORGANIC	Vanadium	7440-62-2	Yes	8.4	32.2	J	3.251	95% GROS Approximate Gamma UCL	i	110	11	10	3.251	UCL	Lower of the max and UCL.

Notes:

Groundwater data that do not meet the requirements in the EPA memorandum titled *Determining Groundwater Exposure Point Concentrations, Supplemental Guidance* are excluded from the evaluation, e.g., samples collected during packer testing whose purpose was for screening only to determine well completion depths (EPA 2014, HDR 2015a and b). All of the remaining site-wide groundwater data are evaluated for this EPC calculation.

Only unfiltered (total) groundwater data are evaluated.

The exposure point concentration (EPC) is the 95% upper confidence limit (UCL) of the arithmetic mean. When the UCL is greater than the maximum detected concentration or ProUCL did not calculate an UCL, the maximum detected concentration is chosen.

The most appropriate UCL is chosen from the list of ProUCL suggested UCLs based on the distribution of the databset (e.g., applying adjusted-gamma UCL for a gamma-distributed dataset of less than or equal to 50 samples) per ProUCL Technical Guidance. When more than one UCL is suggested, the lowest is chosen. ProUCL outputs are provided in Attachment B.

Abbreviations:

EPC -- Exposure point concentration
Qual -- Qualifier
UCL -- Upper confidence limit

ProUCL Notes and Warnings:

a The lowest UCL is chosen when ProUCL suggested more than one UCL.
b One or more recommended UCL not available.
e Data set has only 3 Detected Values.

References:

EPA. 2014. Memorandum – Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. March 11. Available online: http://www2.epa.gov/risk/exposure-point-concentrations-groundwater
EPA. 2015. ProUCL Version 5.1 User Guide. EPA/600/R-07/041. October. Available online: https://www.epa.gov/land-research/proucl-software
HDR. 2015a. "Core of Plume" Assessment for Exposure Point Concentration Calculations. Memorandum. April 6.
HDR. 2015b. Risk Assessment Points of Discussion. Memorandum. November 3.
EPA. 2016. ProUCL Version 5.1. September 19. Available online: https://www.epa.gov/land-research/proucl-software

TABLE 3.2
EXPOSURE POINT CONCENTRATION SUMMARY FOR GROUNDWATER CORE OF PLUME
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

T or D	Constituent Group	Constituent	CASRN	Medium-Specific COPC	Arithmetic Detected Mean (ug/L)	Maximum Detected Concentration (ug/L)	Qual	95% UCL (ug/L)	95% UCL Method	Sample Count	Detect Count	% Detects	Exposure Point Concentration (EPC)		
													Value (ug/L)	Statistic	Rationale
T	VOC	1,4-Dioxane	123-91-1	Yes	132.5	290	J	191.7	95% Student's-t UCL	10	10	100	191.7	UCL	Lower of the max and UCL.
T	VOC	Benzene	71-43-2	Yes	22.65	90	J	65.49	95% Chebyshev (Mean, Sd) UCL	10	10	100	65.49	UCL	Lower of the max and UCL.
T	VOC	Trichloroethylene (TCE)	79-01-6	Yes	1.89	4	J	2.668	95% Adjusted Gamma UCL	10	10	100	2.668	UCL	Lower of the max and UCL.
T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	Yes	7.36	15		10.07	95% Student's-t UCL	10	10	100	10.07	UCL	Lower of the max and UCL.
T	PEST	BHC alpha	319-84-6	Yes	0.0353	0.073		0.0453	95% Student's-t UCL	10	10	100	0.0453	UCL	Lower of the max and UCL.
T	INORGANIC	Arsenic	7440-38-2	Yes	4.01	6.4	J	4.674	95% Student's-t UCL	10	10	100	4.674	UCL	Lower of the max and UCL.
T	INORGANIC	Chromium (Total)	7440-47-3	Yes	99	262		134.3	95% Student's-t UCL	10	10	100	134.3	UCL	Lower of the max and UCL.
T	INORGANIC	Lead	7439-92-1	Yes	47.38	175		138.9	95% Chebyshev (Mean, Sd) UCL	10	10	100	138.9	UCL	Lower of the max and UCL.

Notes:

Groundwater data that do not meet the requirements in the EPA memorandum titled Determining Groundwater Exposure Point Concentrations, Supplemental Guidance are excluded from the evaluation, e.g., samples collected during packer testing whose purpose was for screening only to determine well completion depths (EPA 2014, HDR 2015a and b). For the Core of the Plume evaluation, data are restricted to the 10 highest detected concentrations for eight COPCs known to be historic constituents or that have exceedances greater than five percent.

Only unfiltered (total) groundwater data are evaluated.

The exposure point concentration (EPC) is the 95% upper confidence limit (UCL) of the arithmetic mean. When the UCL is greater than the maximum detected concentration or ProUCL did not calculate an UCL, the maximum detected concentration is chosen.

The most appropriate UCL is chosen from the list of ProUCL suggested UCLs based on the distribution of the databset (e.g., applying adjusted-gamma UCL for a gamma-distributed dataset of less than or equal to 50 samples) per ProUCL Technical Guidance. When more than one UCL is suggested, the lowest is chosen. ProUCL outputs are provided in Attachment B.

Abbreviations:

EPC -- Exposure point concentration
Qual -- Qualifier
UCL -- Upper confidence limit

References:

EPA. 2014. Memorandum – Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. March 11. Available online: http://www2.epa.gov/risk/exposure-point-concentrations-groundwater
EPA. 2015. ProUCL Version 5.1 User Guide. EPA/600/R-07/041. October. Available online: https://www.epa.gov/land-research/proucl-software
HDR. 2015a. "Core of Plume" Assessment for Exposure Point Concentration Calculations. Memorandum. April 6.
HDR. 2015b. Risk Assessment Points of Discussion. Memorandum. November 3.
EPA. 2016. ProUCL Version 5.1. September 19. Available online: https://www.epa.gov/land-research/proucl-software

TABLE 3.3
EXPOSURE POINT CONCENTRATION SUMMARY FOR SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from Trout Brook, Lamington River UNT, Tanners Brook UNT

T or D	COPC Group	COPC	CASRN	Medium-Specific COPC	Arithmetic Detected Mean (ug/L)	Maximum Detected Concentration (ug/L)	Qual	95% UCL (ug/L)	95% UCL Method	ProUCL Notes	Sample Count	Detect Count	% Detects	Exposure Point Concentration (EPC)		
														Value (ug/L)	Statistic	Rationale
T	VOC	1,4-Dioxane	123-91-1	Yes	6.365	35		11.8	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)		18	12	67	11.8	UCL	Lower of the max and UCL.
T	VOC	Trichloroethylene (TCE)	79-01-6	Yes	0.31	0.4	J	0.473	95% KM (t) UCL	a, b, e, i	11	2	18	0.4	Max	Lower of the max and UCL.
T	INORGANIC	Aluminum	7429-90-5	Yes	483.2	2100		736.4	and 15 < n < 50 but k<=1)		18	12	67	736.4	UCL	Lower of the max and UCL.
T	INORGANIC	Arsenic	7440-38-2	Yes	--	2.8	J	--	ProUCL did not process; insufficient detects	d, g, h	18	1	6	2.8	Max	Lower of the max and UCL.
T	INORGANIC	Cobalt	7440-48-4	Yes	2	3.9	J	3.67	95% KM (t) UCL	f	18	3	17	3.67	UCL	Lower of the max and UCL.
T	INORGANIC	Iron	7439-89-6	Yes	954.2	5410		2342	95% Chebyshev (Mean, Sd) UCL		18	18	100	2342	UCL	Lower of the max and UCL.
T	INORGANIC	Lead	7439-92-1	Yes	7.3	26.6		7.146	KM H-UCL		18	10	56	7.146	UCL	Lower of the max and UCL.
T	INORGANIC	Manganese	7439-96-5	Yes	85.8	381		144.1	95% KM Adjusted Gamma UCL	a	18	17	94	144.1	UCL	Lower of the max and UCL.
T	INORGANIC	Vanadium	7440-62-2	Yes	7	9.2	J	10.75	95% KM (t) UCL	a, b, e, i	18	2	11	9.2	Max	Lower of the max and UCL.

Notes:
The data set is comprised of unfiltered (total) surface water data from Trout Brook, a Lamington River unnamed tributary (UNT) and Tanners Brook UNT.
The exposure point concentration (EPC) is the 95% upper confidence limit (UCL) of the arithmetic mean. When the UCL is greater than the maximum detected concentration or ProUCL did not calculate an UCL, the maximum detected concentration is chosen.
The most appropriate UCL is chosen from those ProUCL suggests based on the distribution of the databset and ProUCL guidance. ProUCL outputs are provided in Attachment B.

Abbreviations:
COPC -- Constituent of potential concern
EPC -- Exposure point concentration
Qual -- Qualifier
UCL -- 95% Upper confidence limit

References:

EPA. 2014. Memorandum – Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. March 11. Available online: https://www.epa.gov/risk/exposure-point-concentrations-groundwater
EPA. 2015. ProUCL Version 5.1 User Guide. EPA/600/R-07/041. October. Available online: https://www.epa.gov/land-research/proucl-software
EPA. 2016. ProUCL Version 5.1. September 19. Available online: https://www.epa.gov/land-research/proucl-software
HDR. 2015b. Risk Assessment Points of Discussion. Memorandum. November 3.

ProUCL Notes and Warnings:
a The lowest UCL is chosen when ProUCL suggested more than one UCL, except when a H-UCL is identified because ProUCL does not recommend using it.
b One or more recommended UCL not available.
d Data set has only 1 Distinct Detected Values.
e Data set has only 2 Detected Values.
f Data set has only 3 Detected Values.
g The data set was not processed.
h Sample size is small (e.g., <10).
i Suggested UCL exceeds the maximum observation.

TABLE 3.4
EXPOSURE POINT CONCENTRATION SUMMARY FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water from East Trout Brook

T or D	COPC Group	COPC	CASRN	Medium-Specific COPC	Arithmetic Detected Mean (ug/L)	Maximum Detected Concentration (ug/L)	Qual	95% UCL (ug/L)	95% UCL Method	ProUCL Notes	Sample Count	Detect Count	% Detects	Exposure Point Concentration (EPC)		
														Value (ug/L)	Statistic	Rationale
T	VOC	1,4-Dioxane	123-91-1	Yes	35.67	61		47.66	95% Student's-t UCL		6	6	100	47.66	UCL	Lower of the max and UCL.
T	PEST	Chlordane, alpha	5103-71-9	Yes	0.00345	0.0048		0.00933	95% KM (Chebyshev) UCL	e, i	6	2	33	0.0048	Max	Lower of the max and UCL.
T	INORGANIC	Arsenic	7440-38-2	Yes	--	3.6	J	--	ProUCL did not process; insufficient detects	d, g, h	6	1	17	3.6	Max	Lower of the max and UCL.
T	INORGANIC	Manganese	7439-96-5	Yes	27.03	70.5		46.71	95% Student's-t UCL		6	6	100	46.71	UCL	Lower of the max and UCL.

Notes:
The data set is comprised of unfiltered (total) surface water data from East Trout Brook to evaluate potential impacts downstream of permitted discharge from the Landfill Treatment Plant.
The exposure point concentration (EPC) is the 95% upper confidence limit (UCL) of the arithmetic mean. When the UCL is greater than the maximum detected concentration or ProUCL did not calculate an UCL, the maximum detected concentration is chosen.
The most appropriate UCL is chosen from those ProUCL suggests based on the distribution of the databset and ProUCL guidance. ProUCL outputs are provided in Attachment B.

Abbreviations:
COPC -- Constituent of potential concern
EPC -- Exposure point concentration
Qual -- Qualifier
UCL -- 95% Upper confidence limit

References:

EPA. 2014. Memorandum – Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. March 11. Available online: https://www.epa.gov/risk/exposure-point-concentrations-groundwater
EPA. 2015. ProUCL Version 5.1 User Guide. EPA/600/R-07/041. October. Available online: https://www.epa.gov/land-research/proucl-software
EPA. 2016. ProUCL Version 5.1. September 19. Available online: https://www.epa.gov/land-research/proucl-software
HDR. 2015b. Risk Assessment Points of Discussion. Memorandum. November 3.

ProUCL Notes and Warnings:
d Data set has only 1 Distinct Detected Values.
e Data set has only 2 Detected Values.
g The data set was not processed.
h Sample size is small (e.g., <10).
i Suggested UCL exceeds the maximum observation.

TABLE 4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS FOR GROUNDWATER
REASONABLE MAXIMUM EXPOSURE
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe:	Current / Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code		Value	Units	Rationale / Reference	Intake Equation / Model Name
Ingestion	Resident	Adult	Tap Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For noncancer, Intake (mg/kg-day) = (CW x IR x CF x EF x ED) / (BW x AT), separately for adult and child using IR-adult or IR-child.
				AT	Averaging Time-noncancer	7,300	days	EPA 2011	
				BW	Body Weight	80	kg	EPA 2014	
				CF	Conversion Factor	0.001	mg/µg	--	For cancer, the ingestion rate was calculated for an adult (birth - 26 yrs), adjusting for age-specific exposure factors, where IR-Adj = ∑ (ED * IR) / BW.
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Table 3.1	
				ED	Exposure Duration	20	years	EPA 2014	
				EF	Exposure Frequency	350	days/yr	EPA 2011	Intake (mg/kg-day) = (CW x (IR-Adj-adult + IR-Adj-child) x CF x EF) / AT
				IR	Ingestion Rate	2.5	L/day	EPA 2014	
				IR-Adj-adult	Ingestion Rate Age-Adjusted	0.7	L-yr/day-kg	Calculated - Table 4.Supp.1	For MMOA cancer, the IR-Adj was weighted for each age bin using Age-Dependent Adjustment Factors (ADAFs), where 0-<2 yrs applied an ADAF of 10, 2-<6 yrs applied an ADAF of 3, 6-<16 yrs applied an ADAF of 3, and 16-26 yrs applied and ADAF of 1.
				IR-Adj-6-16	Ingestion Rate Age-Adjusted MMOA 6-<16	1.1	L-yr/day-kg	Calculated - Table 4.Supp.2	
				IR-Adj-16-26	Ingestion Rate Age-Adjusted MMOA 16-<26	0.33	L-yr/day-kg	Calculated - Table 4.Supp.2	
				CAFo	TCE Cancer Adjustment Factor-oral	0.804	unitless	USEPA RSL Equations	
				MAFo	TCE Mutagen Adjustment Factor-oral	0.202	unitless	USEPA RSL Equations	
		Child	Tap Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For TCE cancer, the intake (mg/kg-day) = (CW x [CAF x (IR-Adj-adult + IR-Adj-child) + MAF x (IR-Adj-0-2 + IR-Adj-2-6 + IR-Adj-6-16 + IR-Adj-16-26)] x EF x CF) / AT. Adult intake equation is aggregate of child and adult age ranges.
				AT	Averaging Time-noncancer	2,190	days	EPA 2011	
				BW	Body Weight	15	kg	EPA 2014	
				CF	Conversion Factor	0.001	mg/µg	--	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Table 3.1	
				ED	Exposure Duration	6	years	EPA 2014	
				EF	Exposure Frequency	350	days/yr	EPA 2011	For VC cancer, the intake (mg/kg-day) = CW x CF x [(EF x (IR-Adj-adult + IR-Adj-child) / AT) + (IR-child / BW-child)]
				IR	Ingestion Rate	0.78	L/day	EPA 2014	
				IR-Adj-child	Ingestion Rate Age-Adjusted	0.42	L-yr/day-kg	Calculated - Table 4.Supp.1	
				IR-Adj-0-2	Ingestion Rate Age-Adjusted MMOA 0-<2	2.1	L-yr/day-kg	Calculated - Table 4.Supp.2	
				IR-Adj-2-6	Ingestion Rate Age-Adjusted MMOA 2-<6	0.65	L-yr/day-kg	Calculated - Table 4.Supp.2	Blood lead in children will be evaluated using the EPA Integrated Exposure Uptake Biokinetic (IEUBK) Model.
Dermal	Resident	Adult	Tap Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For noncancer, Dermally Absorbed Dose (DAD) (mg/kg-day) = (DA-event x EV x SA x EF x ED) / (BW x AT). Separate calculations are performed for adult and child using SA-adult or SA-child.
				AT	Averaging Time-noncancer	7,300	days	EPA 2011	
				B	Ratio of permeability coefficent of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	--	EPA 2004	where for organic compounds,
				BW	Body Weight	80	kg	EPA 2014	if t-event ≤ t*: DA-event (mg/cm2-event) = 2 x FA x Kp x Cw x (sqrt((6 x τevent x tevent) / (π))) x CF1 x CF2, where CF1 = 0.001 mg/ug and CF2 = 0.001 L/cm3
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Table 3.1	
				DA-event-adult	Dermally Absorbed Dose per Event	Calculated	mg/cm2-event	Calculated - Table 4.Supp.3	
				t-event	Event Time	0.71	hr/event	EPA 2014	
				EV	Event Frequency	1	events/day	EPA 2004	OR if tevent>t*: DAevent (mg/cm2-event) = FA x Kp x CW x (tevent/(1+B) + 2 x τevent x ((1 + 3B + 3B2)/(1+B)2)) x CF1 x CF2
				EF	Exposure Frequency	350	days/year	EPA 2011	
				ED	Exposure Duration	20	years	EPA 2014	
				FA	Fraction Absorbed Water	Chemical-specific	--	EPA 2004	
				Kp	Permeability Constant	Chemical-specific	cm/hr	EPA 2004	
				SA	Skin Surface Area Available for Contact	19,652	cm2	EPA 2014 - See Notes	where for inorganic compounds, DA-event (mg/cm2-event) = Kp x CW x tevent x CF1 x CF2
				SA-Adj-adult	Skin Surface Area Age-Adjusted	5,508	cm2-yr/kg	Calculated - Table 4.Supp.1	
				SA-Adj-wo-ED	Skin Surface Area Age-Adjusted for VC	1,359	cm2/kg	Calculated - Table 4.Supplement.1	
				SA-Adj-6-16	Skin Surface Area Age-Adjusted MMOA 6-<16	9,293	cm2-yr/kg	Calculated - Table 4.Supp.2	For cancer, the DAD was calculated for an adult (birth - 26 yrs), adjusting for age-specific exposure factors, where SA-Adj = ∑ (ED * SA) / BW.
				SA-Adj-16-26	Skin Surface Area Age-Adjusted MMOA 16-<26	2,410	cm2-yr/kg	Calculated - Table 4.Supp.2	
				tau-event	Lag time per event	Chemical-specific	hr/event	EPA 2004	
				CAFo	TCE Cancer Adjustment Factor-oral	0.804	unitless	USEPA RSL Equations	(DAD) (mg/kg-day) = ((DA-event-adult x SA-Adj-adult + DA-event-child x SA-Adj-child) x EV x EF) / AT
				MAFo	TCE Mutagen Adjustment Factor-oral	0.202	unitless	USEPA RSL Equations	
		Child	Tap Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For MMOA cancer, the IR-Adj was weighted for each age bin using ADAFs, where 0-<2 yrs applied an ADAF of 10, 2-<6 yrs applied an ADAF of 3, 6-<16 yrs applied an ADAF of 3, and 6-26 yrs applied and ADAF of 1.
				AT	Averaging Time-noncancer	2,190	days	EPA 2011	
				B	Ratio of permeability coefficent of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	--	EPA 2004	
				BW	Body Weight	15	kg	EPA 2014	For TCE cancer, the DAD (mg/kg-day) = ([CAFo x (DA-event-adult x SA-Adj-adult + DA-event-child x SA-Adj-child) + MAFo x (DA-event-adult x (SA-Adj-6-16 + SA-Adj-16-26) + DA-event-child x (SA-Adj-0-2 + SA-Adj-2-6))] x EV x EF) / AT Adult intake equation is aggregate of child and adult age ranges.
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Table 3.1	
				DA-event-child	Dermally Absorbed Dose per Event	Calculated	mg/cm2-event	Calculated - Table 4.Supp.3	
				t-event	Event Time	0.54	hr/event	EPA 2014	
				EV	Event Frequency	1	events/day	EPA 2004	
				EF	Exposure Frequency	350	days/year	EPA 2011	
				ED	Exposure Duration	6	years	EPA 2014	
				FA	Fraction Absorbed Water	Chemical-specific	--	EPA 2004	For VC cancer, the DAD (mg/kg-day) = (EV x EF x (DA-event-adult x SA-Adj-adult + DA-event-child x SA-Adj-child) / AT) + (DA-event-child x (EV x SA-child / BW-child))
				Kp	Permeability Constant	Chemical-specific	cm/hr	EPA 2004	
				SA	Skin Surface Area Available for Contact	6,365	cm2	EPA 2014 - See Notes	
				SA-Adj-child	Skin Surface Area Age-Adjusted	2,649	cm2-yr/kg	Calculated - Table 4.Supp.1	
				SA-Adj-wo-ED	Skin Surface Area Age-Adjusted for VC	3,482	cm2/kg	Calculated - Table 4.Supplement.1	
				SA-Adj-0-2	Skin Surface Area Age-Adjusted MMOA 0-<2	9,814	cm2-yr/kg	Calculated - Table 4.Supp.2	
				SA-Adj-2-6	Skin Surface Area Age-Adjusted MMOA 2-<6	5,004	cm2-yr/kg	Calculated - Table 4.Supp.2	
				tau-event	Lag time per event	Chemical-specific	hr/event	EPA 2004	

TABLE 4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS FOR GROUNDWATER
REASONABLE MAXIMUM EXPOSURE
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe:	Current / Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale / Reference	Intake Equation / Model Name
Inhalation	Resident	Adult	Water Vapors in Bathroom Air	AT	Averaging Time-cancer	25,550	days	EPA 2011	The Andelman shower model as modified by Schaum et al. calculates chemical concentrations in air using chemical concentrations in water; the model is applied to VOCs only.
				AT	Averaging Time-noncancer	7,300	days	EPA 2011	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Table 3.1	
				CA	Chemical Concentration in Air from Shower	Calculated	mg/m3	Calculated - Table 4.Supp.4	For noncancer, Exposure Concentration (EC) (mg/m3) = (CA x ET x ED x EF x CF) / AT, separately for adult and child using CA-adult or CA-child.
				CF	Conversion Factor	0.042	day/hr	1 day / 24 hours	
				ET	Exposure Time	0.71	hr/day	EPA 2014	
				EF	Exposure Frequency	350	days/year	EPA 2011	For cancer, EC (mg/m3) = ((CA-adult x ET-adult x ED-adult + CA-child x ET-child x ED-child) x EF x CF) / AT
				ED	Exposure Duration	20	years	EPA 2014	
				ED-adj	TCE Exposure Duration-cancer aggregate	26	years	EPA 2011	For MMOA cancer, EC (mg/m3) = ((CA-adult x ET-adult + CA-child x ET-child) x (ED-0-2 x 10 + ED-2-6 x 3 + ED-6-16 x 3 + ED-16-26 x 1) x EF x CF) / AT
				CAFi	TCE Cancer Adjustment Factor-inhalation	0.756	unitless	USEPA RSL Equations	
				MAFi	TCE Mutagen Adjustment Factor-inhalation	0.244	unitless	USEPA RSL Equations	
		Child	Water Vapors in Bathroom Air	AT	Averaging Time-cancer	25,550	days	EPA 2011	For TCE cancer, the EC (mg/m3) = ((CA-adult x ET-adult + CA-child x ET-child) x [CAFi x ED-adj + MAF x (ED-0-2 x 10 + ED-2-6 x 3 + ED-6-16 x 3 + ED-16-26 x 1)] x EF x CF) / AT Adult intake equation is aggregate of child and adult age ranges.
				AT	Averaging Time-noncancer	2,190	days	EPA 2011	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Table 3.1	
				CA	Chemical Concentration in Air from Shower	Calculated	mg/m3	Calculated - Table 4.Supp.4	
				CF	Conversion Factor	0.042	day/hr	1 day / 24 hours	
				ET	Exposure Time	0.54	hr/day	EPA 2014	For VC cancer, EC (mg/m3) = ((CA-adult x ET-adult x ED-adult x EF x CF / AT x Toxicity-adult of 4.4E-06 ug/m3 x 1000) + (CA-child x ET-child x ED-child x EF x CF / AT x Toxicity-child of 8.8E-06 ug/m3 x 1000)
				EF	Exposure Frequency	350	days/year	EPA 2011	
				ED	Exposure Duration	6	years	EPA 2014	

Notes:
Intake equations are derived from EPA's RSL equations and also taken from EPA's Risk Assessment Guidance for Superfund (RAGS).
The skin surface area available for contact is the weighted average of mean values for males and females combined for total surface area, which includes the head, trunk, arms, hands, legs and feet (EPA 2014).

Abbreviations:
Adj -- Adjusted to include both adult and child exposure factors
DAD -- Dermally absorbed dose
EC -- Exposure concentration
EPA -- Environmental Protection Agency
EPC -- Exposure point concentration
RSL -- USEPA Regional Screening Level
TCE -- Trichloroethene

References:

EPA. 1991. Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03. Available online: http://rais.ornl.gov/documents/OSWERdirective9285.6-03.pdf
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TABLE 4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS FOR SURFACE WATER
REASONABLE MAXIMUM EXPOSURE
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe:	Current / Future
Medium:	Surface Water
Exposure Medium:	Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale / Reference	Intake Equation / Model Name
Incidental Ingestion	Recreational User	Adult	Surface Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For noncancer, Intake (mg/kg-day) = (CW x IR x CF x EF x ED x ET x EV) / (BW x AT), separately for adult and child using IR-adult or IR-child. For cancer, the ingestion rate was calculated for an adult (birth - 26 yrs), adjusting for age-specific exposure factors, where IR-Adj = ∑ (ED * IR * ET * EV) / BW. Intake (mg/kg-day) = (CW x (IR-Adj-adult + IR-Adj-child) x CF x EF) / AT For MMOA cancer, the IR-Adj was weighted for each age bin using ADAFs, where 0-<2 yrs applied an ADAF of 10, 2-<6 yrs applied an ADAF of 3, 6-<16 yrs applied an ADAF of 3, and 16-26 yrs applied and ADAF of 1. For TCE cancer, the intake (mg/kg-day) = (CW x [CAF x (IR-Adj-adult + IR-Adj-child) + MAF x (IR-Adj-0-2 + IR-Adj-2-6 + IR-Adj-6-16 + IR-Adj-16-26)] x CF x EF) / AT. Adult intake equation is aggregate of child and adult age ranges. For VC cancer, the intake (mg/kg-day) = CW x CF x [(EF x (IR-Adj-adult + IR-Adj-child) / AT) + (IR-child / BW-child)]
				AT	Averaging Time-noncancer	7,300	days	EPA 2011	
				BW	Body Weight	80	kg	EPA 2014	
				CF	Conversion Factor	0.001	mg/µg	--	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Tables 3.2 and 3.3	
				ED	Exposure Duration	20	years	EPA 2014	
				EF	Exposure Frequency	52	days/yr	EPA 2015b	
				ET	Event Time	2.6	hr/event	EPA 1989 / EPA 2011	
				EV	Event Frequency	1	events/day	EPA 2004	
				IR	Ingestion Rate	0.02	L/hour	EPA 2011 / EPA 2015a	
				IR-Adj-adult	Ingestion Rate Age-Adjusted	0.020	L-yr/day-kg	Calculated - Table 4.Supp.1	
				IR-Adj-6-16	Ingestion Rate Age-Adjusted MMOA 6-<16	0.04	L-yr/day-kg	Calculated - Table 4.Supp.2	
				IR-Adj-16-26	Ingestion Rate Age-Adjusted MMOA 16-<26	0.007	L-yr/day-kg	Calculated - Table 4.Supp.2	
				CAFo	TCE Cancer Adjustment Factor-oral	0.804	unitless	USEPA RSL Equations EPA 2015c	
				MAFo	TCE Mutagen Adjustment Factor-oral	0.202	unitless	USEPA RSL Equations EPA 2015c	
		Child	Surface Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	
				AT	Averaging Time-noncancer	2,190	days	EPA 2011	
				BW	Body Weight	15	kg	EPA 2014	
				CF	Conversion Factor	0.001	mg/µg	--	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Tables 3.2 and 3.3	
				ED	Exposure Duration	6	years	EPA 2014	
				EF	Exposure Frequency	52	days/yr	EPA 2015b	
				ET	Event Time	2.6	hr/event	EPA 1989 / EPA 2011	
				EV	Event Frequency	1	events/day	EPA 2004	
				IR	Ingestion Rate	0.05	L/hour	EPA 2011 / EPA 2015a	
				IR-Adj-child	Ingestion Rate Age-Adjusted	0.06	L-yr/day-kg	Calculated - Table 4.Supp.1	
				IR-Adj-0-2	Ingestion Rate Age-Adjusted MMOA 0-<2	0.3	L-yr/day-kg	Calculated - Table 4.Supp.2	
				IR-Adj-2-6	Ingestion Rate Age-Adjusted MMOA 2-<6	0.09	L-yr/day-kg	Calculated - Table 4.Supp.2	
Fish Ingestion	Recreational User	Adult	Fish in Surface Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For noncancer, Intake (mg/kg-day) = (CW x BCF x IR x CF1 x CF2 x EF x ED) / (BW x AT) For cancer, the ingestion rate was calculated for an adult (birth - 26 yrs), adjusting for age-specific exposure factors, where IR-Adj = ∑ (ED * IR) / BW. Intake (mg/kg-day) = (CW x BCF x (IR-Adj-adult + IR-Adj-child) x CF1 x CF2 x EF) / AT For MMOA cancer, the IR-Adj was weighted for each age bin using ADAFs, where 0-<2 yrs applied an ADAF of 10, 2-<6 yrs applied an ADAF of 3, 6-<16 yrs applied an ADAF of 3, and 6-26 yrs applied and ADAF of 1. For TCE cancer, the intake (mg/kg-day) = (CW x BCF x [CAF x (IR-Adj-adult + IR-Adj-child) + MAF x (IR-Adj-0-2 + IR-Adj-2-6 + IR-Adj-6-16 + IR-Adj-16-26)] x CF1 x CF2 x EF) / AT. Adult intake equation is aggregate of child and adult age ranges. For VC cancer, the intake (mg/kg-day) = CW x BCF x CF1 x CF2 x [(EF x (IR-Adj-adult + IR-Adj-child) / AT) + (IR-child / BW-child)]
				AT	Averaging Time-noncancer	7,300	days	EPA 2011	
				BCF	Fish Bioconcentration Factor	Chemical-specific	L/kg	See Table 4.Supp.5	
				BW	Body Weight	80	kg	EPA 2014	
				CF1	Conversion Factor	0.001	mg/µg	--	
				CF2	Conversion Factor	0.001	kg/g	--	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Tables 3.2 and 3.3	
				ED	Exposure Duration	20	years	EPA 2014	
				EF	Exposure Frequency	52	days/yr	EPA 2015b	
				IR	Ingestion Rate	23.2	g/day	EPA 2016	
				IR-Adj-adult	Ingestion Rate Age-Adjusted	8.8	g-yr/day-kg	Calculated - Table 4.Supp.1	
				IR-Adj-6-16	Ingestion Rate Age-Adjusted MMOA 6-<16	17	g-yr/day-kg	Calculated - Table 4.Supp.2	
				IR-Adj-16-26	Ingestion Rate Age-Adjusted MMOA 16-<26	3.1	g-yr/day-kg	Calculated - Table 4.Supp.2	
				CAFo	TCE Cancer Adjustment Factor-oral	0.804	unitless	USEPA RSL Equations EPA 2015c	
				MAFo	TCE Mutagen Adjustment Factor-oral	0.202	unitless	USEPA RSL Equations EPA 2015c	
		Child	Fish in Surface Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	
				AT	Averaging Time-noncancer	2,190	days	EPA 2011	
				BCF	Fish Bioconcentration Factor	Chemical-specific	L/kg	See Table 4.Supp.5	
				BW	Body Weight	15	kg	EPA 2014	
				CF1	Conversion Factor	0.001	mg/µg	--	
				CF2	Conversion Factor	0.001	kg/g	--	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Tables 3.2 and 3.3	
				ED	Exposure Duration	6	years	EPA 2014	
				EF	Exposure Frequency	52	days/yr	EPA 2015b	
				IR	Ingestion Rate	7.73	g/day	Professional judgement - see Notes	
				IR-Adj-child	Ingestion Rate Age-Adjusted	3.5	g-yr/day-kg	Calculated - Table 4.Supp.1	
				IR-Adj-0-2	Ingestion Rate Age-Adjusted MMOA 0-<2	17	g-yr/day-kg	Calculated - Table 4.Supp.2	
				IR-Adj-2-6	Ingestion Rate Age-Adjusted MMOA 2-<6	5	g-yr/day-kg	Calculated - Table 4.Supp.2	

TABLE 4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS FOR SURFACE WATER
REASONABLE MAXIMUM EXPOSURE
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe:	Current / Future
Medium:	Surface Water
Exposure Medium:	Surface Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale / Reference	Intake Equation / Model Name
Dermal	Recreational User	Adult	Surface Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	For noncancer, Dermally Absorbed Dose (DAD) (mg/kg-day) =
				AT	Averaging Time-noncancer	7,300	days	EPA 2011	(DA-event x EV x SA x EF x ED) / (BW x AT)
				B	Ratio of permeability coefficent of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	--	EPA 2004	where for organic compounds,
				BW	Body Weight	80	kg	EPA 2014	if t-event ≤ t*: DA-event (mg/cm2-event) =
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Tables 3.2 and 3.3	2 x FA x Kp x Cw x (sqrt((6 x τevent x tevent) / (π))) x CF1 x CF2, where CF1 = 0.001 mg/ug and CF2 = 0.001 L/cm3
				DA-event	Dermally Absorbed Dose per Event	Calculated	mg/cm2-event	Calculated	
				t-event	Event Time	2.6	hr/event	EPA 1989 / EPA 2011	OR if tevent>t*: DAevent (mg/cm2-event) =
				EV	Event Frequency	1	events/day	EPA 2004	FA x Kp x CW x (tevent/(1+B) + 2 x τevent x ((1 + 3B + 3B2)/(1+B)2)) x CF1 x CF2
				EF	Exposure Frequency	52	days/yr	EPA 2015b	
				ED	Exposure Duration	20	years	EPA 2014	
				FA	Fraction Absorbed Water	Chemical-specific	--	EPA 2004	where for inorganic compounds,
				Kp	Permeability Constant	Chemical-specific	cm/hr	EPA 2004	DA-event (mg/cm2-event) =
				SA	Skin Surface Area Available for Contact	10,070	cm2	EPA 2011 / see also Table 4.Supp.1	Kp x CW x tevent x CF1 x CF2
				SA-Adj-adult	Skin Surface Area Age-Adjusted	3,035	cm2-yr/kg	Calculated - Table 4.Supp.1	
				SA-Adj-wo-ED	Skin Surface Area Age-Adjusted for VC	748	cm2/kg	Calculated - Table 4.Supp.1	For cancer, the DAD was calculated for an adult
				SA-Adj-6-16	Skin Surface Area Age-Adjusted MMOA 6-<16	5,107	cm2-yr/kg	Calculated - Table 4.Supp.2	(birth - 26 yrs), adjusting for age-specific exposure factors,
				SA-Adj-16-26	Skin Surface Area Age-Adjusted MMOA 16-<26	1,333	cm2-yr/kg	Calculated - Table 4.Supp.2	where SA-Adj = ∑ (ED * SA) / BW.
				tau-event	Lag time per event	Chemical-specific	hr/event	EPA 2004	
				CAFo	TCE Cancer Adjustment Factor-oral	0.804	unitless	USEPA RSL Equations EPA 2015c	(DAD) (mg/kg-day) = ((DA-event-adult x SA-Adj-adult + DA-event-child x SA-Adj-child) x EV x EF) / AT
				MAFo	TCE Mutagen Adjustment Factor-oral	0.202	unitless	USEPA RSL Equations EPA 2015c	
		Child	Surface Water	AT	Averaging Time-cancer	25,550	days	EPA 2011	Equations continued:
				AT	Averaging Time-noncancer	2,190	days	EPA 2011	
				B	Ratio of permeability coefficent of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	--	EPA 2004	For MMOA cancer, the IR-Adj was weighted for each age bin using ADAFs, where 0-<2 yrs applied an ADAF of 10, 2-<6 yrs applied an ADAF of 3, 6-<16 yrs applied an ADAF of 3, and 6-26 yrs applied and ADAF of 1.
				BW	Body Weight	15	kg	EPA 2014	
				CW	Chemical Concentration in Water	EPC	µg/L	Calculated - Tables 3.2 and 3.3	For TCE cancer, the DAD (mg/kg-day) =
				DA-event	Dermally Absorbed Dose per Event	Calculated	mg/cm2-event	Calculated - Table 4.Supp.3	([CAFo x (DA-event-adult x SA-Adj-adult + DA-event-child x SA-Adj-child) + MAFo x (DA-event-adult x (SA-Adj-6-16 + SA-Adj-16-26) + DA-event-child x (SA-Adj-0-2 + SA-Adj-2-6))] x EV x EF) / AT
				t-event	Event Time	2.6	hr/event	EPA 1989 / EPA 2011	
				EV	Event Frequency	1	events/day	EPA 2004	
				EF	Exposure Frequency	52	days/yr	EPA 2015b	
				ED	Exposure Duration	6	years	EPA 2014	Adult intake equation is aggregate of child and adult age ranges.
				FA	Fraction Absorbed Water	Chemical-specific	--	EPA 2004	
				Kp	Permeability Constant	Chemical-specific	cm/hr	EPA 2004	For VC cancer, the DAD (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	3,870	cm2	EPA 2011 / see also Table 4.Supp.1	(EV x EF x (DA-event-adult x SA-Adj-adult + DA-event-child x SA-Adj-child) / AT) + (DA-event-child x (EV x SA-child / BW-child))
				SA-Adj-child	Skin Surface Area Age-Adjusted	1,308	cm2-yr/kg	Calculated - Table 4.Supp.1	
				SA-Adj-wo-ED	Skin Surface Area Age-Adjusted for VC	1,652	cm2/kg	Calculated - Table 4.Supp.1	
				SA-Adj-0-2	Skin Surface Area Age-Adjusted MMOA 0-<2	4,609	cm2-yr/kg	Calculated - Table 4.Supp.2	
				SA-Adj-2-6	Skin Surface Area Age-Adjusted MMOA 2-<6	2,542	cm2-yr/kg	Calculated - Table 4.Supp.2	
				tau-event	Lag time per event	Chemical-specific	hr/event	EPA 2004	

Notes:
Intake equations are derived from EPA's RSL equations and also taken from EPA's Risk Assessment Guidance for Superfund (RAGS).
The exposure frequency assumes the recreator visits surface water bodies 2 days/week during summer (4 weeks each in May, June, July, Aug) and 1 day/week during spring and fall (4 weeks each in Mar, Apr, Sept, Oct, Nov), which is a total of 52 days/year (EPA 2015b).
The child's fish ingestion rate is based on one-third of an adult fish ingestion rate.
For skin surface area available for contact, the sum of mean values for the arms, hands, legs and feet are calculated for each age group and then the maximum of these values ares used as the surface area (EPA 2011, Table 7-2). Refer to Table 4.Supp.1 for more detail.

Abbreviations:
Adj -- Adjusted to include both adult and child exposure factors
DAD -- Dermally absorbed dose
EC -- Exposure concentration
EPA -- Environmental Protection Agency
EPC -- Exposure point concentration
RSL -- USEPA Regional Screening Level

References:

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TABLE 4.SUPP.1
CALCULATION OF AGE-ADJUSTED EXPOSURE FACTORS
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

AGE	Exposure Duration	Body Weight (1)	Intake Rate			Dermal Total Surface Area		Age-Adjusted Exposure Factors						
			Tap Water IR-W (2)	Surface Water IR-SW (3)	Fish IR-F (4)	Tap Water SA (5)	Surface Water SA (6)	AGE GROUP	IR-W-Adj	IR-SW-Adj	IR-F-Adj	SA-W-Adj	SA-W-Adj-wo-ED	SA-SW-Adj
year	years	kg	L/day	L/hour	g/day	cm^2	cm^2		L-yr/day-kg	L-yr/day-kg	g-yr/day-kg	cm^2-yr/kg	cm2/kg	cm^2-yr/kg
Birth to 1 month	0.083	4.8	0.839	0.05	7.73	2,900	1,340							
1 to <3 months	0.17	5.9	0.896	0.05	7.73	3,300	1,510							
3 to 6 < months	0.25	7.4	1.06	0.05	7.73	3,800	1,750							
6 to <12 months	0.5	9.2	1.06	0.05	7.73	4,500	2,080							
1 to < 2 yrs	1	11.4	0.837	0.05	7.73	5,300	2,540							
2 to <3 yrs	1	13.8	0.877	0.05	7.73	6,100	3,080							
3 to < 6 yrs	3	18.6	0.959	0.05	7.73	7,600	3,870	0-<6 yrs	0.42	0.06	3.5	2,649	3,482	1,308
6 to <11 yrs	5	31.8	1.32	0.02	23.2	10,800	5,860							
11 to <16 yrs	5	56.8	1.82	0.02	23.2	15,900	8,870							
16 to <18 yrs	2	71.6	1.78	0.02	23.2	18,400	10,070							
18 to < 21 yrs	3	71.6	2.37	0.02	23.2	18,400	10,070							
21 to < 26 yrs	5	80	2.96	0.02	23.2	18,000	10,070	6-<26 yrs	0.7	0.020	8.8	5,508	1,359	3,035

Equations:

IR-W-Adj (L-yr/day-kg) = ∑ (ED * IR-W) / BW
IR-SW-Adj (L-yr/day-kg) = ∑ (ED * IR-SW * ET * EV) / BW
IR-F-Adj (g-yr/day-kg) = ∑ (ED * IR-F) / BW
SA-W-Adj (cm^2-yr/kg) = ∑ (ED * SA-W) / BW
SA-SW-Adj (cm^2-yr/kg) = ∑ (ED * SA-SW) / BW
where ET is 2.6 hour/event and EV is 1 event per day

Note:

EPA Risk Assessment Guidance for Superfund (RAGS) Part A recommends applying 95th or 90th percentile values for ingestion rate and exposure duration and applying the mean values for surface area and body weight (Exhibit 6-13 and Section 6.6.1).

Abbreviations:

BW -- Body weight
ED -- Exposure duration
ET -- Event time
EV -- Event frequency
IR-W -- Ingestion rate of tap water
IR-SW -- Ingestion rate of surface water
IR-F -- Ingestion rate of fish
SA-W -- Skin surface area for tap water
SA-SW -- Skin surface area for surface water

References:

(1) EPA. 2011. Exposure Factors Handbook. Table 8-1 - Recommended Values for Body Weight. Mean. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(2) EPA. 2011. Exposure Factors Handbook. Table 3-1 - Recommended Values for Drinking Water Ingestion Rates. 95th Percentile, L/day. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(3) EPA. 2011. Exposure Factors Handbook. Table 3-5 - Recommended Values for Water Ingestion While Swimming. Mean converted from mL/hour to L/hour. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252 and also reference: EPA. 2015. Pathway Analysis Report Planning Tables April 6, 2015. Memorandum. May 7.
(4) EPA. 2011. Exposure Factors Handbook. Table 10-66 - Mean Consumption Rates for Individuals Who Fish or Crab in the Newark Bay Area. Adult IR-F is based on average daily consumption for people that fish. Child IR-F is half of the adult's IR-F. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(5) EPA. 2011. Exposure Factors Handbook. Table 7-1 - Recommended Values for Total Body Surface Area. Mean value. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(6) EPA. 2011. Exposure Factors Handbook. Table 7-2 - Recommended Values for Surface Area of Body Parts. Sum of mean values for arms, hands, legs and feet. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252

TABLE 4.SUPP.2
CALCULATION OF AGE-ADJUSTED EXPOSURE FACTORS FOR CONSTITUENTS WITH A MUTAGENIC MODE OF ACTION
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

AGE	Exposure Duration	Body Weight (1)	Intake Rate			Dermal Total Surface Area		Age-Adjusted Exposure Factors							
			Tap Water IR-W (2)	Surface Water IR-SW (3)	Fish IR-F (4)	Tap Water SA (5)	Surface Water SA (6)	AGE GROUP	ADAF (7)	IR-W-Adj	IR-SW-Adj	IR-F-Adj	SA-W-Adj	SA-W-Adj-wo-ED	SA-SW-Adj
year	years	kg	L/day	L/hour	g/day	cm^2	cm^2			L-yr/day-kg	L-yr/day-kg	g-yr/day-kg	cm^2-yr/kg	cm2/kg	cm^2-yr/kg
Birth to 1 month	0.083	4.8	0.839	0.05	7.73	2,900	1,340								
1 to <3 months	0.17	5.9	0.896	0.05	7.73	3,300	1,510								
3 to 6 < months	0.25	7.4	1.06	0.05	7.73	3,800	1,750								
6 to <12 months	0.5	9.2	1.06	0.05	7.73	4,500	2,080								
1 to < 2 yrs	1	11.4	0.837	0.05	7.73	5,300	2,540	0-<2 yrs	10	2.06	0.3	17	9,814	26,310	4,609
2 to <3 yrs	1	13.8	0.877	0.05	7.73	6,100	3,080								
3 to < 6 yrs	3	18.6	0.959	0.05	7.73	7,600	3,870	2-<6 yrs	3	0.65	0.09	5	5,004	2,552	2,542
6 to <11 yrs	5	31.8	1.32	0.02	23.2	10,800	5,860								
11 to <16 yrs	5	56.8	1.82	0.02	23.2	15,900	8,870	6-<16 yrs	3	1.1	0.04	17	9,293	1,859	5,107
16 to <18 yrs	2	71.6	1.78	0.02	23.2	18,400	10,070								
18 to < 21 yrs	3	71.6	2.37	0.02	23.2	18,400	10,070								
21 to < 26 yrs	5	80	2.96	0.02	23.2	18,000	10,070	16-<26 yrs	1	0.33	0.007	3.1	2,410	739	1,333

Equations:

IR-W-Adj (L-yr/day-kg) = ∑ (ED * IR-W * ADAF) / BW
IR-SW-Adj (L-yr/day-kg) = ∑ (ED * IR-SW * ET * EV * ADAF) / BW
IR-F-Adj (g-yr/day-kg) = ∑ (ED * IR-F * ADAF) / BW
SA-W-Adj (cm^2-yr/kg) = ∑ (ED * SA-W * ADAF) / BW
SA-SW-Adj (cm^2-yr/kg) = ∑ (ED * SA-SW * ADAF) / BW
where ET is 2.6 hour/event and EV is 1 event per day

Note:

EPA Risk Assessment Guidance for Superfund (RAGS) Part A recommends applying 95th or 90th percentile values for ingestion rate and exposure duration and applying the mean values for surface area and body weight (Exhibit 6-13 and Section 6.6.1).

Abbreviations:

ADAF -- Age-dependent adjustment factor
BW -- Body weight
ED -- Exposure duration
ET -- Event time
EV -- Event frequency
IR-W -- Ingestion rate of tap water
IR-SW -- Ingestion rate of surface water
IR-F -- Ingestion rate of fish
SA-W -- Skin surface area for tap water
SA-SW -- Skin surface area for surface water

References:

(1) EPA. 2011. Exposure Factors Handbook. Table 8-1 - Recommended Values for Body Weight. Mean. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(2) EPA. 2011. Exposure Factors Handbook. Table 3-1 - Recommended Values for Drinking Water Ingestion Rates. 95th Percentile, L/day. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(3) EPA. 2011. Exposure Factors Handbook. Table 3-5 - Recommended Values for Water Ingestion While Swimming. Mean converted from mL/hour to L/hour. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252 and also reference: EPA. 2015. Pathway Analysis Report Planning Tables April 6, 2015. Memorandum. May 7.
(4) EPA. 2011. Exposure Factors Handbook. Table 10-66 - Mean Consumption Rates for Individuals Who Fish or Crab in the Newark Bay Area. Adult IR-F is based on average daily consumption for people that fish. Child IR-F is half of the adult's IR-F. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(5) EPA. 2011. Exposure Factors Handbook. Table 7-1 - Recommended Values for Total Body Surface Area. Mean value. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
(6) EPA. 2011. Exposure Factors Handbook. Table 7-2 - Recommended Values for Surface Area of Body Parts. Sum of mean values for arms, hands, legs and feet. September. Available online: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
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TABLE 4.SUPP.3A
CALCULATION OF DA-EVENT FOR DERMAL EXPOSURE TO SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	Casrn	EPC (1)	Permeability Coefficient	Ratio of Permeability Coefficients	Lag Time	Time to Reach Steady State	Fraction Absorbed	Duration of Event (t-event)		DAevent		Equation Applied	
			Cw	K_p	B	τ_{event}	t*	FA	Adult	Child	Adult	Child	Adult	Child
			ug/L	cm/hr	unitless	hr/event	hr	unitless	hr/event	hr/event	mg/cm2-event	mg/cm2-event	Eq	Eq
VOC	1,2-Dichloroethane	107-06-2	0.492	0.0042	0.0160696	0.3767253	0.9041406	1	0.71	0.54	3.0E-09	2.6E-09	2	2
VOC	1,2-Dichloropropane	78-87-5	0.392	0.00753	0.0307852	0.4514324	1.0834378	1	0.71	0.54	4.6E-09	4.0E-09	2	2
VOC	1,4-Dichlorobenzene	106-46-7	0.506	0.0453	0.2112436	0.6999206	1.6798093	1	0.71	0.54	4.5E-08	3.9E-08	2	2
VOC	1,4-Dioxane	123-91-1	49.09	0.000332	0.0011986	0.3275276	0.7860663	1	0.71	0.54	2.2E-08	1.9E-08	2	2
VOC	Benzene	71-43-2	7.763	0.0149	0.0506501	0.2879339	0.6910413	1	0.71	0.54	1.5E-07	1.3E-07	3	2
VOC	Chloroform	67-66-3	0.928	0.00683	0.0287021	0.4902039	1.1764893	1	0.71	0.54	1.0E-08	9.0E-09	2	2
VOC	cis-1,2-Dichloroethylene	156-59-2	0.689	0.011	0.0416562	0.3670584	0.8809401	1	0.71	0.54	1.1E-08	9.3E-09	2	2
VOC	Ethyl Ether	60-29-7	102.1	0.00235	0.0077817	0.2734911	0.6563786	1	0.71	0.54	3.0E-07	2.5E-07	3	2
VOC	Tetrachloroethylene (PCE)	127-18-4	0.364	0.0334	0.1654263	0.8922709	2.1414503	1	0.71	0.54	2.7E-08	2.3E-08	2	2
VOC	Trichloroethylene (TCE)	79-01-6	0.592	0.0116	0.0511406	0.5723119	1.3735485	1	0.71	0.54	1.2E-08	1.1E-08	2	2
VOC	Vinyl chloride	75-01-4	0.234	0.00838	0.0254805	0.2354199	0.5650077	1	0.71	0.54	2.3E-09	1.9E-09	3	2
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	3.798	1.13	8.589236	16.182319	72.882395	0.8	0.71	0.54	3.2E-05	2.8E-05	2	2
SVOC	Caprolactam	105-60-2	62.85	0.001	0.0040914	0.4524231	1.0858154	1	0.71	0.54	9.8E-08	8.6E-08	2	2
PEST	BHC alpha	319-84-6	0.00845	0.0206	0.1351181	4.471948	10.732675	1	0.71	0.54	8.6E-10	7.5E-10	2	2
PEST	Endrin Aldehyde	7421-93-4	0.0101					1	0.71	0.54			3	3
INORGANIC	Aluminum	7429-90-5	1877	0.001	0.0019979	0.1489183	0.3574038	1	0.71	0.54	1.9E-06	1.6E-06	1	1
INORGANIC	Arsenic	7440-38-2	1.488	0.001	0.0033291	0.2763198	0.6631674	1	0.71	0.54	1.9E-09	1.6E-09	1	1
INORGANIC	Barium	7440-39-3	167.8	0.001	0.0045072	0.6178695	1.4828868	1	0.71	0.54	3.1E-07	2.7E-07	1	1
INORGANIC	Beryllium	7440-41-7	0.918	0.001	0.0011545	0.1181149	0.2834758	1	0.71	0.54	8.7E-10	7.1E-10	1	1
INORGANIC	Chromium (Total)	7440-47-3	19.98	0.002	0.005547	0.2056121	0.4934691	1	0.71	0.54	4.5E-08	3.8E-08	1	1
INORGANIC	Cobalt	7440-48-4	2.071	0.0004	0.001181	0.2248313	0.5395951	1	0.71	0.54	9.6E-10	8.2E-10	1	1
INORGANIC	Copper	7440-50-8	61.25	0.001	0.003066	0.2386197	0.5726874	1	0.71	0.54	7.3E-08	6.1E-08	1	1
INORGANIC	Iron	7439-89-6	5551	0.001	0.0028743	0.2160687	0.518565	1	0.71	0.54	6.3E-06	5.4E-06	1	1
INORGANIC	Lead	7439-92-1	10.6	0.0001	0.0005536	1.5211385	3.6507323	1	0.71	0.54	3.0E-09	2.7E-09	1	1
INORGANIC	Manganese	7439-96-5	914.2	0.001	0.0028508	0.213551	0.5125223	1	0.71	0.54	1.0E-06	8.8E-07	1	1
INORGANIC	Nickel	7440-02-0	26.02	0.0002	0.0005894	0.2241944	0.5380665	1	0.71	0.54	6.0E-09	5.1E-09	1	1
INORGANIC	Sodium	7440-23-5	38377					1	0.71	0.54			1	1
INORGANIC	Vanadium	7440-62-2	3.251	0.001	0.0027451	0.2028209	0.4867702	1	0.71	0.54	3.6E-09	3.1E-09	1	1

Equations:

Inorganics: DAevent (mg/cm^2-event) =

(Eq 1) DA_{event} =
Kp x CW x tevent x CF1 x CF2
where CF1 = 0.001 mg/ug and CF2 = 0.001 L/cm3

Organics: DA_{event} (mg/cm^2-event) =

(Eq 2) $t_{event} \leq t^*$: DA_{event} (mg/cm^2-event) =
$2 \times FA \times K_p \times C_w \times (\mathrm{sqrt}((6 \times \tau_{event} \times t_{event}) / (\pi))) \times CF1 \times CF2$

(Eq 3) $t_{event} > t^*$: DA_{event} (mg/cm^2-event) =
$FA \times K_p \times C_W \times (t_{event}/(1+B) + 2 \times \tau_{event} \times ((1 + 3B + 3B^2)/(1+B)^2)) \times CF1 \times CF2$

Note:
(1) The EPC is the lower of the 95% UCL and maximum detected concentration. See Tables 3.1 through 3.4.
The dermal parameters are from the USEPA RSL Chemical Specific Parameters table. The dermal parameters for chlordane are applied for its isomer.
Hexavalent chromium's dermal parameters are input for chromium total. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium's dermal parameters.

Abbreviations:
CF1 -- Conversion Factor 1 (0.001 mg/ug)
CF2 -- Conversion Factor 2 (0.001 L/cm^3)
COPC -- Constituent of potential concern
Cw -- Groundwater or surface water concentration
PEST -- Pesticide
SVOC -- Semi-volatile organic compound
UCL -- Upper confidence limit
VOC -- Volatile organic compound

References:
EPA. 2004. Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment. Final. USEPA/540/R/99/005. July. Available online: https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-e
EPA. 2018. Regional Screening Levels Generic Tables, Chemical Specific Parameter Table. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 4.SUPP.3B
CALCULATION OF DA-EVENT FOR DERMAL EXPOSURE TO GROUNDWATER CORE OF THE PLUME
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	Casrn	EPC (1)	Permeability Coefficient	Ratio of Permeability Coefficients	Lag Time	Time to Reach Steady State	Fraction Absorbed	Duration of Event (t-event)		DAevent		Equation Applied	
			Cw	K_p	B	τ_{event}	t*	FA	Adult	Child	Adult	Child	Adult	Child
			ug/L	cm/hr	unitless	hr/event	hr	unitless	hr/event	hr/event	mg/cm2-event	mg/cm2-event	Eq	Eq
VOC	1,4-Dioxane	123-91-1	191.7	0.000332	0.0011986	0.3275276	0.7860663	1	0.71	0.54	8.5E-08	7.4E-08	2	2
VOC	Benzene	71-43-2	65.49	0.0149	0.0506501	0.2879339	0.6910413	1	0.71	0.54	1.2E-06	1.1E-06	3	2
VOC	Trichloroethylene (TCE)	79-01-6	2.668	0.0116	0.0511406	0.5723119	1.3735485	1	0.71	0.54	5.5E-08	4.8E-08	2	2
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	10.07	1.13	8.589236	16.182319	72.882395	0.8	0.71	0.54	8.5E-05	7.4E-05	2	2
PEST	BHC alpha	319-84-6	0.0453	0.0206	0.1351181	4.471948	10.732675	1	0.71	0.54	4.6E-09	4.0E-09	2	2
INORGANIC	Arsenic	7440-38-2	4.674	0.001	0.0033291	0.2763198	0.6631674	1	0.71	0.54	5.9E-09	5.0E-09	1	1
INORGANIC	Chromium (Total)	7440-47-3	134.3	0.002	0.005547	0.2056121	0.4934691	1	0.71	0.54	3.0E-07	2.6E-07	1	1
INORGANIC	Lead	7439-92-1	138.9	0.0001	0.0005536	1.5211385	3.6507323	1	0.71	0.54	4.0E-08	3.5E-08	1	1

Equations:

Inorganics: DAevent (mg/cm^2-event) =
(Eq 1)

DA_{event} =
Kp x CW x tevent x CF1 x CF2
where CF1 = 0.001 mg/ug and CF2 = 0.001 L/cm3

Organics: DA_{event} (mg/cm^2-event) =
(Eq 2)

$t_{event} \leq t^*$: DA_{event} (mg/cm^2-event) =
$2 \times FA \times K_p \times C_w \times (\mathrm{sqrt}((6 \times \tau_{event} \times t_{event}) / (\pi))) \times CF1 \times CF2$

(Eq 3)

$t_{event} > t^*$: DA_{event} (mg/cm^2-event) =
$FA \times K_p \times C_W \times (t_{event}/(1+B) + 2 \times \tau_{event} \times ((1 + 3B + 3B^2)/(1+B)^2)) \times CF1 \times CF2$

Note:
(1) The EPC is the lower of the 95% UCL and maximum detected concentration. See Tables 3.1 through 3.4.
The dermal parameters are from the USEPA RSL Chemical Specific Parameters table. The dermal parameters for chlordane are applied for its isomer.

Abbreviations:
CF1 -- Conversion Factor 1 (0.001 mg/ug)
CF2 -- Conversion Factor 2 (0.001 L/cm^3)
COPC -- Constituent of potential concern
Cw -- Groundwater or surface water concentration
PEST -- Pesticide
SVOC -- Semi-volatile organic compound
UCL -- Upper confidence limit
VOC -- Volatile organic compound

References:
EPA. 2004. Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment. Final. USEPA/540/R/99/005. July. Available online: https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-e
EPA. 2018. Regional Screening Levels Generic Tables, Chemical Specific Parameter Table. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 4.SUPP.3C
CALCULATION OF DA-EVENT FOR DERMAL EXPOSURE TO SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	Casrn	EPC (1)	Permeability Coefficient	Ratio of Permeability Coefficients	Lag Time	Time to Reach Steady State	Fraction Absorbed	Duration of Event (t-event)		DAevent		Equation Applied	
			Cw	K_p	B	τ_{event}	t*	FA	Adult	Child	Adult	Child	Adult	Child
			ug/L	cm/hr	unitless	hr/event	hr	unitless	hr/event	hr/event	mg/cm2-event	mg/cm2-event	Eq	Eq
VOC	1,4-Dioxane	123-91-1	11.8	0.000332	0.0011986	0.3275276	0.7860663	1	2.60	2.60	1.3E-08	1.3E-08	3	3
VOC	Trichloroethylene (TCE)	79-01-6	0.4	0.0116	0.0511406	0.5723119	1.3735485	1	2.60	2.60	1.7E-08	1.7E-08	3	3
INORGANIC	Aluminum	7429-90-5	736.4	0.001	0.0019979	0.1489183	0.3574038	1	2.60	2.60	2.1E-06	2.1E-06	1	1
INORGANIC	Arsenic	7440-38-2	2.8	0.001	0.0033291	0.2763198	0.6631674	1	2.60	2.60	8.8E-09	8.8E-09	1	1
INORGANIC	Cobalt	7440-48-4	3.67	0.0004	0.001181	0.2248313	0.5395951	1	2.60	2.60	4.5E-09	4.5E-09	1	1
INORGANIC	Iron	7439-89-6	2342	0.001	0.0028743	0.2160687	0.518565	1	2.60	2.60	7.1E-06	7.1E-06	1	1
INORGANIC	Lead	7439-92-1	7.146	0.0001	0.0005536	1.5211385	3.6507323	1	2.60	2.60	3.9E-09	3.9E-09	1	1
INORGANIC	Manganese	7439-96-5	144.1	0.001	0.0028508	0.213551	0.5125223	1	2.60	2.60	4.4E-07	4.4E-07	1	1
INORGANIC	Vanadium	7440-62-2	9.2	0.001	0.0027451	0.2028209	0.4867702	1	2.60	2.60	2.8E-08	2.8E-08	1	1

Equations:

Inorganics: DAevent (mg/cm^2-event) =
(Eq 1) DA_{event} =
Kp x CW x tevent x CF1 x CF2
where CF1 = 0.001 mg/ug and CF2 = 0.001 L/cm3

Organics: DA_{event} (mg/cm^2-event) =
(Eq 2) $t_{event} \leq t^*$: DA_{event} (mg/cm^2-event) =
$2 \times FA \times K_p \times C_w \times (\mathrm{sqrt}((6 \times \tau_{event} \times t_{event}) / (\pi))) \times CF1 \times CF2$

(Eq 3) $t_{event} > t^*$: DA_{event} (mg/cm^2-event) =
$FA \times K_p \times C_W \times (t_{event}/(1+B) + 2 \times \tau_{event} \times ((1 + 3B + 3B^2)/(1+B)^2)) \times CF1 \times CF2$

Note:
(1) The EPC is the lower of the 95% UCL and maximum detected concentration. See Tables 3.1 through 3.4.
The dermal parameters are from the USEPA RSL Chemical Specific Parameters table. The dermal parameters for chlordane are applied for its isomer.

Abbreviations:
CF1 -- Conversion Factor 1 (0.001 mg/ug)
CF2 -- Conversion Factor 2 (0.001 L/cm^3)
COPC -- Constituent of potential concern
Cw -- Groundwater or surface water concentration
PEST -- Pesticide
SVOC -- Semi-volatile organic compound
UCL -- Upper confidence limit
VOC -- Volatile organic compound

References:
EPA. 2004. Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment. Final. USEPA/540/R/99/005. July. Available online: https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-e
EPA. 2018. Regional Screening Levels Generic Tables, Chemical Specific Parameter Table. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 4.SUPP.3D
CALCULATION OF DA-EVENT FOR DERMAL EXPOSURE TO SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	Casrn	EPC (1)	Permeability Coefficient	Ratio of Permeability Coefficients	Lag Time	Time to Reach Steady State	Fraction Absorbed	Duration of Event (t-event)		DAevent		Equation Applied	
			Cw	K_p	B	τ_{event}	t*	FA	Adult	Child	Adult	Child	Adult	Child
			ug/L	cm/hr	unitless	hr/event	hr	unitless	hr/event	hr/event	mg/cm2-event	mg/cm2-event	Eq	Eq
VOC	1,4-Dioxane	123-91-1	47.66	0.000332	0.0011986	0.3275276	0.7860663	1	2.60	2.60	5.1E-08	5.1E-08	3	3
PEST	Chlordane, alpha	5103-71-9	0.0048	0.107	0.8330783	20.730833	79.689722	0.7	2.60	2.60	7.3E-09	7.3E-09	2	2
INORGANIC	Arsenic	7440-38-2	3.6	0.001	0.0033291	0.2763198	0.6631674	1	2.60	2.60	1.1E-08	1.1E-08	1	1
INORGANIC	Manganese	7439-96-5	46.71	0.001	0.0028508	0.213551	0.5125223	1	2.60	2.60	1.4E-07	1.4E-07	1	1

Equations:

Inorganics: DAevent (mg/cm^2-event) =

(Eq 1) DA_{event} =
Kp x CW x tevent x CF1 x CF2
where CF1 = 0.001 mg/ug and CF2 = 0.001 L/cm3

Organics: DA_{event} (mg/cm^2-event) =

(Eq 2) $t_{event} \leq t^*$: DA_{event} (mg/cm^2-event) =
$2 \times FA \times K_p \times C_w \times (\text{sqrt}((6 \times \tau_{event} \times t_{event}) / (\pi))) \times CF1 \times CF2$

(Eq 3) $t_{event} > t^*$: DA_{event} (mg/cm^2-event) =
$FA \times K_p \times C_W \times (t_{event}/(1+B) + 2 \times \tau_{event} \times ((1 + 3B + 3B^2)/(1+B)^2)) \times CF1 \times CF2$

Note:
(1) The EPC is the lower of the 95% UCL and maximum detected concentration. See Tables 3.1 through 3.4.
The dermal parameters are from the USEPA RSL Chemical Specific Parameters table. The dermal parameters for chlordane are applied for its isomer.

Abbreviations:
CF1 -- Conversion Factor 1 (0.001 mg/ug)
CF2 -- Conversion Factor 2 (0.001 L/cm^3)
COPC -- Constituent of potential concern
Cw -- Groundwater or surface water concentration
PEST -- Pesticide
SVOC -- Semi-volatile organic compound
UCL -- Upper confidence limit
VOC -- Volatile organic compound

References:
EPA. 2004. Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment. Final. USEPA/540/R/99/005. July. Available online: https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-e
EPA. 2018. Regional Screening Levels Generic Tables, Chemical Specific Parameter Table. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 4.SUPP.4A
BATHROOM AIR CONCENTRATIONS FROM EXPOSURE TO TAPWATER FOR A RESIDENT USING SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	EPC (1)	Adult		Child	
			CW	$C_{a\text{-}max}$	C_a	C_{amax}	C_a
			mg/L	mg/m^3	mg/m^3	mg/m^3	mg/m^3
VOC	1,2-Dichloroethane	107-06-2	0.000492	0.018	0.015	0.024	0.017
VOC	1,2-Dichloropropane	78-87-5	0.000392	0.015	0.012	0.019	0.013
VOC	1,4-Dichlorobenzene	106-46-7	0.000506	0.019	0.016	0.025	0.017
VOC	1,4-Dioxane	123-91-1	0.04909	1.841	1.517	2.430	1.687
VOC	Benzene	71-43-2	0.007763	0.291	0.240	0.384	0.267
VOC	Chloroform	67-66-3	0.000928	0.035	0.029	0.046	0.032
VOC	cis-1,2-Dichloroethylene	156-59-2	0.000689	0.026	0.021	0.034	0.024
VOC	Ethyl Ether	60-29-7	0.1021	3.829	3.155	5.054	3.510
VOC	Tetrachloroethylene (PCE)	127-18-4	0.000364	0.014	0.011	0.018	0.013
VOC	Trichloroethylene (TCE)	79-01-6	0.000592	0.022	0.018	0.029	0.020
VOC	Vinyl chloride	75-01-4	0.000234	0.009	0.007	0.012	0.008

Variables	Units	Exposure Assumptions
C_a = concentration of chemical in air	mg/m^3	Solved by Eq 1
C_{amax} = maximum concentration of chemical in air	mg/m^3	Solved by Eq 2
t_1 = Adult time in shower	hr	0.25
t_1 = Child time in shower	hr	0.33
t_2 = Adult time in bathroom after shower	hr	0.46
t_2 = Child time in bathroom after shower	hr	0.21
f = fraction volatilized for chemical	unitless	0.9
F_w = shower water flow rate	L/hr	1000
V_a = bathroom volume	m^3	6

Equation 1:	C_a =	$((C_{amax}/2) * t_1 + C_{amax} * t_2) / (t_1 + t_2)$
Equation 2:	C_{amax} =	$(C_w * f * F_w * t_1) / V_a$

Note:
(1) The EPC is the lower of the 95% UCL and maximum detected concentration - see Tables 3.1 and 3.2.

The most conservative value of the ranges for each exposure parameter, as presented in Schaum et al 1994, is applied for the calculations. The shower model air chemical concentrations are calculated for only VOCs.

Total exposure times for are 0.71 hr for an adult and 0.54 hr for a child. Professional judgement is used to split up the time spent in the shower versus in the bathroom after shower. An adult is assumed to spend approximately 15 minutes showering followed by 28 minutes in the bathroom, for a total of 43 minutes (0.71 hr). A child is assumed to spend approximately 20 minutes bathing followed by 13 minutes in the bathroom for a total of 32 minutes (0.54 hr).

Abbreviation:
COPC -- Constituent of potential concern
CW -- Groundwater water concentration
EPC -- Exposure point concentration
VOC -- Volatile organic compound

Reference:
Wang, Rhoda G.M. et al. 1994. Water Consumption and Health: Integration of Exposure Assessment, Toxicology, and Risk Assessment. Wang. Macel Dekker, Inc., New York. Estimating Dermal and Inhalation Exposure to Volatile Chemicals in Domestic Water, Schaum et al., Pages 307-320.

TABLE 4.SUPP.4B
BATHROOM AIR CONCENTRATIONS FROM EXPOSURE TO TAPWATER FOR A RESIDENT USING GROUNDWATER CORE OF THE PLUME
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	EPC (1)	Adult		Child	
			CW	$C_{a\text{-}max}$	C_a	C_{amax}	C_a
			mg/L	mg/m^3	mg/m^3	mg/m^3	mg/m^3
VOC	1,4-Dioxane	123-91-1	0.1917	7.189	5.923	9.489	6.590
VOC	Benzene	71-43-2	0.06549	2.456	2.024	3.242	2.251
VOC	Trichloroethylene (TCE)	79-01-6	0.002668	0.100	0.082	0.132	0.092

Variables	Units	Exposure Assumptions
C_a = concentration of chemical in air	mg/m^3	Solved by Eq 1
C_{amax} = maximum concentration of chemical in air	mg/m^3	Solved by Eq 2
t_1 = Adult time in shower	hr	0.25
t_1 = Child time in shower	hr	0.33
t_2 = Adult time in bathroom after shower	hr	0.46
t_2 = Child time in bathroom after shower	hr	0.21
f = fraction volatilized for chemical	unitless	0.9
F_w = shower water flow rate	L/hr	1000
V_a = bathroom volume	m^3	6

Equation 1:	C_a =	$((C_{amax}/2) * t_1 + C_{amax} * t_2) / (t_1 + t_2)$
Equation 2:	C_{amax} =	$(C_w * f * F_w * t_1) / V_a$

Note:
(1) The EPC is the lower of the 95% UCL and maximum detected concentration - see Tables 3.1 and 3.2.

The most conservative value of the ranges for each exposure parameter, as presented in Schaum et al 1994, is applied for the calculations. The shower model air chemical concentrations are calculated for only VOCs.

Total exposure times for are 0.71 hr for an adult and 0.54 hr for a child. Professional judgement is used to split up the time spent in the shower versus in the bathroom after shower. An adult is assumed to spend approximately 15 minutes showering followed by 28 minutes in the bathroom, for a total of 43 minutes (0.71 hr). A child is assumed to spend approximately 20 minutes bathing followed by 13 minutes in the bathroom for a total of 32 minutes (0.54 hr).

Abbreviation:
COPC -- Constituent of potential concern
CW -- Groundwater water concentration
EPC -- Exposure point concentration
VOC -- Volatile organic compound

Reference:

Wang, Rhoda G.M. et al. 1994. Water Consumption and Health: Integration of Exposure Assessment, Toxicology, and Risk Assessment. Wang. Macel Dekker, Inc., New York. Estimating Dermal and Inhalation Exposure to Volatile Chemicals in Domestic Water, Schaum et al., Pages 307-320.

TABLE 4.SUPP.5
BIOCONCENTRATION FACTORS
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	Surface Water to Fish BCF (L/kg)	
			Value	Reference
VOC	1,4-Dioxane	123-91-1	0.5	DOE 2018
VOC	Trichloroethylene (TCE)	79-01-6	16	DOE 2018
PEST	BHC alpha	319-84-6	130	EPA 2002
PEST	Endrin Aldehyde	7421-93-4	3,970	EPA 2002
INORGANIC	Aluminum	7429-90-5	500	DOE 2018
INORGANIC	Chromium (Total)	7440-47-3	16	EPA 2002
INORGANIC	Copper	7440-50-8	200	DOE 2018
INORGANIC	Iron	7439-89-6	200	DOE 2018
INORGANIC	Lead	7439-92-1	300	DOE 2018
INORGANIC	Sodium	7440-23-5	200	DOE 2018

Notes:
BCFs from EPA National Recommended Water Quality Criteria basis document are applied first and then BCFs from the DOE ORNL.

Abbreviations:
BCF -- Bioconcentration factor
COPC -- Constituent of potential concern
DOE -- Department of Energy
EPA -- Environmental Protection Agency
VOC -- Volatile organic compound

References:

DOE. 2012. Environmental Compliance and Area Completion Projects Regulatory Document Handbook. ERD-AG-003. Savannah River Site. Revision 17. June.

DOE. 2018. Chemical Specific Parameters. Oak Ridge National Laboratory (ORNL) - The Risk Assessment Information System (RAIS). April. Click Chemical Tools - Chemical Parameters. Website Last Updated April. Available online: http://rais.ornl.gov/cgi-bin/tools/TOX_search?select=chem_spef

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EPA. 2007. Guidance for Developing Ecological Soil Screening levels (Eco-SSLs). OSWER Directive 9285.7-55. Attachment 4-1. April. Available online: http://rais.ornl.gov/documents/ecossl_attachment_4-1.pdf

TABLE 5.1
NONCANCER TOXICITY DATA -- ORAL/DERMAL
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	Chronic / Subchronic	Oral Reference Dose (RfD)		GIABS	Oral Absorption Efficiency for Dermal	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty / Modifying Factors	Source	Source Date
				Value	Units			Value	Units				
VOC	1,2-Dichloroethane	107-06-2	Chronic	0.006	mg/kg-day	1	100%	0.006	mg/kg-day	Renal	10000	PPRTV Appendix	10/1/2010
VOC	1,2-Dichloropropane	78-87-5	Subchronic	0.04	mg/kg-day	1	100%	0.04	mg/kg-day	Muscoskeletal	30	PPRTV	9/29/2016
VOC	1,4-Dichlorobenzene	106-46-7	Subchronic	0.07	mg/kg-day	1	100%	0.07	mg/kg-day	Hepatic	100	ATSDR	7/1/2006
VOC	1,4-Dioxane	123-91-1	Chronic	0.03	mg/kg-day	1	100%	0.03	mg/kg-day	Hepatic, Renal	300	EPA IRIS	8/11/2010
VOC	Benzene	71-43-2	Chronic	0.004	mg/kg-day	1	100%	0.004	mg/kg-day	Lymphatic	300	EPA IRIS	4/17/2003
VOC	Chloroform	67-66-3	Chronic	0.01	mg/kg-day	1	100%	0.01	mg/kg-day	Hepatic	1000 / 1	EPA IRIS	10/19/2001
VOC	cis-1,2-Dichloroethylene	156-59-2	Chronic	0.002	mg/kg-day	1	100%	0.002	mg/kg-day	Renal	3000	EPA IRIS	9/30/2010
VOC	Ethyl Ether	60-29-7	Chronic	0.2	mg/kg-day	1	100%	0.2	mg/kg-day	No specific target organ system	3000/1	EPA IRIS	7/1/1993
VOC	Tetrachloroethylene (PCE)	127-18-4	Chronic	0.006	mg/kg-day	1	100%	0.006	mg/kg-day	Nervous	1000	EPA IRIS	2/10/2012
VOC	Trichloroethylene (TCE)	79-01-6	Chronic	0.0005	mg/kg-day	1	100%	0.0005	mg/kg-day	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	100,1000,10 multiple studies	EPA IRIS	9/28/2011
VOC	Vinyl chloride	75-01-4	Chronic	0.003	mg/kg-day	1	100%	0.003	mg/kg-day	Hepatic	30 / 1	EPA IRIS	8/7/2000
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	Chronic	0.02	mg/kg-day	1	100%	0.02	mg/kg-day	Hepatic	1000 / 1	EPA IRIS	1/31/1987
SVOC	Caprolactam	105-60-2	Chronic	0.5	mg/kg-day	1	100%	0.5	mg/kg-day	Reproductive	100, 1	EPA IRIS	9/7/1988
PEST	BHC alpha	319-84-6	Chronic	0.008	mg/kg-day	1	100%	0.008	mg/kg-day	Hepatic	100	ATSDR	9/1/2005
PEST	Chlordane, alpha	5103-71-9	Chronic	0.0005	mg/kg-day	1	100%	0.0005	mg/kg-day	Hepatic	300/1	EPA IRIS	2/7/1998
PEST	Endrin Aldehyde	7421-93-4				1	100%						
INORGANIC	Aluminum	7429-90-5	Chronic	1	mg/kg-day	1	100%	1	mg/kg-day	Nervous	100	PPRTV	10/23/2006
INORGANIC	Arsenic	7440-38-2	Chronic	0.0003	mg/kg-day	1	100%	0.0003		Cardiovascular, Integumentary	3	EPA IRIS	9/1/1991
INORGANIC	Barium	7440-39-3	Chronic	0.2	mg/kg-day	0.07	7.0%	0.014	mg/kg-day	Renal	300	EPA IRIS	7/11/2005
INORGANIC	Beryllium	7440-41-7	Chronic	0.002	mg/kg-day	0.007	0.7%	0.000014	mg/kg-day	Digestive	300	EPA IRIS	4/3/1998
INORGANIC	Chromium (Total)	7440-47-3	Chronic	0.003	mg/kg-day	0.025	3%	0.000075	mg/kg-day	No specific target organ system	300 / 3	EPA IRIS	9/3/1998
INORGANIC	Cobalt	7440-48-4	Chronic	0.0003	mg/kg-day	1	100%	0.0003		Endocrine	3000	PPRTV	8/25/2008
INORGANIC	Copper	7440-50-8	Chronic	0.04	mg/kg-day	1	100%	0.04	mg/kg-day	Digestive	NA	HEAST	12/1/2011
INORGANIC	Iron	7439-89-6	Subchronic	0.7	mg/kg-day	1	100%	0.7	mg/kg-day	Digestive	1.5	PPRTV	9/11/2006
INORGANIC	Lead	7439-92-1				1	100%						
INORGANIC	Manganese	7439-96-5	Chronic	0.14	mg/kg-day	1	100%	0.14	mg/kg-day	Nervous	1 / 1	EPA IRIS	11/1/1995
INORGANIC	Nickel	7440-02-0	Chronic	0.02	mg/kg-day	0.04	4%	0.0008		No specific target organ system	300 / 1	EPA IRIS	12/1/1991
INORGANIC	Sodium	7440-23-5				1	100.0%						
INORGANIC	Vanadium	7440-62-2	Chronic	0.005	mg/kg-day	0.026	3%	0.00013	mg/kg-day	Integumentary	100	RSL User's Guide (IRIS - RfD of Vn Pentoxide x 56% for molecular weight of Vn)	6/30/1988
INORG	Chromium, Trivalent	16065-83-1	Chronic	1.5	mg/kg-day	0.013	1%	0.0195	mg/kg-day	None	100 / 10	EPA IRIS	9/3/1998

Note:
The oral RfDs are taken from the EPA Regional Screening Levels (RSLs) table, which gathers toxicity reference values from multiple sources using an established hierarchy.
The absorbed RfD for dermal is calculated by the following equation: RfD-oral x GIABS.
EPA recommends that the oral RfD should not be adjusted to estimate the absorbed dose for compounds when the absorption efficiency is greater than 50%.
The oral RfD and GIABS for manganese (non-diet) are used for hazard quotient calculations.
Hexavalent chromium's toxicity value is input for chromium total. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium's toxicity values if available.

Abbreviations:
COPC -- Constituent of potential concern
GIABS -- Gastrointestinal absorption factor
NA -- Not available
PEST -- Pesticide
RfD -- Reference dose
RSLs -- EPA Regional Screening Levels
SVOC -- Semi-volatile organic compound
VOC -- Volatile organic compound

References:
EPA. 2004. Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment. Final. USEPA/540/R/99/005. July. Available online: https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-e
EPA. 2018. Regional Screening Levels Generic Tables. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

Toxicity Sources:
ATSDR. 2017. Minimal Risk Levels (MRLs). June. Available online: http://www.atsdr.cdc.gov/mrls/index.asp
EPA. 2011. Health Effects Assessment Summary Tables (HEAST). December. Available online : http://epa-heast.ornl.gov/
EPA. 2017. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). October. Available online: http://hhpprtv.ornl.gov/index.html
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TABLE 5.2
NONCANCER TOXICITY DATA -- INHALATION
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	Chronic / Subchronic	Inhalation Reference Concentration (RfC)		Primary Target Organ(s)	Combined Uncertainty / Modifying Factors	Source	Source Date
				Value	Units				
VOC	1,2-Dichloroethane	107-06-2	Chronic	0.007	mg/m3	Nervous	3000	PPRTV	10/1/2010
VOC	1,2-Dichloropropane	78-87-5	Chronic	0.004	mg/m3	Respiratory	300 / 1	EPA IRIS	12/1/1991
VOC	1,4-Dichlorobenzene	106-46-7	Subchronic	0.8	mg/m3	Hepatic	100 / 1	EPA IRIS	11/1/1996
VOC	1,4-Dioxane	123-91-1	Chronic	0.03	mg/m3	Nervous, Respiratory	1000	EPA IRIS	9/20/2013
VOC	Benzene	71-43-2	Chronic	0.03	mg/m3	Lymphatic	300 / 1	EPA IRIS	4/17/2003
VOC	Chloroform	67-66-3	Acute	0.098	mg/m3	Hepatic	30	ATSDR	9/1/1997
VOC	cis-1,2-Dichloroethylene	156-59-2							
VOC	Ethyl Ether	60-29-7							
VOC	Tetrachloroethylene (PCE)	127-18-4	Chronic	0.04	mg/m3	Nervous	1000	EPA IRIS	2/10/2012
VOC	Trichloroethylene (TCE)	79-01-6	Chronic	0.002	mg/m3	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	100,10 multiple studies	EPA IRIS	9/28/2011
VOC	Vinyl chloride	75-01-4	Chronic	0.1	mg/m3	Hepatic	30 / 1	EPA IRIS	8/7/2000
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7							
SVOC	Caprolactam	105-60-2	Chronic	0.0022	mg/m3	Respiratory	None indicated	Cal EPA	7/1/2014
PEST	BHC alpha	319-84-6							
PEST	Chlordane, alpha	5103-71-9	Chronic	0.0007	mg/m3	Hepatic	1000/1	EPA IRIS	2/7/1998
PEST	Endrin Aldehyde	7421-93-4							
INORGANIC	Aluminum	7429-90-5	Chronic	0.005	mg/m3	Neurological	300	PPRTV	10/23/2006
INORGANIC	Arsenic	7440-38-2	Chronic	0.000015	mg/m3	Reproductive, Developmental, Cardiovascular, Nervous, Respiratory, Integumentary	None indicated	Cal EPA	7/1/2014
INORGANIC	Barium	7440-39-3	Chronic	0.0005	mg/m3	Developmental	1000	HEAST	12/1/2011
INORGANIC	Beryllium	7440-41-7	Chronic	0.00002	mg/m3	Respiratory, Lymphatic	10 / 1	EPA IRIS	4/3/1998
INORGANIC	Chromium (Total)	7440-47-3	Chronic	0.0001	mg/m3	Respiratory	300 / 1	EPA IRIS	9/3/1998
INORGANIC	Cobalt	7440-48-4	Chronic	0.000006	mg/m3	Respiratory	300	PPRTV	8/25/2008
INORGANIC	Copper	7440-50-8							
INORGANIC	Iron	7439-89-6							
INORGANIC	Lead	7439-92-1							
INORGANIC	Manganese	7439-96-5	Chronic	0.00005	mg/m3	Nervous	1000 / 1	EPA IRIS	12/1/1993
INORGANIC	Nickel	7440-02-0	Chronic	0.00009	mg/m3	Respiratory	30	ATSDR	8/1/2005
INORGANIC	Sodium	7440-23-5							
INORGANIC	Vanadium	7440-62-2	Chronic	0.0001	mg/m3	Respiratory	30	ATSDR	9/1/2012

Note:
The inhalation RfCs are taken from the EPA Regional Screening Levels (RSLs) table, which gathers toxicity reference values from multiple sources using an established hierarchy.
Hexavalent chromium's toxicity value is input for chromium total. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium's toxicity values if available.

Abbreviation:
COPC -- Constituent of potential concern
NA -- Not available
PEST -- Pesticide
RfC -- Reference concentration
RSLs -- EPA Regional Screening Levels
SVOC -- Semi-volatile organic compound
VOC -- Volatile organic compound

References:
EPA. 2018. Regional Screening Levels Generic Tables. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

Toxicity Sources:
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EPA. 2011. Health Effects Assessment Summary Tables (HEAST). December. Available online : http://epa-heast.ornl.gov/
EPA. 2017. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). October. Available online: http://hhpprtv.ornl.gov/index.html
EPA. 2018. Integrated Risk Information System (IRIS). January 10. Available online: http://www.epa.gov/iris/
EPA. 2018. Regional Screening Levels User's Guide. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 6.1
CANCER TOXICITY DATA -- ORAL/DERMAL
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	Mutagenic	Oral Slope Factor (SFo)		GIABS	Oral Absorption Efficiency for Dermal	Absorbed SFd for Dermal		Weight of Evidence / Cancer Guidelines Description	Source	Source Date
				Value	Units			Value	Units			
VOC	1,2-Dichloroethane	107-06-2	N	0.091	(mg/kg-day)-1	1	100%	0.091	(mg/kg-day)-1	B2 (Probable human carcinogen - based on sufficient evidence of carcinogenicity in animals)	EPA IRIS	3/31/1987
VOC	1,2-Dichloropropane	78-87-5	N	0.037	(mg/kg-day)-1	1	100%	0.037	(mg/kg-day)-1	Likely to be carcinogenic to humans	PPRTV	9/29/2016
VOC	1,4-Dichlorobenzene	106-46-7	N	0.0054	(mg/kg-day)-1	1	100%	0.0054	(mg/kg-day)-1	Not Classified USEPA / Group 2B IARC	Cal EPA	1/20/2011
VOC	1,4-Dioxane	123-91-1	N	0.1	(mg/kg-day)-1	1	100%	0.1	(mg/kg-day)-1	Likely to be carcinogenic to humans	EPA IRIS	9/20/2013
VOC	Benzene	71-43-2	N	0.055	(mg/kg-day)-1	1	100%	0.055	(mg/kg-day)-1	A / Known human carcinogen	EPA IRIS	1/9/2000
VOC	Chloroform	67-66-3	N	0.031	(mg/kg-day)-1	1	100%	0.031	(mg/kg-day)-1	Group 2B IARC / Group B2 USEPA	Cal EPA	1/20/2011
VOC	cis-1,2-Dichloroethylene	156-59-2	N			1	100%					
VOC	Ethyl Ether	60-29-7	N			1	100%					
VOC	Tetrachloroethylene (PCE)	127-18-4	N	0.0021	(mg/kg-day)-1	1	100%	0.0021	(mg/kg-day)-1	Likely to be carcinogenic to humans	EPA IRIS	2/10/2012
VOC	Trichloroethylene (TCE)	79-01-6	Y	0.046	(mg/kg-day)-1	1	100%	0.046	(mg/kg-day)-1	Carcinogenic to humans	EPA IRIS	9/28/2011
VOC	Vinyl chloride	75-01-4	Y	0.72	(mg/kg-day)-1	1	100%	0.72	(mg/kg-day)-1	A / Known human carcinogen	EPA IRIS	8/7/2000
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	N	0.014	(mg/kg-day)-1	1	100%	0.014	(mg/kg-day)-1	B2 (Probable human carcinogen - based on sufficient evidence of carcinogenicity in animals)	EPA IRIS	9/7/1988
SVOC	Caprolactam	105-60-2	N			1	100%					
PEST	BHC alpha	319-84-6	N	6.3	(mg/kg-day)-1	1	100%	6.3	(mg/kg-day)-1	B2	EPA IRIS	7/1/1993
PEST	Chlordane, alpha	5103-71-9	N	0.35	(mg/kg-day)-1	1	100%	0.35	(mg/kg-day)-1	B2	EPA IRIS	2/7/1998
PEST	Endrin Aldehyde	7421-93-4	N			1	100%					
INORGANIC	Aluminum	7429-90-5	N			1	100%					
INORGANIC	Arsenic	7440-38-2	N	1.5	(mg/kg-day)-1	1	100%	1.5	(mg/kg-day)-1	Human carcinogen	EPA IRIS	6/1/1995
INORGANIC	Barium	7440-39-3	N			1	100%					
INORGANIC	Beryllium	7440-41-7	N			1	100.0%					
INORGANIC	Chromium (Total)	7440-47-3	Y	0.5	(mg/kg-day)-1	0.025	3%	20	(mg/kg-day)-1	Likely to be carcinogenic (oral route)	New Jersey / EPA RSL Users Guide	4/8/2009
INORGANIC	Cobalt	7440-48-4	N			1	100%					
INORGANIC	Copper	7440-50-8	N			1	100%					
INORGANIC	Iron	7439-89-6	N			1	100%					
INORGANIC	Lead	7439-92-1	N			1	100%					
INORGANIC	Manganese	7439-96-5	N			1	100%					
INORGANIC	Nickel	7440-02-0	N			1	100%					
INORGANIC	Sodium	7440-23-5	N			1	100%					
INORGANIC	Vanadium	7440-62-2	N			1	100%					

Note:
The oral SFs are taken from the EPA Regional Screening Levels (RSLs) table, which gathers toxicity reference values from multiple sources using an established hierarchy.
The absorbed SFd for dermal is calculated by the following equation: SF-oral / GIABS.
EPA recommends that the oral SF should not be adjusted to estimate the absorbed dose for compounds when the absorption efficiency is greater than 50%.
Hexavalent chromium's toxicity value is input for chromium total. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium's toxicity values if available.

Abbreviations:
COPC -- Constituent of potential concern
GIABS -- Gastrointestinal absorption factor
NA -- Not available
PEST -- Pesticide
RSLs -- EPA Regional Screening Levels
SFd -- Dermal slope factor
SFo -- Oral cancer slope factor
SVOC -- Semi-volatile organic compound
VOC -- Volatile organic compound

Weight of Evidence (Pre-2005 Cancer Guidelines) Definitions:

A	Known Human Carcinogen – Sufficient evidence of carcinogenicity in humans
B1	Probable Human Carcinogen – Limited evidence of carcinogenicity in humans
B2	Probable Human Carcinogen – Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans
C	Possible Human Carcinogen – Limited evidence of carcinogenicity in animals and inadequate or lack of evidence in humans

References:

EPA. 2004. Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual. Part E Supplemental Guidance for Dermal Risk Assessment. Final. USEPA/540/R/99/005. July. Available online: https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-e
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Toxicity Sources:

Cal EPA. 2007. Toxicity Criteria Database. Office of Environmental Health Hazard Assessment (OEHHA). Available online: http://www.oehha.ca.gov/risk/chemicalDB/index.asp
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EPA. 2018. Integrated Risk Information System (IRIS). January 10. Available online: http://www.epa.gov/iris/
EPA. 2018. Regional Screening Levels User's Guide. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 6.2
CANCER TOXICITY DATA -- INHALATION
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

COPC Group	COPC	CASRN	Mutagenic	Inhalation Unit Risk (IUR)		Weight of Evidence / Cancer Guidelines Description	Source	Source Date
				Value	Units			
VOC	1,2-Dichloroethane	107-06-2	N	0.000026	(ug/m3)-1	B2 (Probable human carcinogen - based on sufficient evidence of carcinogenicity in animals)	EPA IRIS	3/31/1987
VOC	1,2-Dichloropropane	78-87-5	N	0.0000037	(ug/m3)-1	Likely to be carcinogenic to humans	PPRTV	9/29/2016
VOC	1,4-Dichlorobenzene	106-46-7	N	0.000011	(ug/m3)-1	Not Classified USEPA / Group 2B IARC	Cal EPA	1/20/2011
VOC	1,4-Dioxane	123-91-1	N	0.000005	(ug/m3)-1	Likely to be carcinogenic to humans	EPA IRIS	9/20/2013
VOC	Benzene	71-43-2	N	0.0000078	(ug/m3)-1	A / Known human carcinogen	EPA IRIS	1/9/2000
VOC	Chloroform	67-66-3	N	0.000023	(ug/m3)-1	Likely to be carcinogenic to humans under high-exposure conditions	EPA IRIS	10/19/2001
VOC	cis-1,2-Dichloroethylene	156-59-2	N					
VOC	Ethyl Ether	60-29-7	N					
VOC	Tetrachloroethylene (PCE)	127-18-4	N	0.00000026	(ug/m3)-1	Likely to be carcinogenic to humans	EPA IRIS	2/10/2012
VOC	Trichloroethylene (TCE)	79-01-6	Y	0.0000041	(ug/m3)-1	Carcinogenic to humans	EPA IRIS	9/28/2011
VOC	Vinyl chloride	75-01-4	Y	0.0000044	(ug/m3)-1	A / Known human carcinogen	EPA IRIS	8/7/2000
SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	N	0.0000024	(ug/m3)-1	Group B2 USEPA / Group 2B IARC	Cal EPA	1/20/2011
SVOC	Caprolactam	105-60-2	N					
PEST	BHC alpha	319-84-6	N	0.0018	(ug/m3)-1	B2	EPA IRIS	7/1/1993
PEST	Chlordane, alpha	5103-71-9	N	0.0001	(ug/m3)-1	B2	EPA IRIS	2/7/1998
PEST	Endrin Aldehyde	7421-93-4	N					
INORGANIC	Aluminum	7429-90-5	N					
INORGANIC	Arsenic	7440-38-2	N	0.0043	(ug/m3)-1	A / Known human carcinogen	EPA IRIS	6/1/1995
INORGANIC	Barium	7440-39-3	N					
INORGANIC	Beryllium	7440-41-7	N	0.0024	(ug/m3)-1	Known/likely human carcinogen	EPA IRIS	4/3/1998
INORGANIC	Chromium (Total)	7440-47-3	Y	0.084	(ug/m3)-1	A / Known human carcinogen	RSL Users Guide	9/3/1998
INORGANIC	Cobalt	7440-48-4	N	0.009	(ug/m3)-1	Likely to be carcinogenic to humans by inhalation route	PPRTV	8/25/2008
INORGANIC	Copper	7440-50-8	N					
INORGANIC	Iron	7439-89-6	N					
INORGANIC	Lead	7439-92-1	N					
INORGANIC	Manganese	7439-96-5	N					
INORGANIC	Nickel	7440-02-0	N	0.00026	(ug/m3)-1	Carcinogenic to humans	Cal EPA	1/20/2011
INORGANIC	Sodium	7440-23-5	N					
INORGANIC	Vanadium	7440-62-2	N					

Note:
The IURs are taken from the EPA Regional Screening Levels (RSLs) table, which gathers toxicity reference values from multiple sources using an established hierarchy.
Hexavalent chromium's toxicity value is input for chromium total. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium's toxicity values if available.

Abbreviation:
COPC -- Constituent of potential concern
IUR -- Inhalation unit risk
NA -- Not available
PEST -- Pesticide
RSLs -- EPA Regional Screening Levels
SVOC -- Semi-volatile organic compound
VOC -- Volatile organic compound

Weight of Evidence (Pre-2005 Cancer Guidelines) Definitions:

A	Known Human Carcinogen – Sufficient evidence of carcinogenicity in humans
B1	Probable Human Carcinogen – Limited evidence of carcinogenicity in humans
B2	Probable Human Carcinogen – Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans
C	Possible Human Carcinogen – Limited evidence of carcinogenicity in animals and inadequate or lack of evidence in humans

References:

EPA. 2005. Supplemental Guidance for Assessing Susceptibility from Early Life Exposure to Carcinogens. EPA/630/R-03/003F. March. Available online: https://www.epa.gov/risk/supplemental-guidance-assessing-susceptibility-early-life-exposure-carcinogens
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Toxicity Sources:

Cal EPA. 2007. Toxicity Criteria Database. Office of Environmental Health Hazard Assessment (OEHHA). Available online: http://www.oehha.ca.gov/risk/chemicalDB/index.asp
EPA. 2017. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). October. Available online: http://hhpprtv.ornl.gov/index.html
EPA. 2018. Integrated Risk Information System (IRIS). January 10. Available online: http://www.epa.gov/iris/
EPA. 2018. Regional Screening Levels User's Guide. May. Available online: http://www.epa.gov/risk/regional-screening-levels-rsls

TABLE 7.1
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR A RESIDENT TO SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult and Child

Medium	Exposure Medium	Exposure Point	Exposure Route	COPC Group	COPC	CASRN	Mutagenic	EPC			Cancer Risk Calculations					Non-Cancer Hazard Calculations									
								Adult	Child	Units	Adult and Child Age-Adjusted					Adult					Child				
								Value	Value		Exposure Intake		CSF/Unit Risk		Cancer Risk	Exposure Intake		RfD/RfC		Hazard Quotient	Exposure Intake		RfD/RfC		Hazard Quotient
											Value	Units	Value	Units		Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Tapwater	Ingestion																						
				VOC	1,2-Dichloroethane	107-06-2	N	4.9E-01	4.9E-01	ug/L	7.6E-06	mg/kg-day	9.1E-02	(mg/kg-day)-1	6.9E-07	1.5E-05	mg/kg-day	6.0E-03	mg/kg-day	2.5E-03	2.5E-05	mg/kg-day	6.0E-03	mg/kg-day	4.1E-03
				VOC	1,2-Dichloropropane	78-87-5	N	3.9E-01	3.9E-01	ug/L	6.0E-06	mg/kg-day	3.7E-02	(mg/kg-day)-1	2.2E-07	1.2E-05	mg/kg-day	4.0E-02	mg/kg-day	2.9E-04	2.0E-05	mg/kg-day	4.0E-02	mg/kg-day	4.9E-04
				VOC	1,4-Dichlorobenzene	106-46-7	N	5.1E-01	5.1E-01	ug/L	7.8E-06	mg/kg-day	5.4E-03	(mg/kg-day)-1	4.2E-08	1.5E-05	mg/kg-day	7.0E-02	mg/kg-day	2.2E-04	2.5E-05	mg/kg-day	7.0E-02	mg/kg-day	3.6E-04
				VOC	1,4-Dioxane	123-91-1	N	4.9E+01	4.9E+01	ug/L	7.6E-04	mg/kg-day	1.0E-01	(mg/kg-day)-1	7.6E-05	1.5E-03	mg/kg-day	3.0E-02	mg/kg-day	4.9E-02	2.4E-03	mg/kg-day	3.0E-02	mg/kg-day	8.2E-02
				VOC	Benzene	71-43-2	N	7.8E+00	7.8E+00	ug/L	1.2E-04	mg/kg-day	5.5E-02	(mg/kg-day)-1	6.6E-06	2.3E-04	mg/kg-day	4.0E-03	mg/kg-day	5.8E-02	3.9E-04	mg/kg-day	4.0E-03	mg/kg-day	9.7E-02
				VOC	Chloroform	67-66-3	N	9.3E-01	9.3E-01	ug/L	1.4E-05	mg/kg-day	3.1E-02	(mg/kg-day)-1	4.4E-07	2.8E-05	mg/kg-day	1.0E-02	mg/kg-day	2.8E-03	4.6E-05	mg/kg-day	1.0E-02	mg/kg-day	4.6E-03
				VOC	cis-1,2-Dichloroethylene	156-59-2	N	6.9E-01	6.9E-01	ug/L	1.1E-05	mg/kg-day				2.1E-05	mg/kg-day	2.0E-03	mg/kg-day	1.0E-02	3.4E-05	mg/kg-day	2.0E-03	mg/kg-day	1.7E-02
				VOC	Ethyl Ether	60-29-7	N	1.0E+02	1.0E+02	ug/L	1.6E-03	mg/kg-day				3.1E-03	mg/kg-day	2.0E-01	mg/kg-day	1.5E-02	5.1E-03	mg/kg-day	2.0E-01	mg/kg-day	2.5E-02
				VOC	Tetrachloroethylene (PCE)	127-18-4	N	3.6E-01	3.6E-01	ug/L	5.6E-06	mg/kg-day	2.1E-03	(mg/kg-day)-1	1.2E-08	1.1E-05	mg/kg-day	6.0E-03	mg/kg-day	1.8E-03	1.8E-05	mg/kg-day	6.0E-03	mg/kg-day	3.0E-03
				VOC	Trichloroethylene (TCE)	79-01-6	Y	5.9E-01	5.9E-01	ug/L	1.4E-05	mg/kg-day	4.6E-02	(mg/kg-day)-1	6.5E-07	1.8E-05	mg/kg-day	5.0E-04	mg/kg-day	3.5E-02	3.0E-05	mg/kg-day	5.0E-04	mg/kg-day	5.9E-02
				VOC	Vinyl chloride	75-01-4	Y	2.3E-01	2.3E-01	ug/L	1.6E-05	mg/kg-day	7.2E-01	(mg/kg-day)-1	1.1E-05	7.0E-06	mg/kg-day	3.0E-03	mg/kg-day	2.3E-03	1.2E-05	mg/kg-day	3.0E-03	mg/kg-day	3.9E-03
				SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	N	3.8E+00	3.8E+00	ug/L	5.9E-05	mg/kg-day	1.4E-02	(mg/kg-day)-1	8.2E-07	1.1E-04	mg/kg-day	2.0E-02	mg/kg-day	5.7E-03	1.9E-04	mg/kg-day	2.0E-02	mg/kg-day	9.5E-03
				SVOC	Caprolactam	105-60-2	N	6.3E+01	6.3E+01	ug/L	9.7E-04	mg/kg-day				1.9E-03	mg/kg-day	5.0E-01	mg/kg-day	3.8E-03	3.1E-03	mg/kg-day	5.0E-01	mg/kg-day	6.3E-03
				PEST	BHC alpha	319-84-6	N	8.5E-03	8.5E-03	ug/L	1.3E-07	mg/kg-day	6.3E+00	(mg/kg-day)-1	8.2E-07	2.5E-07	mg/kg-day	8.0E-03	mg/kg-day	3.2E-05	4.2E-07	mg/kg-day	8.0E-03	mg/kg-day	5.3E-05
				PEST	Endrin Aldehyde	7421-93-4	N	1.0E-02	1.0E-02	ug/L	1.6E-07	mg/kg-day				3.0E-07	mg/kg-day				5.0E-07	mg/kg-day			
				INORGANIC	Aluminum	7429-90-5	N	1.9E+03	1.9E+03	ug/L	2.9E-02	mg/kg-day				5.6E-02	mg/kg-day	1.0E+00	mg/kg-day	5.6E-02	9.4E-02	mg/kg-day	1.0E+00	mg/kg-day	9.4E-02
				INORGANIC	Arsenic	7440-38-2	N	1.5E+00	1.5E+00	ug/L	2.3E-05	mg/kg-day	1.5E+00	(mg/kg-day)-1	3.4E-05	4.5E-05	mg/kg-day	3.0E-04	mg/kg-day	1.5E-01	7.4E-05	mg/kg-day	3.0E-04	mg/kg-day	2.5E-01
				INORGANIC	Barium	7440-39-3	N	1.7E+02	1.7E+02	ug/L	2.6E-03	mg/kg-day				5.0E-03	mg/kg-day	2.0E-01	mg/kg-day	2.5E-02	8.4E-03	mg/kg-day	2.0E-01	mg/kg-day	4.2E-02
				INORGANIC	Beryllium	7440-41-7	N	9.2E-01	9.2E-01	ug/L	1.4E-05	mg/kg-day				2.8E-05	mg/kg-day	2.0E-03	mg/kg-day	1.4E-02	4.6E-05	mg/kg-day	2.0E-03	mg/kg-day	2.3E-02
				INORGANIC	Chromium (Total)	7440-47-3	Y	2.0E+01	2.0E+01	ug/L	1.1E-03	mg/kg-day	5.0E-01	(mg/kg-day)-1	5.7E-04	6.0E-04	mg/kg-day	3.0E-03	mg/kg-day	2.0E-01	1.0E-03	mg/kg-day	3.0E-03	mg/kg-day	3.3E-01
				INORGANIC	Cobalt	7440-48-4	N	2.1E+00	2.1E+00	ug/L	3.2E-05	mg/kg-day				6.2E-05	mg/kg-day	3.0E-04	mg/kg-day	2.1E-01	1.0E-04	mg/kg-day	3.0E-04	mg/kg-day	3.4E-01
				INORGANIC	Copper	7440-50-8	N	6.1E+01	6.1E+01	ug/L	9.4E-04	mg/kg-day				1.8E-03	mg/kg-day	4.0E-02	mg/kg-day	4.6E-02	3.1E-03	mg/kg-day	4.0E-02	mg/kg-day	7.6E-02
				INORGANIC	Iron	7439-89-6	N	5.6E+03	5.6E+03	ug/L	8.6E-02	mg/kg-day				1.7E-01	mg/kg-day	7.0E-01	mg/kg-day	2.4E-01	2.8E-01	mg/kg-day	7.0E-01	mg/kg-day	4.0E-01
				INORGANIC	Lead	7439-92-1	N	1.1E+01	1.1E+01	ug/L	1.6E-04	mg/kg-day				3.2E-04	mg/kg-day				5.3E-04	mg/kg-day			
				INORGANIC	Manganese	7439-96-5	N	9.1E+02	9.1E+02	ug/L	1.4E-02	mg/kg-day				2.7E-02	mg/kg-day	1.4E-01	mg/kg-day	2.0E-01	4.6E-02	mg/kg-day	1.4E-01	mg/kg-day	3.3E-01
				INORGANIC	Nickel	7440-02-0	N	2.6E+01	2.6E+01	ug/L	4.0E-04	mg/kg-day				7.8E-04	mg/kg-day	2.0E-02	mg/kg-day	3.9E-02	1.3E-03	mg/kg-day	2.0E-02	mg/kg-day	6.5E-02
				INORGANIC	Sodium	7440-23-5	N	3.8E+04	3.8E+04	ug/L	5.9E-01	mg/kg-day				1.1E+00	mg/kg-day				1.9E+00	mg/kg-day			
				INORGANIC	Vanadium	7440-62-2	N	3.3E+00	3.3E+00	ug/L	5.0E-05	mg/kg-day				9.7E-05	mg/kg-day	5.0E-03	mg/kg-day	1.9E-02	1.6E-04	mg/kg-day	5.0E-03	mg/kg-day	3.2E-02
			Ingestion Total												**7.0E-04**					**1.4E+00**					**2.3E+00**
Groundwater	Groundwater	Tapwater	Dermal																						
				VOC	1,2-Dichloroethane	107-06-2	N	4.9E-01	4.9E-01	ug/L	3.2E-07	mg/kg-day	9.1E-02	(mg/kg-day)-1	2.9E-08	7.0E-07	mg/kg-day	6.0E-03	mg/kg-day	1.2E-04	1.0E-06	mg/kg-day	6.0E-03	mg/kg-day	1.7E-04
				VOC	1,2-Dichloropropane	78-87-5	N	3.9E-01	3.9E-01	ug/L	4.9E-07	mg/kg-day	3.7E-02	(mg/kg-day)-1	1.8E-08	1.1E-06	mg/kg-day	4.0E-02	mg/kg-day	2.7E-05	1.6E-06	mg/kg-day	4.0E-02	mg/kg-day	4.1E-05
				VOC	1,4-Dichlorobenzene	106-46-7	N	5.1E-01	5.1E-01	ug/L	4.8E-06	mg/kg-day	5.4E-03	(mg/kg-day)-1	2.6E-08	1.1E-05	mg/kg-day	7.0E-02	mg/kg-day	1.5E-04	1.6E-05	mg/kg-day	7.0E-02	mg/kg-day	2.3E-04
				VOC	1,4-Dioxane	123-91-1	N	4.9E+01	4.9E+01	ug/L	2.3E-06	mg/kg-day	1.0E-01	(mg/kg-day)-1	2.3E-07	5.1E-06	mg/kg-day	3.0E-02	mg/kg-day	1.7E-04	7.7E-06	mg/kg-day	3.0E-02	mg/kg-day	2.6E-04
				VOC	Benzene	71-43-2	N	7.8E+00	7.8E+00	ug/L	1.6E-05	mg/kg-day	5.5E-02	(mg/kg-day)-1	8.7E-07	3.5E-05	mg/kg-day	4.0E-03	mg/kg-day	8.7E-03	5.1E-05	mg/kg-day	4.0E-03	mg/kg-day	1.3E-02
				VOC	Chloroform	67-66-3	N	9.3E-01	9.3E-01	ug/L	1.1E-06	mg/kg-day	3.1E-02	(mg/kg-day)-1	3.4E-08	2.4E-06	mg/kg-day	1.0E-02	mg/kg-day	2.4E-04	3.7E-06	mg/kg-day	1.0E-02	mg/kg-day	3.7E-04
				VOC	cis-1,2-Dichloroethylene	156-59-2	N	6.9E-01	6.9E-01	ug/L	1.1E-06	mg/kg-day				2.5E-06	mg/kg-day	2.0E-03	mg/kg-day	1.3E-03	3.8E-06	mg/kg-day	2.0E-03	mg/kg-day	1.9E-03
				VOC	Ethyl Ether	60-29-7	N	1.0E+02	1.0E+02	ug/L	3.2E-05	mg/kg-day				7.1E-05	mg/kg-day	2.0E-01	mg/kg-day	3.5E-04	1.0E-04	mg/kg-day	2.0E-01	mg/kg-day	5.2E-04
				VOC	Tetrachloroethylene (PCE)	127-18-4	N	3.6E-01	3.6E-01	ug/L	2.9E-06	mg/kg-day	2.1E-03	(mg/kg-day)-1	6.0E-09	6.3E-06	mg/kg-day	6.0E-03	mg/kg-day	1.1E-03	9.5E-06	mg/kg-day	6.0E-03	mg/kg-day	1.6E-03
				VOC	Trichloroethylene (TCE)	79-01-6	Y	5.9E-01	5.9E-01	ug/L	1.9E-06	mg/kg-day	4.6E-02	(mg/kg-day)-1	8.6E-08	2.9E-06	mg/kg-day	5.0E-04	mg/kg-day	5.7E-03	4.3E-06	mg/kg-day	5.0E-04	mg/kg-day	8.6E-03
				VOC	Vinyl chloride	75-01-4	Y	2.3E-01	2.3E-01	ug/L	1.1E-06	mg/kg-day	7.2E-01	(mg/kg-day)-1	7.7E-07	5.4E-07	mg/kg-day	3.0E-03	mg/kg-day	1.8E-04	7.9E-07	mg/kg-day	3.0E-03	mg/kg-day	2.6E-04
				SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	N	3.8E+00	3.8E+00	ug/L	3.4E-03	mg/kg-day	1.4E-02	(mg/kg-day)-1	4.8E-05	7.6E-03	mg/kg-day	2.0E-02	mg/kg-day	3.8E-01	1.1E-02	mg/kg-day	2.0E-02	mg/kg-day	5.7E-01
				SVOC	Caprolactam	105-60-2	N	6.3E+01	6.3E+01	ug/L	1.1E-05	mg/kg-day				2.3E-05	mg/kg-day	5.0E-01	mg/kg-day	4.6E-05	3.5E-05	mg/kg-day	5.0E-01	mg/kg-day	7.0E-05
				PEST	BHC alpha	319-84-6	N	8.5E-03	8.5E-03	ug/L	9.2E-08	mg/kg-day	6.3E+00	(mg/kg-day)-1	5.8E-07	2.0E-07	mg/kg-day	8.0E-03	mg/kg-day	2.5E-05	3.0E-07	mg/kg-day	8.0E-03	mg/kg-day	3.8E-05
				PEST	Endrin Aldehyde	7421-93-4	N	1.0E-02	1.0E-02	ug/L															
				INORGANIC	Aluminum	7429-90-5	N	1.9E+03	1.9E+03	ug/L	2.0E-04	mg/kg-day				4.5E-04	mg/kg-day	1.0E+00	mg/kg-day	4.5E-04	6.4E-04	mg/kg-day	1.0E+00	mg/kg-day	6.4E-04
				INORGANIC	Arsenic	7440-38-2	N	1.5E+00	1.5E+00	ug/L	2.0E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	3.0E-07	4.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03	6.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2.2E-03
				INORGANIC	Barium	7440-39-3	N	1.7E+02	1.7E+02	ug/L	3.3E-05	mg/kg-day				7.2E-05	mg/kg-day	1.4E-02	mg/kg-day	5.2E-03	1.1E-04	mg/kg-day	1.4E-02	mg/kg-day	7.8E-03
				INORGANIC	Beryllium	7440-41-7	N	9.2E-01	9.2E-01	ug/L	9.1E-08	mg/kg-day				2.0E-07	mg/kg-day	1.4E-05	mg/kg-day	1.5E-02	2.9E-07	mg/kg-day	1.4E-05	mg/kg-day	2.1E-02
				INORGANIC	Chromium (Total)	7440-47-3	Y	2.0E+01	2.0E+01	ug/L	1.5E-05	mg/kg-day	2.0E+01	(mg/kg-day)-1	3.0E-04	1.1E-05	mg/kg-day	7.5E-05	mg/kg-day	1.4E-01	1.5E-05	mg/kg-day	7.5E-05	mg/kg-day	2.1E-01
				INORGANIC	Cobalt	7440-48-4	N	2.1E+00	2.1E+00	ug/L	1.0E-07	mg/kg-day				2.3E-07	mg/kg-day	3.0E-04	mg/kg-day	7.5E-04	3.3E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				INORGANIC	Copper	7440-50-8	N	6.1E+01	6.1E+01	ug/L	7.7E-06	mg/kg-day				1.7E-05	mg/kg-day	4.0E-02	mg/kg-day	4.3E-04	2.5E-05	mg/kg-day	4.0E-02	mg/kg-day	6.2E-04
				INORGANIC	Iron	7439-89-6	N	5.6E+03	5.6E+03	ug/L	6.7E-04	mg/kg-day				1.5E-03	mg/kg-day	7.0E-01	mg/kg-day	2.1E-03	2.2E-03	mg/kg-day	7.0E-01	mg/kg-day	3.1E-03
				INORGANIC	Lead	7439-92-1	N	1.1E+01	1.1E+01	ug/L	3.3E-07	mg/kg-day				7.2E-07	mg/kg-day				1.1E-06	mg/kg-day			
				INORGANIC	Manganese	7439-96-5	N	9.1E+02	9.1E+02	ug/L	1.1E-04	mg/kg-day				2.4E-04	mg/kg-day	1.4E-01	mg/kg-day	1.7E-03	3.6E-04	mg/kg-day	1.4E-01	mg/kg-day	2.6E-03
				INORGANIC	Nickel	7440-02-0	N	2.6E+01	2.6E+01	ug/L	6.4E-07	mg/kg-day				1.4E-06	mg/kg-day	8.0E-04	mg/kg-day	1.8E-03	2.1E-06	mg/kg-day	8.0E-04	mg/kg-day	2.6E-03
				INORGANIC	Sodium	7440-23-5	N	3.8E+04	3.8E+04	ug/L															
				INORGANIC	Vanadium	7440-62-2	N	3.3E+00	3.3E+00	ug/L	3.8E-07	mg/kg-day				8.5E-07	mg/kg-day	1.3E-04	mg/kg-day	6.6E-03	1.3E-06	mg/kg-day	1.3E-04	mg/kg-day	9.6E-03
			Dermal Total												**3.5E-04**					**5.7E-01**					**8.5E-01**
Groundwater	Groundwater	Water Vapors	Inhalation																						
				VOC	1,2-Dichloroethane	107-06-2	N	1.5E-02	1.7E-02	mg/m3	1.5E-04	mg/m3	2.6E-02	(mg/m3)-1	4.0E-06	4.3E-04	mg/m3	7.0E-03	mg/m3	6.2E-02	3.6E-04	mg/m3	7.0E-03	mg/m3	5.2E-02
				VOC	1,2-Dichloropropane	78-87-5	N	1.2E-02	1.3E-02	mg/m3	1.2E-04	mg/m3	3.7E-03	(mg/m3)-1	4.6E-07	3.4E-04	mg/m3	4.0E-03	mg/m3	8.6E-02	2.9E-04	mg/m3	4.0E-03	mg/m3	7.3E-02
				VOC	1,4-Dichlorobenzene	106-46-7	N	1.6E-02	1.7E-02	mg/m3	1.6E-04	mg/m3	1.1E-02	(mg/m3)-1	1.7E-06	4.4E-04	mg/m3	8.0E-01	mg/m3	5.5E-04	3.8E-04	mg/m3	8.0E-01	mg/m3	4.7E-04
				VOC	1,4-Dioxane	123-91-1	N	1.5E+00	1.7E+00	mg/m3	1.5E-02	mg/m3	5.0E-03	(mg/m3)-1	7.7E-05	4.3E-02	mg/m3	3.0E-02	mg/m3	1.4E+00	3.6E-02	mg/m3	3.0E-02	mg/m3	1.2E+00
				VOC	Benzene	71-43-2	N	2.4E-01	2.7E-01	mg/m3	2.4E-03	mg/m3	7.8E-03	(mg/m3)-1	1.9E-05	6.8E-03	mg/m3	3.0E-02	mg/m3	2.3E-01	5.8E-03	mg/m3	3.0E-02	mg/m3	1.9E-01
				VOC	Chloroform	67-66-3	N	2.9E-02	3.2E-02	mg/m3	2.9E-04	mg/m3	2.3E-02	(mg/m3)-1	6.7E-06	8.1E-04	mg/m3	9.8E-02	mg/m3	8.3E-03	6.9E-04	mg/m3	9.8E-02	mg/m3	7.0E-03
				VOC	cis-1,2-Dichloroethylene	156-59-2	N	2.1E-02	2.4E-02	mg/m3	2.2E-04	mg/m3				6.0E-04	mg/m3				5.1E-04	mg/m3			
				VOC	Ethyl Ether	60-29-7	N	3.2E+00	3.5E+00	mg/m3	3.2E-02	mg/m3				8.9E-02	mg/m3				7.6E-02	mg/m3			
				VOC	Tetrachloroethylene (PCE)	127-18-4	N	1.1E-02	1.3E-02	mg/m3	1.1E-04	mg/m3	2.6E-04	(mg/m3)-1	3.0E-08	3.2E-04	mg/m3	4.0E-02	mg/m3	8.0E-03	2.7E-04	mg/m3	4.0E-02	mg/m3	6.7E-03
				VOC	Trichloroethylene (TCE)	79-01-6	Y	1.8E-02	2.0E-02	mg/m3	3.0E-06	mg/m3	4.1E-03	(mg/m3)-1	1.2E-08	5.2E-04	mg/m3	2.0E-03	mg/m3	2.6E-01	4.4E-04	mg/m3	2.0E-03	mg/m3	2.2E-01
				VOC	Vinyl chloride	75-01-4	Y	7.2E-03	8.0E-03	mg/m3	See note	mg/m3	See note	(mg/m3)-1	3.9E-07	2.1E-04	mg/m3	1.0E-01	mg/m3	2.1E-03	1.7E-04	mg/m3	1.0E-01	mg/m3	1.7E-03
			Water Vapor Inhalation Total												**1.1E-04**					**2.1E+00**					**1.8E+00**
Groundwater Total															**1.2E-03**					**4.0E+00**					**4.9E+00**

Notes:
The COPC list is based on exceedances from comparing maximum detected concentrations against the applicable screening levels - see Table 2s'.
The exposure point concentration (EPC) is lower of the 95% UCL or maximum detected concentration. - see Tables 3.1 and 3.2.
The equations for the calculation of cancer risks and noncancer hazard quotients are presented on Table 4.1.
The DAvent values for dermal exposure to groundwater are calculated in Table 4.Supp.3A and B.
The age-adjustments for a resident's cancer risk are calculated in Table 4.Supp.1.
The exposure intakes for MMOA chemicals (i.e., trichloroethene) are adjusted for age are calculated in Tables 4.Supp.2.
The inhalation pathway uses groundwater-derived shower vapors (Ca) as the EPC, which are calculated using the Andelman model modified by Schaum et al, in Table 4.Supp.4A and B.
The risk estimates for chromium total are calculated using hexavalent chromium toxicity values and dermal parameters. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium toxicity and dermal values.
The cancer risk for vinyl chloride is calculated using the toxicity value of 4.4E-06 for continuous lifetime exposure during adulthood and toxicity value of 8.8E-06 for continuous lifetime exposure from birth. See Table 4.1 for the full equation.

Abbreviations:
COPC -- Constituent of potential concern
CSF -- Oral cancer slope factor
EPC -- Exposure point concentration
IUR - Inhalation unit risk
RfC -- Inhalation reference concentration
RfD -- Oral or dermal reference dose
UCL -- Upper confidence limit

TABLE 7.2
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR A RESIDENT TO GROUNDWATER CORE OF THE PLUME
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult and Child

Medium	Exposure Medium	Exposure Point	Exposure Route	COPC Group	COPC	CASRN	Mutagenic	EPC			Cancer Risk Calculations					Non-Cancer Hazard Calculations									
								Adult	Child	Units	Adult and Child Age-Adjusted					Adult					Child				
								Value	Value		Exposure Intake		CSF/Unit Risk		Cancer Risk	Exposure Intake		RfD/RfC		Hazard Quotient	Exposure Intake		RfD/RfC		Hazard Quotient
											Value	Units	Value	Units		Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Tapwater	Ingestion																						
				VOC	1,4-Dioxane	123-91-1	N	1.9E+02	1.9E+02	ug/L	3.0E-03	mg/kg-day	1.0E-01	(mg/kg-day)-1	3.0E-04	5.7E-03	mg/kg-day	3.0E-02	mg/kg-day	1.9E-01	9.6E-03	mg/kg-day	3.0E-02	mg/kg-day	3.2E-01
				VOC	Benzene	71-43-2	N	6.5E+01	6.5E+01	ug/L	1.0E-03	mg/kg-day	5.5E-02	(mg/kg-day)-1	5.6E-05	2.0E-03	mg/kg-day	4.0E-03	mg/kg-day	4.9E-01	3.3E-03	mg/kg-day	4.0E-03	mg/kg-day	8.2E-01
				VOC	Trichloroethylene (TCE)	79-01-6	Y	2.7E+00	2.7E+00	ug/L	6.4E-05	mg/kg-day	4.6E-02	(mg/kg-day)-1	2.9E-06	8.0E-05	mg/kg-day	5.0E-04	mg/kg-day	1.6E-01	1.3E-04	mg/kg-day	5.0E-04	mg/kg-day	2.7E-01
				SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	N	1.0E+01	1.0E+01	ug/L	1.6E-04	mg/kg-day	1.4E-02	(mg/kg-day)-1	2.2E-06	3.0E-04	mg/kg-day	2.0E-02	mg/kg-day	1.5E-02	5.0E-04	mg/kg-day	2.0E-02	mg/kg-day	2.5E-02
				PEST	BHC alpha	319-84-6	N	4.5E-02	4.5E-02	ug/L	7.0E-07	mg/kg-day	6.3E+00	(mg/kg-day)-1	4.4E-06	1.4E-06	mg/kg-day	8.0E-03	mg/kg-day	1.7E-04	2.3E-06	mg/kg-day	8.0E-03	mg/kg-day	2.8E-04
				INORGANIC	Arsenic	7440-38-2	N	4.7E+00	4.7E+00	ug/L	7.2E-05	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.1E-04	1.4E-04	mg/kg-day	3.0E-04	mg/kg-day	4.7E-01	2.3E-04	mg/kg-day	3.0E-04	mg/kg-day	7.8E-01
				INORGANIC	Chromium (Total)	7440-47-3	Y	1.3E+02	1.3E+02	ug/L	7.6E-03	mg/kg-day	5.0E-01	(mg/kg-day)-1	3.8E-03	4.0E-03	mg/kg-day	3.0E-03	mg/kg-day	1.3E+00	6.7E-03	mg/kg-day	3.0E-03	mg/kg-day	2.2E+00
				INORGANIC	Lead	7439-92-1	N	1.4E+02	1.4E+02	ug/L	2.1E-03	mg/kg-day				4.2E-03	mg/kg-day				6.9E-03	mg/kg-day			
			Ingestion Total												**4.3E-03**					**2.7E+00**					**4.4E+00**
Groundwater	Groundwater	Tapwater	Dermal																						
				VOC	1,4-Dioxane	123-91-1	N	1.9E+02	1.9E+02	ug/L	9.1E-06	mg/kg-day	1.0E-01	(mg/kg-day)-1	9.1E-07	2.0E-05	mg/kg-day	3.0E-02	mg/kg-day	6.7E-04	3.0E-05	mg/kg-day	3.0E-02	mg/kg-day	1.0E-03
				VOC	Benzene	71-43-2	N	6.5E+01	6.5E+01	ug/L	1.3E-04	mg/kg-day	5.5E-02	(mg/kg-day)-1	7.3E-06	2.9E-04	mg/kg-day	4.0E-03	mg/kg-day	7.4E-02	4.3E-04	mg/kg-day	4.0E-03	mg/kg-day	1.1E-01
				VOC	Trichloroethylene (TCE)	79-01-6	Y	2.7E+00	2.7E+00	ug/L	8.4E-06	mg/kg-day	4.6E-02	(mg/kg-day)-1	3.9E-07	1.3E-05	mg/kg-day	5.0E-04	mg/kg-day	2.6E-02	1.9E-05	mg/kg-day	5.0E-04	mg/kg-day	3.9E-02
				SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	N	1.0E+01	1.0E+01	ug/L	9.1E-03	mg/kg-day	1.4E-02	(mg/kg-day)-1	1.3E-04	2.0E-02	mg/kg-day	2.0E-02	mg/kg-day	1.0E+00	3.0E-02	mg/kg-day	2.0E-02	mg/kg-day	1.5E+00
				PEST	BHC alpha	319-84-6	N	4.5E-02	4.5E-02	ug/L	4.9E-07	mg/kg-day	6.3E+00	(mg/kg-day)-1	3.1E-06	1.1E-06	mg/kg-day	8.0E-03	mg/kg-day	1.4E-04	1.6E-06	mg/kg-day	8.0E-03	mg/kg-day	2.0E-04
				INORGANIC	Arsenic	7440-38-2	N	4.7E+00	4.7E+00	ug/L	6.3E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	9.4E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	4.6E-03	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	6.8E-03
				INORGANIC	Chromium (Total)	7440-47-3	Y	1.3E+02	1.3E+02	ug/L	1.0E-04	mg/kg-day	2.0E+01	(mg/kg-day)-1	2.0E-03	7.1E-05	mg/kg-day	7.5E-05	mg/kg-day	9.4E-01	1.0E-04	mg/kg-day	7.5E-05	mg/kg-day	1.4E+00
				INORGANIC	Lead	7439-92-1	N	1.4E+02	1.4E+02	ug/L	4.3E-06	mg/kg-day				9.4E-06	mg/kg-day				1.4E-05	mg/kg-day			
			Dermal Total												**2.1E-03**					**2.1E+00**					**3.1E+00**
Groundwater	Groundwater	Water Vapors	Inhalation																						
				VOC	1,4-Dioxane	123-91-1	N	5.9E+00	6.6E+00	mg/m3	6.0E-02	mg/m3	5.0E-03	(mg/m3)-1	3.0E-04	1.7E-01	mg/m3	3.0E-02	mg/m3	5.6E+00	1.4E-01	mg/m3	3.0E-02	mg/m3	4.7E+00
				VOC	Benzene	71-43-2	N	2.0E+00	2.3E+00	mg/m3	2.1E-02	mg/m3	7.8E-03	(mg/m3)-1	1.6E-04	5.7E-02	mg/m3	3.0E-02	mg/m3	1.9E+00	4.9E-02	mg/m3	3.0E-02	mg/m3	1.6E+00
				VOC	Trichloroethylene (TCE)	79-01-6	Y	8.2E-02	9.2E-02	mg/m3	6.2E-05	mg/m3	4.1E-03	(mg/m3)-1	2.5E-07	2.3E-03	mg/m3	2.0E-03	mg/m3	1.2E+00	2.0E-03	mg/m3	2.0E-03	mg/m3	9.9E-01
			Water Vapor Inhalation Total												**4.6E-04**					**8.7E+00**					**7.3E+00**
Groundwater Total															**6.9E-03**					**1.3E+01**					**1.5E+01**

Notes:
The COPC list is based on exceedances from comparing maximum detected concentrations against the applicable screening levels - see Table 2s'.
The exposure point concentration (EPC) is lower of the 95% UCL or maximum detected concentration. - see Tables 3.1 and 3.2.
The equations for the calculation of cancer risks and noncancer hazard quotients are presented on Table 4.1.
The DAvent values for dermal exposure to groundwater are calculated in Table 4.Supp.3A and B.
The age-adjustments for a resident's cancer risk are calculated in Table 4.Supp.1.
The exposure intakes for MMOA chemicals (i.e., trichloroethene) are adjusted for age are calculated in Tables 4.Supp.2.
The inhalation pathway uses groundwater-derived shower vapors (Ca) as the EPC, which are calculated using the Andelman model modified by Schaum et al, in Table 4.Supp.4A and B.
The risk estimates for chromium total are calculated using hexavalent chromium toxicity values and dermal parameters. A sensitivity analysis is performed in the Uncertainty Section by evaluating chromium total using trivalent chromium toxicity and dermal values.
The cancer risk for vinyl chloride is calculated using the toxicity value of 4.4E-06 for continuous lifetime exposure during adulthood and toxicity value of 8.8E-06 for continuous lifetime exposure from birth. See Table 4.1 for the full equation.

Abbreviations:
COPC -- Constituent of potential concern
CSF -- Oral cancer slope factor
EPC -- Exposure point concentration
IUR - Inhalation unit risk
RfC -- Inhalation reference concentration
RfD -- Oral or dermal reference dose
UCL -- Upper confidence limit

TABLE 7.3
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR A RECREATIONAL USER TO SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult and Child

Medium	Exposure Medium	Exposure Point	Exposure Route	COPC Group	COPC	CASRN	Mutagenic	EPC			Cancer Risk Calculations					Non-Cancer Hazard Calculations									
								Adult	Child	Units	Adult and Child Age-Adjusted					Adult					Child				
								Value	Value		Exposure Intake		CSF/Unit Risk		Cancer Risk	Exposure Intake		RfD/RfC		Hazard Quotient	Exposure Intake		RfD/RfC		Hazard Quotient
											Value	Units	Value	Units		Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Surface Water	Surface Water	Ingestion																						
				VOC	1,4-Dioxane	123-91-1	N	1.2E+01	1.2E+01	ug/L	1.9E-06	mg/kg-day	1.0E-01	(mg/kg-day)-1	1.9E-07	1.1E-06	mg/kg-day	3.0E-02	mg/kg-day	3.6E-05	1.5E-05	mg/kg-day	3.0E-02	mg/kg-day	4.9E-04
				VOC	Trichloroethylene (TCE)	79-01-6	Y	4.0E-01	4.0E-01	ug/L	1.2E-07	mg/kg-day	4.6E-02	(mg/kg-day)-1	5.6E-09	3.7E-08	mg/kg-day	5.0E-04	mg/kg-day	7.4E-05	4.9E-07	mg/kg-day	5.0E-04	mg/kg-day	9.9E-04
				INORGANIC	Aluminum	7429-90-5	N	7.4E+02	7.4E+02	ug/L	1.2E-04	mg/kg-day				6.8E-05	mg/kg-day	1.0E+00	mg/kg-day	6.8E-05	9.1E-04	mg/kg-day	1.0E+00	mg/kg-day	9.1E-04
				INORGANIC	Arsenic	7440-38-2	N	2.8E+00	2.8E+00	ug/L	4.5E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	6.7E-07	2.6E-07	mg/kg-day	3.0E-04	mg/kg-day	8.6E-04	3.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1.2E-02
				INORGANIC	Cobalt	7440-48-4	N	3.7E+00	3.7E+00	ug/L	5.9E-07	mg/kg-day				3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1.5E-02
				INORGANIC	Iron	7439-89-6	N	2.3E+03	2.3E+03	ug/L	3.8E-04	mg/kg-day				2.2E-04	mg/kg-day	7.0E-01	mg/kg-day	3.1E-04	2.9E-03	mg/kg-day	7.0E-01	mg/kg-day	4.1E-03
				INORGANIC	Lead	7439-92-1	N	7.1E+00	7.1E+00	ug/L	1.1E-06	mg/kg-day				6.6E-07	mg/kg-day				8.8E-06	mg/kg-day			
				INORGANIC	Manganese	7439-96-5	N	1.4E+02	1.4E+02	ug/L	2.3E-05	mg/kg-day				1.3E-05	mg/kg-day	1.4E-01	mg/kg-day	9.5E-05	1.8E-04	mg/kg-day	1.4E-01	mg/kg-day	1.3E-03
				INORGANIC	Vanadium	7440-62-2	N	9.2E+00	9.2E+00	ug/L	1.5E-06	mg/kg-day				8.5E-07	mg/kg-day	5.0E-03	mg/kg-day	1.7E-04	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2.3E-03
			Ingestion Total												**8.7E-07**					**2.8E-03**					**3.7E-02**
Groundwater	Surface Water	Fish	Ingestion																						
				VOC	1,4-Dioxane	123-91-1	N	1.2E+01	1.2E+01	ug/L	1.5E-07	mg/kg-day	1.0E-01	(mg/kg-day)-1	1.5E-08	2.4E-07	mg/kg-day	3.0E-02	mg/kg-day	8.1E-06	4.3E-07	mg/kg-day	3.0E-02	mg/kg-day	1.4E-05
				VOC	Trichloroethylene (TCE)	79-01-6	Y	4.0E-01	4.0E-01	ug/L	2.4E-07	mg/kg-day	4.6E-02	(mg/kg-day)-1	1.1E-08	2.6E-07	mg/kg-day	5.0E-04	mg/kg-day	5.3E-04	4.7E-07	mg/kg-day	5.0E-04	mg/kg-day	9.4E-04
				INORGANIC	Aluminum	7429-90-5	N	7.4E+02	7.4E+02	ug/L	9.2E-03	mg/kg-day				1.5E-02	mg/kg-day	1.0E+00	mg/kg-day	1.5E-02	2.7E-02	mg/kg-day	1.0E+00	mg/kg-day	2.7E-02
				INORGANIC	Arsenic	7440-38-2	N	2.8E+00	2.8E+00	ug/L	3.1E-06	mg/kg-day	1.5E+00	(mg/kg-day)-1	4.6E-06	5.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.7E-02	9.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.0E-02
				INORGANIC	Cobalt	7440-48-4	N	3.7E+00	3.7E+00	ug/L	2.8E-05	mg/kg-day				4.5E-05	mg/kg-day	3.0E-04	mg/kg-day	1.5E-01	8.1E-05	mg/kg-day	3.0E-04	mg/kg-day	2.7E-01
				INORGANIC	Iron	7439-89-6	N	2.3E+03	2.3E+03	ug/L	1.2E-02	mg/kg-day				1.9E-02	mg/kg-day	7.0E-01	mg/kg-day	2.8E-02	3.4E-02	mg/kg-day	7.0E-01	mg/kg-day	4.9E-02
				INORGANIC	Lead	7439-92-1	N	7.1E+00	7.1E+00	ug/L	5.4E-05	mg/kg-day				8.9E-05	mg/kg-day				1.6E-04	mg/kg-day			
				INORGANIC	Manganese	7439-96-5	N	1.4E+02	1.4E+02	ug/L	1.4E-03	mg/kg-day				2.4E-03	mg/kg-day	1.4E-01	mg/kg-day	1.7E-02	4.2E-03	mg/kg-day	1.4E-01	mg/kg-day	3.0E-02
				INORGANIC	Vanadium	7440-62-2	N	9.2E+00	9.2E+00	ug/L	2.3E-08	mg/kg-day				3.8E-08	mg/kg-day	5.0E-03	mg/kg-day	7.6E-06	6.8E-08	mg/kg-day	5.0E-03	mg/kg-day	1.4E-05
			Fish Ingestion Total												**4.6E-06**					**2.3E-01**					**4.1E-01**
Groundwater	Surface Water	Surface Water	Dermal																						
				VOC	1,4-Dioxane	123-91-1	N	1.2E+01	1.2E+01	ug/L	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day)-1	1.1E-08	2.3E-07	mg/kg-day	3.0E-02	mg/kg-day	7.6E-06	4.7E-07	mg/kg-day	3.0E-02	mg/kg-day	1.6E-05
				VOC	Trichloroethylene (TCE)	79-01-6	Y	4.0E-01	4.0E-01	ug/L	2.2E-07	mg/kg-day	4.6E-02	(mg/kg-day)-1	1.0E-08	3.1E-07	mg/kg-day	5.0E-04	mg/kg-day	6.1E-04	6.3E-07	mg/kg-day	5.0E-04	mg/kg-day	1.3E-03
				INORGANIC	Aluminum	7429-90-5	N	7.4E+02	7.4E+02	ug/L	1.9E-05	mg/kg-day				3.8E-05	mg/kg-day	1.0E+00	mg/kg-day	3.8E-05	7.8E-05	mg/kg-day	1.0E+00	mg/kg-day	7.8E-05
				INORGANIC	Arsenic	7440-38-2	N	2.8E+00	2.8E+00	ug/L	7.8E-08	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.2E-07	1.6E-07	mg/kg-day	3.0E-04	mg/kg-day	5.3E-04	3.2E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				INORGANIC	Cobalt	7440-48-4	N	3.7E+00	3.7E+00	ug/L	4.0E-08	mg/kg-day				8.0E-08	mg/kg-day	3.0E-04	mg/kg-day	2.7E-04	1.6E-07	mg/kg-day	3.0E-04	mg/kg-day	5.5E-04
				INORGANIC	Iron	7439-89-6	N	2.3E+03	2.3E+03	ug/L	6.3E-05	mg/kg-day				1.3E-04	mg/kg-day	7.0E-01	mg/kg-day	1.8E-04	2.6E-04	mg/kg-day	7.0E-01	mg/kg-day	3.7E-04
				INORGANIC	Lead	7439-92-1	N	7.1E+00	7.1E+00	ug/L	3.5E-08	mg/kg-day				7.0E-08	mg/kg-day				1.4E-07	mg/kg-day			
				INORGANIC	Manganese	7439-96-5	N	1.4E+02	1.4E+02	ug/L	3.8E-06	mg/kg-day				7.8E-06	mg/kg-day	1.4E-01	mg/kg-day	5.6E-05	1.6E-05	mg/kg-day	1.4E-01	mg/kg-day	1.1E-04
				INORGANIC	Vanadium	7440-62-2	N	9.2E+00	9.2E+00	ug/L	2.4E-07	mg/kg-day				4.9E-07	mg/kg-day	1.3E-04	mg/kg-day	3.8E-03	1.0E-06	mg/kg-day	1.3E-04	mg/kg-day	7.8E-03
			Dermal Total												**1.4E-07**					**5.5E-03**					**1.1E-02**
Surface Water Total															**5.7E-06**					**2.4E-01**					**4.6E-01**

Notes:
The COPC list is based on exceedances from comparing maximum detected concentrations against the applicable screening levels - see Tables 2.2 and 2.3.
The exposure point concentration (EPC) is lower of the 95% UCL or maximum detected concentration - See Tables 3.3 and 3.4.
The equations for the calculation of cancer risks and noncancer hazard quotients are presented on Table 4.2.
Cumulative risk estimates that are greater than or equal to the acceptable cancer limit of 1E-06 and noncancer limit of 1 are shaded and bold.
The DA-event values for dermal exposure to surface water are calculated in Table 4.Supp.3C and D.
The bioconcentration factors modeling chemical concentrations in surface water to fish are presented in Table 4.Supp.5.

Abbreviations:
BCF -- Bioconcentration factor from surface water to fish.
COPC -- Constituent of potential concern
CSF -- Oral cancer slope factor
EPC -- Exposure point concentration
IUR - Inhalation unit risk
RfC -- Inhalation reference concentration
RfD -- Oral or dermal reference dose
UCL -- Upper confidence limit

TABLE 7.4
CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS FOR A RECREATIONAL USER TO SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult and Child

Medium	Exposure Medium	Exposure Point	Exposure Route	COPC Group	COPC	CASRN	Mutagenic	EPC			Cancer Risk Calculations					Non-Cancer Hazard Calculations									
								Adult	Child	Units	Adult and Child Age-Adjusted					Adult					Child				
								Value	Value		Exposure Intake		CSF/Unit Risk		Cancer Risk	Exposure Intake		RfD/RfC		Hazard Quotient	Exposure Intake		RfD/RfC		Hazard Quotient
											Value	Units	Value	Units		Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Surface Water	Surface Water	Ingestion																						
				VOC	1,4-Dioxane	123-91-1	N	4.8E+01	4.8E+01	ug/L	7.6E-06	mg/kg-day	1.0E-01	(mg/kg-day)-1	7.6E-07	4.4E-06	mg/kg-day	3.0E-02	mg/kg-day	1.5E-04	5.9E-05	mg/kg-day	3.0E-02	mg/kg-day	2.0E-03
				PEST	Chlordane, alpha	5103-71-9	N	4.8E-03	4.8E-03	ug/L	7.7E-10	mg/kg-day	3.5E-01	(mg/kg-day)-1	2.7E-10	4.4E-10	mg/kg-day	5.0E-04	mg/kg-day	8.9E-07	5.9E-09	mg/kg-day	5.0E-04	mg/kg-day	1.2E-05
				INORGANIC	Arsenic	7440-38-2	N	3.6E+00	3.6E+00	ug/L	5.8E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	8.7E-07	3.3E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03	4.4E-06	mg/kg-day	3.0E-04	mg/kg-day	1.5E-02
				INORGANIC	Manganese	7439-96-5	N	4.7E+01	4.7E+01	ug/L	7.5E-06	mg/kg-day				4.3E-06	mg/kg-day	1.4E-01	mg/kg-day	3.1E-05	5.8E-05	mg/kg-day	1.4E-01	mg/kg-day	4.1E-04
			Ingestion Total												**1.6E-06**					**1.3E-03**					**1.7E-02**
Groundwater	Surface Water	Fish	Ingestion																						
				VOC	1,4-Dioxane	123-91-1	N	4.8E+01	4.8E+01	ug/L	6.0E-07	mg/kg-day	1.0E-01	(mg/kg-day)-1	6.0E-08	9.8E-07	mg/kg-day	3.0E-02	mg/kg-day	3.3E-05	1.8E-06	mg/kg-day	3.0E-02	mg/kg-day	5.8E-05
				PEST	Chlordane, alpha	5103-71-9	N	4.8E-03	4.8E-03	ug/L	1.7E-06	mg/kg-day	3.5E-01	(mg/kg-day)-1	5.9E-07	2.8E-06	mg/kg-day	5.0E-04	mg/kg-day	5.6E-03	5.0E-06	mg/kg-day	5.0E-04	mg/kg-day	9.9E-03
				INORGANIC	Arsenic	7440-38-2	N	3.6E+00	3.6E+00	ug/L	4.0E-06	mg/kg-day	1.5E+00	(mg/kg-day)-1	5.9E-06	6.5E-06	mg/kg-day	3.0E-04	mg/kg-day	2.2E-02	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	3.9E-02
				INORGANIC	Manganese	7439-96-5	N	4.7E+01	4.7E+01	ug/L	4.7E-04	mg/kg-day				7.7E-04	mg/kg-day	1.4E-01	mg/kg-day	5.5E-03	1.4E-03	mg/kg-day	1.4E-01	mg/kg-day	9.8E-03
			Fish Ingestion Total												**6.6E-06**					**3.3E-02**					**5.9E-02**
Groundwater	Surface Water	Surface Water	Dermal																						
				VOC	1,4-Dioxane	123-91-1	N	4.8E+01	4.8E+01	ug/L	4.5E-07	mg/kg-day	1.0E-01	(mg/kg-day)-1	4.5E-08	9.2E-07	mg/kg-day	3.0E-02	mg/kg-day	3.1E-05	1.9E-06	mg/kg-day	3.0E-02	mg/kg-day	6.3E-05
				PEST	Chlordane, alpha	5103-71-9	N	4.8E-03	4.8E-03	ug/L	6.4E-08	mg/kg-day	3.5E-01	(mg/kg-day)-1	2.3E-08	1.3E-07	mg/kg-day	5.0E-04	mg/kg-day	2.6E-04	2.7E-07	mg/kg-day	5.0E-04	mg/kg-day	5.4E-04
				INORGANIC	Arsenic	7440-38-2	N	3.6E+00	3.6E+00	ug/L	1.0E-07	mg/kg-day	1.5E+00	(mg/kg-day)-1	1.5E-07	2.0E-07	mg/kg-day	3.0E-04	mg/kg-day	6.8E-04	4.2E-07	mg/kg-day	3.0E-04	mg/kg-day	1.4E-03
				INORGANIC	Manganese	7439-96-5	N	4.7E+01	4.7E+01	ug/L	1.2E-06	mg/kg-day				2.5E-06	mg/kg-day	1.4E-01	mg/kg-day	1.8E-05	5.2E-06	mg/kg-day	1.4E-01	mg/kg-day	3.7E-05
			Dermal Total												**2.2E-07**					**9.9E-04**					**2.0E-03**
Surface Water Total															**8.4E-06**					**3.5E-02**					**7.8E-02**

Notes:
The COPC list is based on exceedances from comparing maximum detected concentrations against the applicable screening levels - see Tables 2.2 and 2.3.
The exposure point concentration (EPC) is lower of the 95% UCL or maximum detected concentration - See Tables 3.3 and 3.4.
The equations for the calculation of cancer risks and noncancer hazard quotients are presented on Table 4.2.
Cumulative risk estimates that are greater than or equal to the acceptable cancer limit of 1E-06 and noncancer limit of 1 are shaded and bold.
The DA-event values for dermal exposure to surface water are calculated in Table 4.Supp.3C and D.
The bioconcentration factors modeling chemical concentrations in surface water to fish are presented in Table 4.Supp.5.

Abbreviations:
BCF -- Bioconcentration factor from surface water to fish.
COPC -- Constituent of potential concern
CSF -- Oral cancer slope factor
EPC -- Exposure point concentration
IUR - Inhalation unit risk
RfC -- Inhalation reference concentration
RfD -- Oral or dermal reference dose
UCL -- Upper confidence limit

TABLE 9.1
SUMMARY OF COPC CANCER RISKS AND NONCANCER HAZARDS FOR A RESIDENT TO SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult and Child (0-6 yrs)

Medium	Exposure Medium	Exposure Point	COPC Group		CASRN	Cancer Risk Summary				Non-Cancer Hazard Summary											
										Adult						Child					
						Ingestion	Dermal	Inhalation	Exposure RoutesTotal	Target Organ (Ing/Dermal)	Ingestion	Dermal	Target Organ (Inhalation)	Inhalation	Exposure Routes Total	Target Organ (Ing/Dermal)	Ingestion	Dermal	Target Organ (Inhalation)	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tapwater																			
			VOC	1,2-Dichloroethane	107-06-2	6.9E-07	2.9E-08	4.0E-06	4.7E-06	Renal	2.5E-03	1.2E-04	Nervous	6.2E-02	6.4E-02	Renal	4.1E-03	1.7E-04	Nervous	5.2E-02	5.6E-02
			VOC	1,2-Dichloropropane	78-87-5	2.2E-07	1.8E-08	4.6E-07	7.0E-07	Muscoskeletal	2.9E-04	2.7E-05	Respiratory	8.6E-02	8.6E-02	Muscoskeletal	4.9E-04	4.1E-05	Respiratory	7.3E-02	7.3E-02
			VOC	1,4-Dichlorobenzene	106-46-7	4.2E-08	2.6E-08	1.7E-06	1.8E-06	Hepatic	2.2E-04	1.5E-04	Hepatic	5.5E-04	9.2E-04	Hepatic	3.6E-04	2.3E-04	Hepatic	4.7E-04	1.1E-03
			VOC	1,4-Dioxane	123-91-1	7.6E-05	2.3E-07	7.7E-05	1.5E-04	Hepatic, Renal	4.9E-02	1.7E-04	Nervous, Respiratory	1.4E+00	1.5E+00	Hepatic, Renal	8.2E-02	2.6E-04	Nervous, Respiratory	1.2E+00	1.3E+00
			VOC	Benzene	71-43-2	6.6E-06	8.7E-07	1.9E-05	2.6E-05	Lymphatic	5.8E-02	8.7E-03	Lymphatic	2.3E-01	2.9E-01	Lymphatic	9.7E-02	1.3E-02	Lymphatic	1.9E-01	3.0E-01
			VOC	Chloroform	67-66-3	4.4E-07	3.4E-08	6.7E-06	7.2E-06	Hepatic	2.8E-03	2.4E-04	Hepatic	8.3E-03	1.1E-02	Hepatic	4.6E-03	3.7E-04	Hepatic	7.0E-03	1.2E-02
			VOC	cis-1,2-Dichloroethylene	156-59-2					Renal	1.0E-02	1.3E-03	N/A		1.2E-02	Renal	1.7E-02	1.9E-03	N/A		1.9E-02
			VOC	Ethyl Ether	60-29-7					No specific target organ system	1.5E-02	3.5E-04	N/A		1.6E-02	No specific target organ system	2.5E-02	5.2E-04	N/A		2.6E-02
			VOC	Tetrachloroethylene (PCE)	127-18-4	1.2E-08	6.0E-09	3.0E-08	4.8E-08	Nervous	1.8E-03	1.1E-03	Nervous	8.0E-03	1.1E-02	Nervous	3.0E-03	1.6E-03	Nervous	6.7E-03	1.1E-02
			VOC	Trichloroethylene (TCE)	79-01-6	6.5E-07	8.6E-08	1.2E-08	7.5E-07	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	3.5E-02	5.7E-03	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	2.6E-01	3.0E-01	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	5.9E-02	8.6E-03	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	2.2E-01	2.9E-01
			VOC	**Vinyl chloride**	75-01-4	1.1E-05	7.7E-07	3.9E-07	1.3E-05	Hepatic	2.3E-03	1.8E-04	Hepatic	2.1E-03	4.6E-03	Hepatic	3.9E-03	2.6E-04	Hepatic	1.7E-03	5.9E-03
			SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	8.2E-07	4.8E-05		4.9E-05	Hepatic	5.7E-03	3.8E-01	N/A		3.8E-01	Hepatic	9.5E-03	5.7E-01	N/A		5.8E-01
			SVOC	Caprolactam	105-60-2					Reproductive	3.8E-03	4.6E-05	N/A		3.8E-03	Reproductive	6.3E-03	7.0E-05	N/A		6.3E-03
			PEST	BHC alpha	319-84-6	8.2E-07	5.8E-07		1.4E-06	Hepatic	3.2E-05	2.5E-05	N/A		5.7E-05	Hepatic	5.3E-05	3.8E-05	N/A		9.1E-05
			PEST	Endrin Aldehyde	7421-93-4					N/A			N/A			N/A			N/A		
			INORGANIC	Aluminum	7429-90-5					Nervous	5.6E-02	4.5E-04	N/A		5.7E-02	Nervous	9.4E-02	6.4E-04	N/A		9.4E-02
			INORGANIC	Arsenic	7440-38-2	3.4E-05	3.0E-07		3.5E-05	Cardiovascular, Integumentary	1.5E-01	1.5E-03	N/A		1.5E-01	Cardiovascular, Integumentary	2.5E-01	2.2E-03	N/A		2.5E-01
			INORGANIC	Barium	7440-39-3					Renal	2.5E-02	5.2E-03	N/A		3.0E-02	Renal	4.2E-02	7.8E-03	N/A		5.0E-02
			INORGANIC	Beryllium	7440-41-7					Digestive	1.4E-02	1.5E-02	N/A		2.8E-02	Digestive	2.3E-02	2.1E-02	N/A		4.4E-02
			INORGANIC	Chromium (Total)	7440-47-3	5.7E-04	3.0E-04		8.7E-04	No specific target organ system	2.0E-01	1.4E-01	N/A		3.4E-01	No specific target organ system	3.3E-01	2.1E-01	N/A		5.4E-01
			INORGANIC	Cobalt	7440-48-4					Endocrine	2.1E-01	7.5E-04	N/A		2.1E-01	Endocrine	3.4E-01	1.1E-03	N/A		3.5E-01
			INORGANIC	Copper	7440-50-8					Digestive	4.6E-02	4.3E-04	N/A		4.6E-02	Digestive	7.6E-02	6.2E-04	N/A		7.7E-02
			INORGANIC	Iron	7439-89-6					Digestive	2.4E-01	2.1E-03	N/A		2.4E-01	Digestive	4.0E-01	3.1E-03	N/A		4.0E-01
			INORGANIC	Lead	7439-92-1					N/A			N/A			N/A			N/A		
			INORGANIC	Manganese	7439-96-5					Nervous	2.0E-01	1.7E-03	N/A		2.0E-01	Nervous	3.3E-01	2.6E-03	N/A		3.3E-01
			INORGANIC	Nickel	7440-02-0					No specific target organ system	3.9E-02	1.8E-03	N/A		4.1E-02	No specific target organ system	6.5E-02	2.6E-03	N/A		6.7E-02
			INORGANIC	Sodium	7440-23-5					N/A			N/A			N/A			N/A		
			INORGANIC	Vanadium	7440-62-2					Integumentary	1.9E-02	6.6E-03	N/A		2.6E-02	Integumentary	3.2E-02	9.6E-03	N/A		4.2E-02
Groundwater Total									**1.2E-03**						**4.0E+00**						**4.9E+00**
Receptor Total					**Receptor Risk Total:**				**1.2E-03**					**Adult Receptor Hazard Total:**	**4.0E+00**					**Child Receptor Hazard Total:**	**4.9E+00**

Abbreviation:
COPC -- Constituent of potential concern

Total **Cardiovascular** HI across media =	**1.5E-01**
Total **Developmental** HI across media =	**3.0E-01**
Total **Digestive** HI across media =	**3.1E-01**
Total **Endocrine** HI across media =	**2.1E-01**
Total **Hepatic** HI across media =	**7.5E-01**
Total **Integumentary** HI across media =	**1.8E-01**
Total **Lymphatic** HI across media =	**5.9E-01**
Total **Muscoskeletal** HI across media =	**3.2E-04**
Total **Nervous** HI across media =	**2.1E+00**
Total **Renal** HI across media =	**3.9E-01**
Total **Reproductive** HI across media =	**3.0E-01**
Total **Respiratory** HI across media =	**1.5E+00**
Total **No Specified Target Organ/System** HI across media =	**4.0E-01**

Total **Cardiovascular** HI across media =	**2.5E-01**
Total **Developmental** HI across media =	**2.9E-01**
Total **Digestive** HI across media =	**5.2E-01**
Total **Endocrine** HI across media =	**3.5E-01**
Total **Hepatic** HI across media =	**9.7E-01**
Total **Integumentary** HI across media =	**2.9E-01**
Total **Lymphatic** HI across media =	**5.9E-01**
Total **Muscoskeletal** HI across media =	**5.3E-04**
Total **Nervous** HI across media =	**2.0E+00**
Total **Renal** HI across media =	**4.4E-01**
Total **Reproductive** HI across media =	**2.9E-01**
Total **Respiratory** HI across media =	**1.3E+00**
Total **No Specified Target Organ/System** HI across media =	**6.3E-01**

TABLE 9.2
SUMMARY OF COPC CANCER RISKS AND NONCANCER HAZARDS FOR A RESIDENT TO GROUNDWATER CORE OF THE PLUME
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult and Child (0-6 yrs)

Medium	Exposure Medium	Exposure Point	COPC Group	COPC	CASRN	Cancer Risk Summary				Non-Cancer Hazard Summary											
										Adult						Child					
						Ingestion	Dermal	Inhalation	Exposure RoutesTotal	Target Organ (Ing/Dermal)	Ingestion	Dermal	Target Organ (Inhalation)	Inhalation	Exposure Routes Total	Target Organ (Ing/Dermal)	Ingestion	Dermal	Target Organ (Inhalation)	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tapwater																			
			VOC	1,4-Dioxane	123-91-1	3.0E-04	9.1E-07	3.0E-04	6.0E-04	Hepatic, Renal	1.9E-01	6.7E-04	Nervous, Respiratory	5.6E+00	5.8E+00	Hepatic, Renal	3.2E-01	1.0E-03	Nervous, Respiratory	4.7E+00	5.1E+00
			VOC	Benzene	71-43-2	5.6E-05	7.3E-06	1.6E-04	2.2E-04	Lymphatic	4.9E-01	7.4E-02	Lymphatic	1.9E+00	2.5E+00	Lymphatic	8.2E-01	1.1E-01	Lymphatic	1.6E+00	2.5E+00
			VOC	Trichloroethylene (TCE)	79-01-6	2.9E-06	3.9E-07	2.5E-07	3.6E-06	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	1.6E-01	2.6E-02	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	1.2E+00	1.4E+00	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	2.7E-01	3.9E-02	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	9.9E-01	1.3E+00
			SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	2.2E-06	1.3E-04		1.3E-04	Hepatic	1.5E-02	1.0E+00	N/A		1.0E+00	Hepatic	2.5E-02	1.5E+00	N/A		1.5E+00
			PEST	BHC alpha	319-84-6	4.4E-06	3.1E-06		7.5E-06	Hepatic	1.7E-04	1.4E-04	N/A		3.1E-04	Hepatic	2.8E-04	2.0E-04	N/A		4.9E-04
			INORGANIC	Arsenic	7440-38-2	1.1E-04	9.4E-07		1.1E-04	Cardiovascular, Integumentary	4.7E-01	4.6E-03	N/A		4.7E-01	Cardiovascular, Integumentary	7.8E-01	6.8E-03	N/A		7.8E-01
			INORGANIC	Chromium (Total)	7440-47-3	3.8E-03	2.0E-03		5.8E-03	No specific target organ system	1.3E+00	9.4E-01	N/A		2.3E+00	No specific target organ system	2.2E+00	1.4E+00	N/A		3.6E+00
			INORGANIC	Lead	7439-92-1					N/A			N/A			N/A			N/A		
Groundwater Total									**6.9E-03**						**1.3E+01**						**1.5E+01**
Receptor Total								**Receptor Risk Total:**	**6.9E-03**					**Adult Receptor Hazard Total:**	**1.3E+01**					**Child Receptor Hazard Total:**	**1.5E+01**

Abbreviation:
COPC -- Constituent of potential concern

Total **Cardiovascular** HI across media =	**4.7E-01**
Total **Developmental** HI across media =	**1.4E+00**
Total **Digestive** HI across media =	**N/A**
Total **Endocrine** HI across media =	**N/A**
Total **Hepatic** HI across media =	**2.6E+00**
Total **Integumentary** HI across media =	**4.7E-01**
Total **Lymphatic** HI across media =	**3.8E+00**
Total **Muscoskeletal** HI across media =	**N/A**
Total **Nervous** HI across media =	**7.0E+00**
Total **Renal** HI across media =	**1.5E+00**
Total **Reproductive** HI across media =	**1.4E+00**
Total **Respiratory** HI across media =	**5.6E+00**
Total **No Specified Target Organ/System** HI across media =	**2.3E+00**

Total **Cardiovascular** HI across media =	**7.8E-01**
Total **Developmental** HI across media =	**1.3E+00**
Total **Digestive** HI across media =	**N/A**
Total **Endocrine** HI across media =	**N/A**
Total **Hepatic** HI across media =	**3.2E+00**
Total **Integumentary** HI across media =	**7.8E-01**
Total **Lymphatic** HI across media =	**3.8E+00**
Total **Muscoskeletal** HI across media =	**N/A**
Total **Nervous** HI across media =	**6.0E+00**
Total **Renal** HI across media =	**1.6E+00**
Total **Reproductive** HI across media =	**1.3E+00**
Total **Respiratory** HI across media =	**4.7E+00**
Total **No Specified Target Organ/System** HI across media =	**3.6E+00**

TABLE 9.3
SUMMARY OF COPC CANCER RISKS AND NONCANCER HAZARDS FOR A RECREATOR TO SURFACE WATER FROM TROUT BROOK, LAMINGTON RIVER UNT & TANNERS BROOK UNT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Receptor Population: Recreator
Receptor Age: Adult and Child (0-6 yrs)

Medium	Exposure Medium	Exposure Point	COPC Group	COPC	CASRN	Cancer Risk Summary				Non-Cancer Hazard Summary									
										Adult					Child				
						Ingestion	Fish Ingestion	Dermal	Exposure RoutesTotal	Target Organ (Ing/Dermal)	Ingestion	Fish Ingestion	Dermal	Exposure Routes Total	Target Organ (Ing/Dermal)	Ingestion	Fish Ingestion	Dermal	Exposure Routes Total
Surface Water	Surface Water	Surface Water																	
			VOC	1,4-Dioxane	123-91-1	1.9E-07	1.5E-08	1.1E-08	2.2E-07	Hepatic, Renal	3.6E-05	8.1E-06	7.6E-06	5.2E-05	Hepatic, Renal	4.9E-04	1.4E-05	1.6E-05	5.2E-04
			VOC	Trichloroethylene (TCE)	79-01-6	5.6E-09	1.1E-08	1.0E-08	2.7E-08	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	7.4E-05	5.3E-04	6.1E-04	1.2E-03	Developmental, Hepatic, Renal, Nervous, Lymphatic, Reproductive	9.9E-04	9.4E-04	1.3E-03	3.2E-03
			INORGANIC	Aluminum	7429-90-5					Nervous	6.8E-05	1.5E-02	3.8E-05	1.5E-02	Nervous	9.1E-04	2.7E-02	7.8E-05	2.8E-02
			INORGANIC	Arsenic	7440-38-2	6.7E-07	4.6E-06	1.2E-07	5.4E-06	Cardiovascular, Integumentary	8.6E-04	1.7E-02	5.3E-04	1.8E-02	Cardiovascular, Integumentary	1.2E-02	3.0E-02	1.1E-03	4.3E-02
			INORGANIC	Cobalt	7440-48-4					Endocrine	1.1E-03	1.5E-01	2.7E-04	1.5E-01	Endocrine	1.5E-02	2.7E-01	5.5E-04	2.9E-01
			INORGANIC	Iron	7439-89-6					Digestive	3.1E-04	2.8E-02	1.8E-04	2.8E-02	Digestive	4.1E-03	4.9E-02	3.7E-04	5.4E-02
			INORGANIC	Lead	7439-92-1					N/A					N/A				
			INORGANIC	Manganese	7439-96-5					Nervous	9.5E-05	1.7E-02	5.6E-05	1.7E-02	Nervous	1.3E-03	3.0E-02	1.1E-04	3.2E-02
			INORGANIC	Vanadium	7440-62-2					Integumentary	1.7E-04	7.6E-06	3.8E-03	4.0E-03	Integumentary	2.3E-03	1.4E-05	7.8E-03	1.0E-02
Surface Water Total									**5.7E-06**					**2.4E-01**					**4.6E-01**
Receptor Total								**Receptor Risk Total:**	**5.7E-06**					**2.4E-01**					**4.6E-01**

Total **Cardiovascular** HI across media =	**1.4E-03**	Total **Cardiovascular** HI across media =	**1.3E-02**
Total **Developmental** HI across media =	**6.9E-04**	Total **Developmental** HI across media =	**2.2E-03**
Total **Digestive** HI across media =	**4.9E-04**	Total **Digestive** HI across media =	**4.5E-03**
Total **Endocrine** HI across media =	**1.4E-03**	Total **Endocrine** HI across media =	**1.6E-02**
Total **Hepatic** HI across media =	**7.3E-04**	Total **Hepatic** HI across media =	**2.7E-03**
Total **Integumentary** HI across media =	**5.4E-03**	Total **Integumentary** HI across media =	**2.3E-02**
Total **Lymphatic** HI across media =	**6.9E-04**	Total **Lymphatic** HI across media =	**2.2E-03**
Total **Muscoskeletal** HI across media =	**N/A**	Total **Muscoskeletal** HI across media =	**N/A**
Total **Nervous** HI across media =	**9.4E-04**	Total **Nervous** HI across media =	**4.6E-03**
Total **Renal** HI across media =	**7.3E-04**	Total **Renal** HI across media =	**2.7E-03**
Total **Reproductive** HI across media =	**6.9E-04**	Total **Reproductive** HI across media =	**2.2E-03**
Total **Respiratory** HI across media =	**N/A**	Total **Respiratory** HI across media =	**N/A**
Total **No Specified Target Organ/System** HI across media =	**N/A**	Total **No Specified Target Organ/System** HI across media =	**N/A**

TABLE 9.4
SUMMARY OF COPC CANCER RISKS AND NONCANCER HAZARDS FOR A RECREATOR TO SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Scenario Timeframe: Current/Future
Receptor Population: Recreator
Receptor Age: Adult and Child (0-6 yrs)

Medium	Exposure Medium	Exposure Point	COPC Group	COPC	CASRN	Cancer Risk Summary				Non-Cancer Hazard Summary									
										Adult					Child				
						Ingestion	Fish Ingestion	Dermal	Exposure RoutesTotal	Target Organ (Ing/Dermal)	Ingestion	Fish Ingestion	Dermal	Exposure Routes Total	Target Organ (Ing/Dermal)	Ingestion	Fish Ingestion	Dermal	Exposure Routes Total
Surface Water	Surface Water	Surface Water																	
			VOC	1,4-Dioxane	123-91-1	7.6E-07	6.0E-08	4.5E-08	8.7E-07	Hepatic, Renal	1.5E-04	3.3E-05	3.1E-05	2.1E-04	Hepatic, Renal	2.0E-03	5.8E-05	6.3E-05	2.1E-03
			PEST	Chlordane, alpha	5103-71-9	2.7E-10	5.9E-07	2.3E-08	6.1E-07	Hepatic	8.9E-07	5.6E-03	2.6E-04	5.9E-03	Hepatic	1.2E-05	9.9E-03	5.4E-04	1.0E-02
			INORGANIC	Arsenic	7440-38-2	8.7E-07	5.9E-06	1.5E-07	7.0E-06	Cardiovascular, Integumentary	1.1E-03	2.2E-02	6.8E-04	2.4E-02	Cardiovascular, Integumentary	1.5E-02	3.9E-02	1.4E-03	5.5E-02
			INORGANIC	Manganese	7439-96-5					Nervous	3.1E-05	5.5E-03	1.8E-05	5.6E-03	Nervous	4.1E-04	9.8E-03	3.7E-05	1.0E-02
Surface Water Total									**8.4E-06**					**3.5E-02**					**7.8E-02**
Receptor Total								**Receptor Risk Total:**	**8.4E-06**					**3.5E-02**					**7.8E-02**

Total **Cardiovascular** HI across media =	**1.8E-03**	Total **Cardiovascular** HI across media =	**1.6E-02**
Total **Developmental** HI across media =	**N/A**	Total **Developmental** HI across media =	**N/A**
Total **Digestive** HI across media =	**N/A**	Total **Digestive** HI across media =	**N/A**
Total **Endocrine** HI across media =	**N/A**	Total **Endocrine** HI across media =	**N/A**
Total **Hepatic** HI across media =	**4.4E-04**	Total **Hepatic** HI across media =	**2.6E-03**
Total **Integumentary** HI across media =	**1.8E-03**	Total **Integumentary** HI across media =	**1.6E-02**
Total **Lymphatic** HI across media =	**N/A**	Total **Lymphatic** HI across media =	**N/A**
Total **Muscoskeletal** HI across media =	**N/A**	Total **Muscoskeletal** HI across media =	**N/A**
Total **Nervous** HI across media =	**4.9E-05**	Total **Nervous** HI across media =	**4.5E-04**
Total **Renal** HI across media =	**1.8E-04**	Total **Renal** HI across media =	**2.0E-03**
Total **Reproductive** HI across media =	**N/A**	Total **Reproductive** HI across media =	**N/A**
Total **Respiratory** HI across media =	**N/A**	Total **Respiratory** HI across media =	**N/A**
Total **No Specified Target Organ/System** HI across media =	**N/A**	Total **No Specified Target Organ/System** HI across media =	**N/A**

Attachment B

Contents:

Table B.1 ProUCL 5.1 Raw Output for Site-wide Groundwater

Table B.2 ProUCL 5.1 Raw Output for Surface Water

Table B.3 ProUCL 5.1 Raw Output for Surface Water Downstream of the Leachate Treatment Plant

Table B.4 ProUCL 5.1 Raw Input for All Media

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.11/17/2018 1:37:39 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

result (wg_1,2-dichloroethane_107-06-2)

General Statistics

Total Number of Observations	116	Number of Distinct Observations	40
Number of Detects	48	Number of Non-Detects	68
Number of Distinct Detects	40	Number of Distinct Non-Detects	1
Minimum Detect	0.18	Minimum Non-Detect	0.5
Maximum Detect	3.8	Maximum Non-Detect	0.5
Variance Detects	0.803	Percent Non-Detects	58.62%
Mean Detects	0.835	SD Detects	0.896
Median Detects	0.44	CV Detects	1.073
Skewness Detects	2.02	Kurtosis Detects	3.226
Mean of Logged Detects	-0.569	SD of Logged Detects	0.824

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.681	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.947	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.258	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.127	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.539	KM Standard Error of Mean	0.0599
KM SD	0.626	95% KM (BCA) UCL	0.648
95% KM (t) UCL	0.638	95% KM (Percentile Bootstrap) UCL	0.64
95% KM (z) UCL	0.637	95% KM Bootstrap t UCL	0.675
90% KM Chebyshev UCL	0.719	95% KM Chebyshev UCL	0.8
97.5% KM Chebyshev UCL	0.913	99% KM Chebyshev UCL	1.135

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.774	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.769	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.205	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.13	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.431	k star (bias corrected MLE)	1.355
Theta hat (MLE)	0.584	Theta star (bias corrected MLE)	0.616
nu hat (MLE)	137.4	nu star (bias corrected)	130.1
Mean (detects)	0.835		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.515
Maximum	3.8	Median	0.345
SD	0.672	CV	1.305
k hat (MLE)	0.685	k star (bias corrected MLE)	0.673
Theta hat (MLE)	0.751	Theta star (bias corrected MLE)	0.765
nu hat (MLE)	159	nu star (bias corrected)	156.2
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (156.23, α)	128.3	Adjusted Chi Square Value (156.23, β)	128
95% Gamma Approximate UCL (use when n>=50)	0.627	95% Gamma Adjusted UCL (use when n<50)	0.628

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.539	SD (KM)	0.626
Variance (KM)	0.392	SE of Mean (KM)	0.0599
k hat (KM)	0.741	k star (KM)	0.727
nu hat (KM)	171.8	nu star (KM)	168.7
theta hat (KM)	0.727	theta star (KM)	0.741
80% gamma percentile (KM)	0.885	90% gamma percentile (KM)	1.34
95% gamma percentile (KM)	1.809	99% gamma percentile (KM)	2.924

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (168.73, α)	139.7	Adjusted Chi Square Value (168.73, β)	139.4
95% Gamma Approximate KM-UCL (use when n>=50)	0.651	95% Gamma Adjusted KM-UCL (use when n<50)	0.652

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.906	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.947	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.155	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.127	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.563	Mean in Log Scale	-0.895
SD in Original Scale	0.632	SD in Log Scale	0.724

95% t UCL (assumes normality of ROS data)	0.66	95% Percentile Bootstrap UCL	0.66
95% BCA Bootstrap UCL	0.679	95% Bootstrap t UCL	0.687
95% H-UCL (Log ROS)	0.608		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.909	KM Geo Mean	0.403
KM SD (logged)	0.638	95% Critical H Value (KM-Log)	1.924
KM Standard Error of Mean (logged)	0.0715	95% H-UCL (KM -Log)	0.554
KM SD (logged)	0.638	95% Critical H Value (KM-Log)	1.924
KM Standard Error of Mean (logged)	0.0715		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.492	Mean in Log Scale	-1.048
SD in Original Scale	0.642	SD in Log Scale	0.664
95% t UCL (Assumes normality)	0.591	95% H-Stat UCL	0.493

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	0.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_1,4-dichlorobenzene_106-46-7)

General Statistics

Total Number of Observations	106	Number of Distinct Observations	30
Number of Detects	39	Number of Non-Detects	67
Number of Distinct Detects	29	Number of Distinct Non-Detects	1
Minimum Detect	0.095	Minimum Non-Detect	0.5
Maximum Detect	2.6	Maximum Non-Detect	0.5
Variance Detects	0.391	Percent Non-Detects	63.21%
Mean Detects	0.807	SD Detects	0.625
Median Detects	0.67	CV Detects	0.775
Skewness Detects	0.889	Kurtosis Detects	0.379
Mean of Logged Detects	-0.584	SD of Logged Detects	0.951

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.903	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.939	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.141	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.14	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.459	KM Standard Error of Mean	0.0519
KM SD	0.471	95% KM (BCA) UCL	0.551
95% KM (t) UCL	0.545	95% KM (Percentile Bootstrap) UCL	0.547
95% KM (z) UCL	0.544	95% KM Bootstrap t UCL	0.549
90% KM Chebyshev UCL	0.615	95% KM Chebyshev UCL	0.685
97.5% KM Chebyshev UCL	0.783	99% KM Chebyshev UCL	0.976

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.596	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.766	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.118	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.144	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.5	k star (bias corrected MLE)	1.402
Theta hat (MLE)	0.538	Theta star (bias corrected MLE)	0.575
nu hat (MLE)	117	nu star (bias corrected)	109.4
Mean (detects)	0.807		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.458
Maximum	2.6	Median	0.303
SD	0.496	CV	1.082
k hat (MLE)	0.752	k star (bias corrected MLE)	0.737
Theta hat (MLE)	0.609	Theta star (bias corrected MLE)	0.622
nu hat (MLE)	159.5	nu star (bias corrected)	156.3
Adjusted Level of Significance (β)	0.0477		
Approximate Chi Square Value (156.34, α)	128.4	Adjusted Chi Square Value (156.34, β)	128.1
95% Gamma Approximate UCL (use when n>=50)	0.558	95% Gamma Adjusted UCL (use when n<50)	0.56

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.459	SD (KM)	0.471
Variance (KM)	0.222	SE of Mean (KM)	0.0519
k hat (KM)	0.948	k star (KM)	0.927

nu hat (KM)	200.9	nu star (KM)	196.6
theta hat (KM)	0.484	theta star (KM)	0.495
80% gamma percentile (KM)	0.743	90% gamma percentile (KM)	1.076
95% gamma percentile (KM)	1.412	99% gamma percentile (KM)	2.195

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (196.57, α)	165.1	Adjusted Chi Square Value (196.57, β)	164.7
95% Gamma Approximate KM-UCL (use when n>=50)	0.546	95% Gamma Adjusted KM-UCL (use when n<50)	0.547

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.927	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.939	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.125	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.14	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.471	Mean in Log Scale	-1.156
SD in Original Scale	0.473	SD in Log Scale	0.901
95% t UCL (assumes normality of ROS data)	0.547	95% Percentile Bootstrap UCL	0.547
95% BCA Bootstrap UCL	0.56	95% Bootstrap t UCL	0.56
95% H-UCL (Log ROS)	0.569		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.168	KM Geo Mean	0.311
KM SD (logged)	0.845	95% Critical H Value (KM-Log)	2.075
KM Standard Error of Mean (logged)	0.127	95% H-UCL (KM -Log)	0.527
KM SD (logged)	0.845	95% Critical H Value (KM-Log)	2.075
KM Standard Error of Mean (logged)	0.127		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.455	Mean in Log Scale	-1.091
SD in Original Scale	0.463	SD in Log Scale	0.692
95% t UCL (Assumes normality)	0.529	95% H-Stat UCL	0.487

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	0.546	95% GROS Approximate Gamma UCL	0.558

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_1,4-dioxane (p-dioxane)_123-91-1)

General Statistics

Total Number of Observations	124	Number of Distinct Observations	85
Number of Detects	108	Number of Non-Detects	16
Number of Distinct Detects	83	Number of Distinct Non-Detects	2
Minimum Detect	0.28	Minimum Non-Detect	0.1
Maximum Detect	350	Maximum Non-Detect	0.5
Variance Detects	3437	Percent Non-Detects	12.9%
Mean Detects	30.84	SD Detects	58.63
Median Detects	9.05	CV Detects	1.901
Skewness Detects	3.712	Kurtosis Detects	14.86
Mean of Logged Detects	2.264	SD of Logged Detects	1.635

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.525	**Normal GOF Test on Detected Observations Only**	
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.301	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0855	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	26.9	KM Standard Error of Mean	4.999
KM SD	55.41	95% KM (BCA) UCL	35.39
95% KM (t) UCL	35.19	95% KM (Percentile Bootstrap) UCL	35.68
95% KM (z) UCL	35.12	95% KM Bootstrap t UCL	37.95
90% KM Chebyshev UCL	41.9	95% KM Chebyshev UCL	48.69
97.5% KM Chebyshev UCL	58.12	99% KM Chebyshev UCL	76.64

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.07	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.815	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.113	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.0922	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.539	k star (bias corrected MLE)	0.53
Theta hat (MLE)	57.21	Theta star (bias corrected MLE)	58.16
nu hat (MLE)	116.4	nu star (bias corrected)	114.5
Mean (detects)	30.84		

Gamma ROS Statistics using Imputed Non-Detects

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	26.86
Maximum	350	Median	7.3
SD	55.66	CV	2.072
k hat (MLE)	0.351	k star (bias corrected MLE)	0.348
Theta hat (MLE)	76.46	Theta star (bias corrected MLE)	77.14
nu hat (MLE)	87.12	nu star (bias corrected)	86.34
Adjusted Level of Significance (β)	0.0481		
Approximate Chi Square Value (86.34, α)	65.92	Adjusted Chi Square Value (86.34, β)	65.71
95% Gamma Approximate UCL (use when n>=50)	35.18	95% Gamma Adjusted UCL (use when n<50)	35.29

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	26.9	SD (KM)	55.41
Variance (KM)	3070	SE of Mean (KM)	4.999
k hat (KM)	0.236	k star (KM)	0.235
nu hat (KM)	58.45	nu star (KM)	58.37
theta hat (KM)	114.1	theta star (KM)	114.3
80% gamma percentile (KM)	38.19	90% gamma percentile (KM)	81.04
95% gamma percentile (KM)	132.5	99% gamma percentile (KM)	270.8

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (58.37, α)	41.8	Adjusted Chi Square Value (58.37, β)	41.64
95% Gamma Approximate KM-UCL (use when n>=50)	37.56	95% Gamma Adjusted KM-UCL (use when n<50)	37.71

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.968	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk P Value	0.0784	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0639	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0855	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	26.91	Mean in Log Scale	1.816
SD in Original Scale	55.63	SD in Log Scale	1.941
95% t UCL (assumes normality of ROS data)	35.19	95% Percentile Bootstrap UCL	35.7
95% BCA Bootstrap UCL	37.58	95% Bootstrap t UCL	37.45
95% H-UCL (Log ROS)	70.58		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.81	KM Geo Mean	6.108
KM SD (logged)	1.937	95% Critical H Value (KM-Log)	3.179
KM Standard Error of Mean (logged)	0.179	95% H-UCL (KM -Log)	69.45
KM SD (logged)	1.937	95% Critical H Value (KM-Log)	3.179
KM Standard Error of Mean (logged)	0.179		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	26.89	Mean in Log Scale	1.78
SD in Original Scale	55.64	SD in Log Scale	1.985
95% t UCL (Assumes normality)	35.17	95% H-Stat UCL	75.87

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL 69.45

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_alpha bhc (alpha hexachlorocyclohexane)_319-84-6)

General Statistics

Total Number of Observations	117	Number of Distinct Observations	20
Number of Detects	21	Number of Non-Detects	96
Number of Distinct Detects	18	Number of Distinct Non-Detects	4
Minimum Detect	2.0000E-4	Minimum Non-Detect	0.0025
Maximum Detect	0.073	Maximum Non-Detect	0.091
Variance Detects	3.2124E-4	Percent Non-Detects	82.05%
Mean Detects	0.022	SD Detects	0.0179
Median Detects	0.018	CV Detects	0.815
Skewness Detects	1.361	Kurtosis Detects	2.091
Mean of Logged Detects	-4.356	SD of Logged Detects	1.457

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.884	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.908	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.217	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.188	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.00471	KM Standard Error of Mean	0.00113
KM SD	0.0111	95% KM (BCA) UCL	0.00739

95% KM (t) UCL	0.00658	95% KM (Percentile Bootstrap) UCL	0.00703
95% KM (z) UCL	0.00657	95% KM Bootstrap t UCL	0.00718
90% KM Chebyshev UCL	0.0081	95% KM Chebyshev UCL	0.00964
97.5% KM Chebyshev UCL	0.0118	99% KM Chebyshev UCL	0.016

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.711	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.768	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.186	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.195	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.064	k star (bias corrected MLE)	0.943
Theta hat (MLE)	0.0207	Theta star (bias corrected MLE)	0.0233
nu hat (MLE)	44.67	nu star (bias corrected)	39.62
Mean (detects)	0.022		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	2.0000E-4	Mean	0.0122
Maximum	0.073	Median	0.01
SD	0.00876	CV	0.72
k hat (MLE)	3.489	k star (bias corrected MLE)	3.405
Theta hat (MLE)	0.00349	Theta star (bias corrected MLE)	0.00357
nu hat (MLE)	816.4	nu star (bias corrected)	796.8
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (796.76, α)	732.3	Adjusted Chi Square Value (796.76, β)	731.5
95% Gamma Approximate UCL (use when n>=50)	0.0132	95% Gamma Adjusted UCL (use when n<50)	0.0133

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.00471	SD (KM)	0.0111
Variance (KM)	1.2264E-4	SE of Mean (KM)	0.00113
k hat (KM)	0.181	k star (KM)	0.182
nu hat (KM)	42.34	nu star (KM)	42.59
theta hat (KM)	0.026	theta star (KM)	0.0259
80% gamma percentile (KM)	0.00588	90% gamma percentile (KM)	0.0142
95% gamma percentile (KM)	0.0249	99% gamma percentile (KM)	0.0546

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (42.59, α)	28.63	Adjusted Chi Square Value (42.59, β)	28.49
95% Gamma Approximate KM-UCL (use when n>=50)	0.00701	95% Gamma Adjusted KM-UCL (use when n<50)	0.00704

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.785	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.908	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.267	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.188	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.00509	Mean in Log Scale	-6.859
SD in Original Scale	0.011	SD in Log Scale	1.888
95% t UCL (assumes normality of ROS data)	0.00677	95% Percentile Bootstrap UCL	0.00684
95% BCA Bootstrap UCL	0.00708	95% Bootstrap t UCL	0.0074
95% H-UCL (Log ROS)	0.0109		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-7.022	KM Geo Mean	8.9200E-4
KM SD (logged)	1.661	95% Critical H Value (KM-Log)	2.923
KM Standard Error of Mean (logged)	0.457	95% H-UCL (KM -Log)	0.00556
KM SD (logged)	1.661	95% Critical H Value (KM-Log)	2.923
KM Standard Error of Mean (logged)	0.457		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.00661	Mean in Log Scale	-5.632
SD in Original Scale	0.0112	SD in Log Scale	0.929
95% t UCL (Assumes normality)	0.00833	95% H-Stat UCL	0.00664

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	0.00701

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_aluminum_7429-90-5)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	19
Number of Detects	17	Number of Non-Detects	97

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Number of Distinct Detects	17	Number of Distinct Non-Detects	2
Minimum Detect	20.7	Minimum Non-Detect	20
Maximum Detect	18400	Maximum Non-Detect	200
Variance Detects	34219302	Percent Non-Detects	85.09%
Mean Detects	2472	SD Detects	5850
Median Detects	82.2	CV Detects	2.366
Skewness Detects	2.548	Kurtosis Detects	5.241
Mean of Logged Detects	5.405	SD of Logged Detects	2.186

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.464	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.389	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	390.2	KM Standard Error of Mean	227.7
KM SD	2359	95% KM (BCA) UCL	765.5
95% KM (t) UCL	767.9	95% KM (Percentile Bootstrap) UCL	763.7
95% KM (z) UCL	764.8	95% KM Bootstrap t UCL	3619
90% KM Chebyshev UCL	1073	95% KM Chebyshev UCL	1383
97.5% KM Chebyshev UCL	1812	99% KM Chebyshev UCL	2656

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.917	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.847	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.278	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.227	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.288	k star (bias corrected MLE)	0.277
Theta hat (MLE)	8577	Theta star (bias corrected MLE)	8939
nu hat (MLE)	9.801	nu star (bias corrected)	9.405
Mean (detects)	2472		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	404
Maximum	18400	Median	0.01
SD	2380	CV	5.89
k hat (MLE)	0.093	k star (bias corrected MLE)	0.0964
Theta hat (MLE)	4342	Theta star (bias corrected MLE)	4189
nu hat (MLE)	21.21	nu star (bias corrected)	21.99
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (21.99, α)	12.33	Adjusted Chi Square Value (21.99, β)	12.24
95% Gamma Approximate UCL (use when n>=50)	720.5	95% Gamma Adjusted UCL (use when n<50)	725.9

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	390.2	SD (KM)	2359
Variance (KM)	5563006	SE of Mean (KM)	227.7
k hat (KM)	0.0274	k star (KM)	0.0325
nu hat (KM)	6.24	nu star (KM)	7.41
theta hat (KM)	14257	theta star (KM)	12007
80% gamma percentile (KM)	7.218	90% gamma percentile (KM)	276.6
95% gamma percentile (KM)	1621	99% gamma percentile (KM)	9853

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.41, α)	2.398	Adjusted Chi Square Value (7.41, β)	2.362
95% Gamma Approximate KM-UCL (use when n>=50)	1206	95% Gamma Adjusted KM-UCL (use when n<50)	1224

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.867	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.205	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	377.1	Mean in Log Scale	-0.472
SD in Original Scale	2371	SD in Log Scale	4.046
95% t UCL (assumes normality of ROS data)	745.4	95% Percentile Bootstrap UCL	812.7
95% BCA Bootstrap UCL	1001	95% Bootstrap t UCL	3716
95% H-UCL (Log ROS)	22235		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.447	KM Geo Mean	31.41
KM SD (logged)	1.211	95% Critical H Value (KM-Log)	2.423
KM Standard Error of Mean (logged)	0.125	95% H-UCL (KM -Log)	86.15
KM SD (logged)	1.211	95% Critical H Value (KM-Log)	2.423
KM Standard Error of Mean (logged)	0.125		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	418.3	Mean in Log Scale	3.816
SD in Original Scale	2365	SD in Log Scale	1.502

95% t UCL (Assumes normality)	785.6	95% H-Stat UCL	206.3

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL 86.15

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_arsenic_7440-38-2)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	15
Number of Detects	16	Number of Non-Detects	98
Number of Distinct Detects	13	Number of Distinct Non-Detects	2
Minimum Detect	0.47	Minimum Non-Detect	1
Maximum Detect	6.4	Maximum Non-Detect	10
Variance Detects	2.389	Percent Non-Detects	85.96%
Mean Detects	3.117	SD Detects	1.546
Median Detects	3	CV Detects	0.496
Skewness Detects	0.329	Kurtosis Detects	0.00548
Mean of Logged Detects	0.981	SD of Logged Detects	0.648

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.983	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.887	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.129	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.213	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.153	KM Standard Error of Mean	0.182
KM SD	1.385	95% KM (BCA) UCL	1.852
95% KM (t) UCL	1.454	95% KM (Percentile Bootstrap) UCL	1.732
95% KM (z) UCL	1.452	95% KM Bootstrap t UCL	1.443
90% KM Chebyshev UCL	1.698	95% KM Chebyshev UCL	1.945
97.5% KM Chebyshev UCL	2.288	99% KM Chebyshev UCL	2.961

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.279	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.743	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.124	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.216	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.37	k star (bias corrected MLE)	2.78
Theta hat (MLE)	0.925	Theta star (bias corrected MLE)	1.121
nu hat (MLE)	107.8	nu star (bias corrected)	88.95
Mean (detects)	3.117		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.054
Maximum	6.4	Median	0.326
SD	1.474	CV	1.398
k hat (MLE)	0.345	k star (bias corrected MLE)	0.342
Theta hat (MLE)	3.054	Theta star (bias corrected MLE)	3.083
nu hat (MLE)	78.71	nu star (bias corrected)	77.97
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (77.97, α)	58.63	Adjusted Chi Square Value (77.97, β)	58.42
95% Gamma Approximate UCL (use when n>=50)	1.402	95% Gamma Adjusted UCL (use when n<50)	1.407

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.153	SD (KM)	1.385
Variance (KM)	1.92	SE of Mean (KM)	0.182
k hat (KM)	0.693	k star (KM)	0.68
nu hat (KM)	157.9	nu star (KM)	155.1
theta hat (KM)	1.665	theta star (KM)	1.695
80% gamma percentile (KM)	1.897	90% gamma percentile (KM)	2.914
95% gamma percentile (KM)	3.965	99% gamma percentile (KM)	6.482

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (155.10, α)	127.3	Adjusted Chi Square Value (155.10, β)	127
95% Gamma Approximate KM-UCL (use when n>=50)	1.405	95% Gamma Adjusted KM-UCL (use when n<50)	1.408

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.903	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.887	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.168	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.213	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.246	Mean in Log Scale	-0.302
SD in Original Scale	1.391	SD in Log Scale	1.049
95% t UCL (assumes normality of ROS data)	1.462	95% Percentile Bootstrap UCL	1.466
95% BCA Bootstrap UCL	1.516	95% Bootstrap t UCL	1.509
95% H-UCL (Log ROS)	1.603		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.307	KM Geo Mean	0.736
KM SD (logged)	0.824	95% Critical H Value (KM-Log)	2.064
KM Standard Error of Mean (logged)	0.108	95% H-UCL (KM -Log)	1.212
KM SD (logged)	0.824	95% Critical H Value (KM-Log)	2.064
KM Standard Error of Mean (logged)	0.108		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.92	Mean in Log Scale	0.592
SD in Original Scale	2.167	SD in Log Scale	1.107
95% t UCL (Assumes normality)	3.257	95% H-Stat UCL	4.249

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1.454

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_barium_7440-39-3)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	80
Number of Detects	96	Number of Non-Detects	18
Number of Distinct Detects	79	Number of Distinct Non-Detects	1
Minimum Detect	2	Minimum Non-Detect	200
Maximum Detect	2390	Maximum Non-Detect	200
Variance Detects	81554	Percent Non-Detects	15.79%
Mean Detects	61.53	SD Detects	285.6
Median Detects	12.9	CV Detects	4.641
Skewness Detects	7.255	Kurtosis Detects	54.09
Mean of Logged Detects	2.72	SD of Logged Detects	1.169

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.197	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.425	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0907	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	55.17	KM Standard Error of Mean	24.61
KM SD	261.3	95% KM (BCA) UCL	100.5
95% KM (t) UCL	95.99	95% KM (Percentile Bootstrap) UCL	100.3
95% KM (z) UCL	95.66	95% KM Bootstrap t UCL	444.8
90% KM Chebyshev UCL	129	95% KM Chebyshev UCL	162.5
97.5% KM Chebyshev UCL	208.9	99% KM Chebyshev UCL	300.1

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	12.68	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.828	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.251	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.0971	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.46	k star (bias corrected MLE)	0.452
Theta hat (MLE)	133.9	Theta star (bias corrected MLE)	136.1
nu hat (MLE)	88.26	nu star (bias corrected)	86.83
Mean (detects)	61.53		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	61.83
Maximum	2390	Median	12.5
SD	265.5	CV	4.294
k hat (MLE)	0.348	k star (bias corrected MLE)	0.345
Theta hat (MLE)	177.6	Theta star (bias corrected MLE)	179.3
nu hat (MLE)	79.37	nu star (bias corrected)	78.61
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (78.61, α)	59.18	Adjusted Chi Square Value (78.61, β)	58.97
95% Gamma Approximate UCL (use when n>=50)	82.12	95% Gamma Adjusted UCL (use when n<50)	82.42

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	55.17	SD (KM)	261.3
Variance (KM)	68255	SE of Mean (KM)	24.61
k hat (KM)	0.0446	k star (KM)	0.0493
nu hat (KM)	10.17	nu star (KM)	11.23
theta hat (KM)	1237	theta star (KM)	1120
80% gamma percentile (KM)	7.103	90% gamma percentile (KM)	82.6
95% gamma percentile (KM)	291.9	99% gamma percentile (KM)	1207

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (11.23, α)	4.727	Adjusted Chi Square Value (11.23, β)	4.673
95% Gamma Approximate KM-UCL (use when n>=50)	131.1	95% Gamma Adjusted KM-UCL (use when n<50)	132.6

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.913	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk P Value	4.6238E-7	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.08	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0907	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	55.28	Mean in Log Scale	2.711
SD in Original Scale	262.4	SD in Log Scale	1.137
95% t UCL (assumes normality of ROS data)	96.04	95% Percentile Bootstrap UCL	100
95% BCA Bootstrap UCL	129.8	95% Bootstrap t UCL	489.2
95% H-UCL (Log ROS)	36.95		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.703	KM Geo Mean	14.93
KM SD (logged)	1.131	95% Critical H Value (KM-Log)	2.342
KM Standard Error of Mean (logged)	0.113	95% H-UCL (KM -Log)	36.3
KM SD (logged)	1.131	95% Critical H Value (KM-Log)	2.342
KM Standard Error of Mean (logged)	0.113		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	67.61	Mean in Log Scale	3.017
SD in Original Scale	262.2	SD in Log Scale	1.275
95% t UCL (Assumes normality)	108.3	95% H-Stat UCL	62.13

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	36.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_benzene_71-43-2)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	41
Number of Detects	47	Number of Non-Detects	67
Number of Distinct Detects	40	Number of Distinct Non-Detects	1
Minimum Detect	0.1	Minimum Non-Detect	0.5
Maximum Detect	90	Maximum Non-Detect	0.5
Variance Detects	265.6	Percent Non-Detects	58.77%
Mean Detects	6.413	SD Detects	16.3
Median Detects	1.9	CV Detects	2.541
Skewness Detects	4.408	Kurtosis Detects	19.71
Mean of Logged Detects	0.615	SD of Logged Detects	1.499

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.385	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.946	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.38	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.128	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.814	KM Standard Error of Mean	1.021
KM SD	10.78	95% KM (BCA) UCL	4.812
95% KM (t) UCL	4.507	95% KM (Percentile Bootstrap) UCL	4.59
95% KM (z) UCL	4.494	95% KM Bootstrap t UCL	8.805
90% KM Chebyshev UCL	5.877	95% KM Chebyshev UCL	7.264
97.5% KM Chebyshev UCL	9.19	99% KM Chebyshev UCL	12.97

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.525	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.813	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.203	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.136	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.509	k star (bias corrected MLE)	0.491
Theta hat (MLE)	12.59	Theta star (bias corrected MLE)	13.06

nu hat (MLE)	47.88	nu star (bias corrected)	46.15
Mean (detects)	6.413		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.65
Maximum	90	Median	0.01
SD	10.87	CV	4.102
k hat (MLE)	0.213	k star (bias corrected MLE)	0.213
Theta hat (MLE)	12.46	Theta star (bias corrected MLE)	12.45
nu hat (MLE)	48.48	nu star (bias corrected)	48.54
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (48.54, α)	33.55	Adjusted Chi Square Value (48.54, β)	33.39
95% Gamma Approximate UCL (use when n>=50)	3.834	95% Gamma Adjusted UCL (use when n<50)	3.852

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.814	SD (KM)	10.78
Variance (KM)	116.2	SE of Mean (KM)	1.021
k hat (KM)	0.0681	k star (KM)	0.0722
nu hat (KM)	15.53	nu star (KM)	16.46
theta hat (KM)	41.31	theta star (KM)	38.99
80% gamma percentile (KM)	1.081	90% gamma percentile (KM)	6.217
95% gamma percentile (KM)	16.24	99% gamma percentile (KM)	52.29

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (16.46, α)	8.286	Adjusted Chi Square Value (16.46, β)	8.212
95% Gamma Approximate KM-UCL (use when n>=50)	5.59	95% Gamma Adjusted KM-UCL (use when n<50)	5.64

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.971	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.946	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0852	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.128	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.856	Mean in Log Scale	-0.628
SD in Original Scale	10.82	SD in Log Scale	1.658
95% t UCL (assumes normality of ROS data)	4.537	95% Percentile Bootstrap UCL	4.605
95% BCA Bootstrap UCL	5.717	95% Bootstrap t UCL	9.582
95% H-UCL (Log ROS)	3.328		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.531	KM Geo Mean	0.588
KM SD (logged)	1.399	95% Critical H Value (KM-Log)	2.622
KM Standard Error of Mean (logged)	0.161	95% H-UCL (KM -Log)	2.208
KM SD (logged)	1.399	95% Critical H Value (KM-Log)	2.622
KM Standard Error of Mean (logged)	0.161		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2.791	Mean in Log Scale	-0.561
SD in Original Scale	10.83	SD in Log Scale	1.376
95% t UCL (Assumes normality)	4.474	95% H-Stat UCL	2.057

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	2.208

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_beryllium_7440-41-7)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	10
Number of Detects	8	Number of Non-Detects	106
Number of Distinct Detects	8	Number of Distinct Non-Detects	2
Minimum Detect	0.23	Minimum Non-Detect	1
Maximum Detect	2.5	Maximum Non-Detect	5
Variance Detects	0.613	Percent Non-Detects	92.98%
Mean Detects	1.096	SD Detects	0.783
Median Detects	0.815	CV Detects	0.714
Skewness Detects	1.154	Kurtosis Detects	0.168
Mean of Logged Detects	-0.134	SD of Logged Detects	0.742

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.839	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.304	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data Not Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.746	KM Standard Error of Mean	0.108
KM SD	0.369	95% KM (BCA) UCL	0.92
95% KM (t) UCL	0.926	95% KM (Percentile Bootstrap) UCL	0.92
95% KM (z) UCL	0.924	95% KM Bootstrap t UCL	0.917
90% KM Chebyshev UCL	1.071	95% KM Chebyshev UCL	1.219
97.5% KM Chebyshev UCL	1.423	99% KM Chebyshev UCL	1.825

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.424	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.723	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.224	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.297	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.369	k star (bias corrected MLE)	1.564
Theta hat (MLE)	0.463	Theta star (bias corrected MLE)	0.701
nu hat (MLE)	37.9	nu star (bias corrected)	25.02
Mean (detects)	1.096		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.118	Mean	0.781
Maximum	2.5	Median	0.687
SD	0.469	CV	0.6
k hat (MLE)	2.834	k star (bias corrected MLE)	2.765
Theta hat (MLE)	0.276	Theta star (bias corrected MLE)	0.282
nu hat (MLE)	646.2	nu star (bias corrected)	630.5
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (630.52, α)	573.3	Adjusted Chi Square Value (630.52, β)	572.6
95% Gamma Approximate UCL (use when n>=50)	0.859	95% Gamma Adjusted UCL (use when n<50)	0.86

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.746	SD (KM)	0.369
Variance (KM)	0.136	SE of Mean (KM)	0.108
k hat (KM)	4.083	k star (KM)	3.981
nu hat (KM)	930.9	nu star (KM)	907.8
theta hat (KM)	0.183	theta star (KM)	0.187
80% gamma percentile (KM)	1.029	90% gamma percentile (KM)	1.247
95% gamma percentile (KM)	1.448	99% gamma percentile (KM)	1.876

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (907.78, α)	838.8	Adjusted Chi Square Value (907.78, β)	838
95% Gamma Approximate KM-UCL (use when n>=50)	0.807	95% Gamma Adjusted KM-UCL (use when n<50)	0.808

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.929	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.22	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.758	Mean in Log Scale	-0.428
SD in Original Scale	0.439	SD in Log Scale	0.555
95% t UCL (assumes normality of ROS data)	0.826	95% Percentile Bootstrap UCL	0.831
95% BCA Bootstrap UCL	0.834	95% Bootstrap t UCL	0.831
95% H-UCL (Log ROS)	0.838		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.414	KM Geo Mean	0.661
KM SD (logged)	0.521	95% Critical H Value (KM-Log)	1.848
KM Standard Error of Mean (logged)	0.204	95% H-UCL (KM -Log)	0.829
KM SD (logged)	0.521	95% Critical H Value (KM-Log)	1.848
KM Standard Error of Mean (logged)	0.204		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.437	Mean in Log Scale	0.0661
SD in Original Scale	0.992	SD in Log Scale	0.802
95% t UCL (Assumes normality)	1.591	95% H-Stat UCL	1.72

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.926

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_bis(2-ethylhexyl) phthalate_117-81-7)

General Statistics

Total Number of Observations	124	Number of Distinct Observations	16
Number of Detects	17	Number of Non-Detects	107
Number of Distinct Detects	14	Number of Distinct Non-Detects	3
Minimum Detect	2	Minimum Non-Detect	2
Maximum Detect	15	Maximum Non-Detect	5.3
Variance Detects	18.89	Percent Non-Detects	86.29%
Mean Detects	5.282	SD Detects	4.346
Median Detects	3.8	CV Detects	0.823
Skewness Detects	1.586	Kurtosis Detects	1.334
Mean of Logged Detects	1.419	SD of Logged Detects	0.677

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.727	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.295	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3.042	KM Standard Error of Mean	0.261
KM SD	1.951	95% KM (BCA) UCL	3.477
95% KM (t) UCL	3.474	95% KM (Percentile Bootstrap) UCL	3.456
95% KM (z) UCL	3.471	95% KM Bootstrap t UCL	3.572
90% KM Chebyshev UCL	3.824	95% KM Chebyshev UCL	4.178
97.5% KM Chebyshev UCL	4.669	99% KM Chebyshev UCL	5.635

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.203	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.749	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.231	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.211	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.189	k star (bias corrected MLE)	1.842
Theta hat (MLE)	2.413	Theta star (bias corrected MLE)	2.868
nu hat (MLE)	74.43	nu star (bias corrected)	62.62
Mean (detects)	5.282		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.658
Maximum	15	Median	2.122
SD	2.752	CV	1.036
k hat (MLE)	0.553	k star (bias corrected MLE)	0.545
Theta hat (MLE)	4.808	Theta star (bias corrected MLE)	4.879
nu hat (MLE)	137.1	nu star (bias corrected)	135.1
Adjusted Level of Significance (β)	0.0481		
Approximate Chi Square Value (135.09, α)	109.2	Adjusted Chi Square Value (135.09, β)	109
95% Gamma Approximate UCL (use when n>=50)	3.287	95% Gamma Adjusted UCL (use when n<50)	3.295

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3.042	SD (KM)	1.951
Variance (KM)	3.805	SE of Mean (KM)	0.261
k hat (KM)	2.432	k star (KM)	2.378
nu hat (KM)	603.1	nu star (KM)	589.8
theta hat (KM)	1.251	theta star (KM)	1.279
80% gamma percentile (KM)	4.461	90% gamma percentile (KM)	5.683
95% gamma percentile (KM)	6.837	99% gamma percentile (KM)	9.371

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (589.85, α)	534.5	Adjusted Chi Square Value (589.85, β)	533.9
95% Gamma Approximate KM-UCL (use when n>=50)	3.357	95% Gamma Adjusted KM-UCL (use when n<50)	3.361

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.865	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.182	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.96	Mean in Log Scale	0.872
SD in Original Scale	2.293	SD in Log Scale	0.642
95% t UCL (assumes normality of ROS data)	3.302	95% Percentile Bootstrap UCL	3.329
95% BCA Bootstrap UCL	3.378	95% Bootstrap t UCL	3.372
95% H-UCL (Log ROS)	3.283		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.012	KM Geo Mean	2.751
KM SD (logged)	0.389	95% Critical H Value (KM-Log)	1.766
KM Standard Error of Mean (logged)	0.0734	95% H-UCL (KM -Log)	3.157

KM SD (logged)	0.389	95% Critical H Value (KM-Log)	1.766
KM Standard Error of Mean (logged)	0.0734		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.835	Mean in Log Scale	0.957
SD in Original Scale	1.867	SD in Log Scale	0.347
95% t UCL (Assumes normality)	3.113	95% H-Stat UCL	2.919

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	3.157

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_caprolactam_105-60-2)

General Statistics

Total Number of Observations	124	Number of Distinct Observations	20
Number of Detects	22	Number of Non-Detects	102
Number of Distinct Detects	18	Number of Distinct Non-Detects	3
Minimum Detect	2	Minimum Non-Detect	5
Maximum Detect	1100	Maximum Non-Detect	11
Variance Detects	54383	Percent Non-Detects	82.26%
Mean Detects	77.01	SD Detects	233.2
Median Detects	5.7	CV Detects	3.028
Skewness Detects	4.402	Kurtosis Detects	20.01
Mean of Logged Detects	2.405	SD of Logged Detects	1.774

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.347	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.911	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.374	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.184	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	16.04	KM Standard Error of Mean	9.2
KM SD	100.1	95% KM (BCA) UCL	35.95
95% KM (t) UCL	31.29	95% KM (Percentile Bootstrap) UCL	33.87
95% KM (z) UCL	31.17	95% KM Bootstrap t UCL	101.5
90% KM Chebyshev UCL	43.64	95% KM Chebyshev UCL	56.14
97.5% KM Chebyshev UCL	73.5	99% KM Chebyshev UCL	107.6

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.547	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.837	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.304	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.2	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.347	k star (bias corrected MLE)	0.33
Theta hat (MLE)	221.8	Theta star (bias corrected MLE)	233.3
nu hat (MLE)	15.28	nu star (bias corrected)	14.53
Mean (detects)	77.01		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	16.38
Maximum	1100	Median	0.01
SD	100.9	CV	6.164
k hat (MLE)	0.142	k star (bias corrected MLE)	0.143
Theta hat (MLE)	115.7	Theta star (bias corrected MLE)	114.1
nu hat (MLE)	35.1	nu star (bias corrected)	35.59
Adjusted Level of Significance (β)	0.0481		
Approximate Chi Square Value (35.59, α)	22.94	Adjusted Chi Square Value (35.59, β)	22.82
95% Gamma Approximate UCL (use when n>=50)	25.41	95% Gamma Adjusted UCL (use when n<50)	25.54

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	16.04	SD (KM)	100.1
Variance (KM)	10012	SE of Mean (KM)	9.2
k hat (KM)	0.0257	k star (KM)	0.0305
nu hat (KM)	6.374	nu star (KM)	7.554
theta hat (KM)	624.1	theta star (KM)	526.7
80% gamma percentile (KM)	0.2	90% gamma percentile (KM)	9.706
95% gamma percentile (KM)	62.98	99% gamma percentile (KM)	412.5

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.55, α)	2.479	Adjusted Chi Square Value (7.55, β)	2.445
95% Gamma Approximate KM-UCL (use when n>=50)	48.87	95% Gamma Adjusted KM-UCL (use when n<50)	49.55

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.849	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.22	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	17.3	Mean in Log Scale	1.256
SD in Original Scale	100.4	SD in Log Scale	1.327
95% t UCL (assumes normality of ROS data)	32.24	95% Percentile Bootstrap UCL	34.21
95% BCA Bootstrap UCL	46.48	95% Bootstrap t UCL	91.63
95% H-UCL (Log ROS)	11.42		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.269	KM Geo Mean	3.557
KM SD (logged)	0.933	95% Critical H Value (KM-Log)	2.13
KM Standard Error of Mean (logged)	0.113	95% H-UCL (KM -Log)	6.578
KM SD (logged)	0.933	95% Critical H Value (KM-Log)	2.13
KM Standard Error of Mean (logged)	0.113		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	16.01	Mean in Log Scale	1.26
SD in Original Scale	100.5	SD in Log Scale	0.933
95% t UCL (Assumes normality)	30.96	95% H-Stat UCL	6.521

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	56.14

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_chloroform_67-66-3)

General Statistics

Total Number of Observations	103	Number of Distinct Observations	14
Number of Detects	13	Number of Non-Detects	90
Number of Distinct Detects	13	Number of Distinct Non-Detects	1
Minimum Detect	0.12	Minimum Non-Detect	0.5
Maximum Detect	9.2	Maximum Non-Detect	0.5
Variance Detects	10.65	Percent Non-Detects	87.38%
Mean Detects	3.013	SD Detects	3.264
Median Detects	1.4	CV Detects	1.083
Skewness Detects	0.722	Kurtosis Detects	-1.006
Mean of Logged Detects	0.106	SD of Logged Detects	1.718

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.835	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.866	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.242	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.234	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.594	KM Standard Error of Mean	0.159
KM SD	1.451	95% KM (BCA) UCL	0.876
95% KM (t) UCL	0.858	95% KM (Percentile Bootstrap) UCL	0.877
95% KM (z) UCL	0.856	95% KM Bootstrap t UCL	0.972
90% KM Chebyshev UCL	1.071	95% KM Chebyshev UCL	1.287
97.5% KM Chebyshev UCL	1.586	99% KM Chebyshev UCL	2.174

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.697	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.781	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.201	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.248	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.617	k star (bias corrected MLE)	0.526
Theta hat (MLE)	4.88	Theta star (bias corrected MLE)	5.726
nu hat (MLE)	16.05	nu star (bias corrected)	13.68
Mean (detects)	3.013		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.838
Maximum	9.2	Median	0.0223
SD	1.608	CV	1.919

k hat (MLE)	0.312	k star (bias corrected MLE)	0.309
Theta hat (MLE)	2.686	Theta star (bias corrected MLE)	2.709
nu hat (MLE)	64.23	nu star (bias corrected)	63.7
Adjusted Level of Significance (β)	0.0477		
Approximate Chi Square Value (63.70, α)	46.34	Adjusted Chi Square Value (63.70, β)	46.13
95% Gamma Approximate UCL (use when n>=50)	1.151	95% Gamma Adjusted UCL (use when n<50)	1.157

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.594	SD (KM)	1.451
Variance (KM)	2.104	SE of Mean (KM)	0.159
k hat (KM)	0.168	k star (KM)	0.169
nu hat (KM)	34.58	nu star (KM)	34.91
theta hat (KM)	3.541	theta star (KM)	3.508
80% gamma percentile (KM)	0.709	90% gamma percentile (KM)	1.786
95% gamma percentile (KM)	3.189	99% gamma percentile (KM)	7.164

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (34.91, α)	22.39	Adjusted Chi Square Value (34.91, β)	22.25
95% Gamma Approximate KM-UCL (use when n>=50)	0.927	95% Gamma Adjusted KM-UCL (use when n<50)	0.933

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.862	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.866	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.192	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.234	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.753	Mean in Log Scale	-1.283
SD in Original Scale	1.481	SD in Log Scale	1.399
95% t UCL (assumes normality of ROS data)	0.996	95% Percentile Bootstrap UCL	1.008
95% BCA Bootstrap UCL	1.093	95% Bootstrap t UCL	1.101
95% H-UCL (Log ROS)	1.058		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.355	KM Geo Mean	0.258
KM SD (logged)	0.956	95% Critical H Value (KM-Log)	2.167
KM Standard Error of Mean (logged)	0.231	95% H-UCL (KM -Log)	0.5
KM SD (logged)	0.956	95% Critical H Value (KM-Log)	2.167
KM Standard Error of Mean (logged)	0.231		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.599	Mean in Log Scale	-1.198
SD in Original Scale	1.45	SD in Log Scale	0.772
95% t UCL (Assumes normality)	0.836	95% H-Stat UCL	0.474

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	0.927

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_chromium, total_7440-47-3)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	36
Number of Detects	34	Number of Non-Detects	80
Number of Distinct Detects	33	Number of Distinct Non-Detects	3
Minimum Detect	0.53	Minimum Non-Detect	1
Maximum Detect	262	Maximum Non-Detect	10
Variance Detects	2803	Percent Non-Detects	70.18%
Mean Detects	39.08	SD Detects	52.94
Median Detects	16.8	CV Detects	1.355
Skewness Detects	2.485	Kurtosis Detects	8.661
Mean of Logged Detects	2.349	SD of Logged Detects	2.011

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.725	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.933	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.233	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.15	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	12.32	KM Standard Error of Mean	3.179
KM SD	33.42	95% KM (BCA) UCL	18.25
95% KM (t) UCL	17.59	95% KM (Percentile Bootstrap) UCL	17.58
95% KM (z) UCL	17.54	95% KM Bootstrap t UCL	19.86
90% KM Chebyshev UCL	21.85	95% KM Chebyshev UCL	26.17
97.5% KM Chebyshev UCL	32.17	99% KM Chebyshev UCL	43.94

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.114	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.815	Detected Data Not Gamma Distributed at 5% Significance Level

K-S Test Statistic	0.137	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.16	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.485	k star (bias corrected MLE)	0.462
Theta hat (MLE)	80.6	Theta star (bias corrected MLE)	84.64
nu hat (MLE)	32.97	nu star (bias corrected)	31.39
Mean (detects)	39.08		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	12.62
Maximum	262	Median	0.01
SD	33.66	CV	2.667
k hat (MLE)	0.17	k star (bias corrected MLE)	0.172
Theta hat (MLE)	74.17	Theta star (bias corrected MLE)	73.58
nu hat (MLE)	38.79	nu star (bias corrected)	39.11
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (39.11, α)	25.78	Adjusted Chi Square Value (39.11, β)	25.64
95% Gamma Approximate UCL (use when n>=50)	19.14	95% Gamma Adjusted UCL (use when n<50)	19.25

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	12.32	SD (KM)	33.42
Variance (KM)	1117	SE of Mean (KM)	3.179
k hat (KM)	0.136	k star (KM)	0.138
nu hat (KM)	30.97	nu star (KM)	31.48
theta hat (KM)	90.68	theta star (KM)	89.18
80% gamma percentile (KM)	12.47	90% gamma percentile (KM)	36.03
95% gamma percentile (KM)	68.82	99% gamma percentile (KM)	165.6

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (31.48, α)	19.66	Adjusted Chi Square Value (31.48, β)	19.54
95% Gamma Approximate KM-UCL (use when n>=50)	19.72	95% Gamma Adjusted KM-UCL (use when n<50)	19.84

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.883	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.933	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.169	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.15	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	12.98	Mean in Log Scale	0.569
SD in Original Scale	33.38	SD in Log Scale	2.011
95% t UCL (assumes normality of ROS data)	18.17	95% Percentile Bootstrap UCL	18.63
95% BCA Bootstrap UCL	20.35	95% Bootstrap t UCL	19.98
95% H-UCL (Log ROS)	25.09		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.508	KM Geo Mean	1.662
KM SD (logged)	1.669	95% Critical H Value (KM-Log)	2.927
KM Standard Error of Mean (logged)	0.173	95% H-UCL (KM -Log)	10.61
KM SD (logged)	1.669	95% Critical H Value (KM-Log)	2.927
KM Standard Error of Mean (logged)	0.173		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	13.5	Mean in Log Scale	1.142
SD in Original Scale	33.2	SD in Log Scale	1.516
95% t UCL (Assumes normality)	18.65	95% H-Stat UCL	14.64

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	19.72

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_cis-1,2-dichloroethylene_156-59-2)

General Statistics

Total Number of Observations	116	Number of Distinct Observations	57
Number of Detects	79	Number of Non-Detects	37
Number of Distinct Detects	57	Number of Distinct Non-Detects	1
Minimum Detect	0.11	Minimum Non-Detect	0.5
Maximum Detect	6	Maximum Non-Detect	0.5
Variance Detects	1.071	Percent Non-Detects	31.9%
Mean Detects	0.825	SD Detects	1.035

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Median Detects	0.48	CV Detects	1.255
Skewness Detects	2.973	Kurtosis Detects	9.637
Mean of Logged Detects	-0.628	SD of Logged Detects	0.857

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.611	**Normal GOF Test on Detected Observations Only**	
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.298	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0998	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.66	KM Standard Error of Mean	0.083
KM SD	0.885	95% KM (BCA) UCL	0.81
95% KM (t) UCL	0.797	95% KM (Percentile Bootstrap) UCL	0.798
95% KM (z) UCL	0.796	95% KM Bootstrap t UCL	0.858
90% KM Chebyshev UCL	0.909	95% KM Chebyshev UCL	1.022
97.5% KM Chebyshev UCL	1.178	99% KM Chebyshev UCL	1.486

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	3.856	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.775	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.19	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.103	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.29	k star (bias corrected MLE)	1.249
Theta hat (MLE)	0.64	Theta star (bias corrected MLE)	0.66
nu hat (MLE)	203.8	nu star (bias corrected)	197.4
Mean (detects)	0.825		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.623
Maximum	6	Median	0.4
SD	0.911	CV	1.462
k hat (MLE)	0.72	k star (bias corrected MLE)	0.707
Theta hat (MLE)	0.865	Theta star (bias corrected MLE)	0.881
nu hat (MLE)	167.1	nu star (bias corrected)	164.1
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (164.06, α)	135.4	Adjusted Chi Square Value (164.06, β)	135.1
95% Gamma Approximate UCL (use when n>=50)	0.754	95% Gamma Adjusted UCL (use when n<50)	0.756

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.66	SD (KM)	0.885
Variance (KM)	0.782	SE of Mean (KM)	0.083
k hat (KM)	0.556	k star (KM)	0.548
nu hat (KM)	129.1	nu star (KM)	127.1
theta hat (KM)	1.186	theta star (KM)	1.204
80% gamma percentile (KM)	1.087	90% gamma percentile (KM)	1.751
95% gamma percentile (KM)	2.453	99% gamma percentile (KM)	4.166

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (127.09, α)	102.1	Adjusted Chi Square Value (127.09, β)	101.8
95% Gamma Approximate KM-UCL (use when n>=50)	0.822	95% Gamma Adjusted KM-UCL (use when n<50)	0.824

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.945	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk P Value	0.00402	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.112	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0998	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.661	Mean in Log Scale	-0.838
SD in Original Scale	0.889	SD in Log Scale	0.826
95% t UCL (assumes normality of ROS data)	0.798	95% Percentile Bootstrap UCL	0.805
95% BCA Bootstrap UCL	0.841	95% Bootstrap t UCL	0.846
95% H-UCL (Log ROS)	0.713		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.828	KM Geo Mean	0.437
KM SD (logged)	0.795	95% Critical H Value (KM-Log)	2.043
KM Standard Error of Mean (logged)	0.0801	95% H-UCL (KM -Log)	0.698
KM SD (logged)	0.795	95% Critical H Value (KM-Log)	2.043
KM Standard Error of Mean (logged)	0.0801		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.641	Mean in Log Scale	-0.87
SD in Original Scale	0.894	SD in Log Scale	0.79
95% t UCL (Assumes normality)	0.779	95% H-Stat UCL	0.665

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	1.022

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_cobalt_7440-48-4)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	16
Number of Detects	15	Number of Non-Detects	99
Number of Distinct Detects	15	Number of Distinct Non-Detects	2
Minimum Detect	0.96	Minimum Non-Detect	1
Maximum Detect	10.8	Maximum Non-Detect	50
Variance Detects	8.922	Percent Non-Detects	86.84%
Mean Detects	3.797	SD Detects	2.987
Median Detects	2.8	CV Detects	0.787
Skewness Detects	1.223	Kurtosis Detects	0.953
Mean of Logged Detects	1.046	SD of Logged Detects	0.799

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.858	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.881	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.171	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.22	Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.615	KM Standard Error of Mean	0.235
KM SD	1.83	95% KM (BCA) UCL	2.065
95% KM (t) UCL	2.005	95% KM (Percentile Bootstrap) UCL	2.005
95% KM (z) UCL	2.001	95% KM Bootstrap t UCL	2.219
90% KM Chebyshev UCL	2.32	95% KM Chebyshev UCL	2.639
97.5% KM Chebyshev UCL	3.082	99% KM Chebyshev UCL	3.953

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.367	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.748	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.153	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.225	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.884	k star (bias corrected MLE)	1.552
Theta hat (MLE)	2.016	Theta star (bias corrected MLE)	2.447
nu hat (MLE)	56.52	nu star (bias corrected)	46.55
Mean (detects)	3.797		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.947
Maximum	10.8	Median	0.01
SD	2.014	CV	2.127
k hat (MLE)	0.251	k star (bias corrected MLE)	0.25
Theta hat (MLE)	3.773	Theta star (bias corrected MLE)	3.784
nu hat (MLE)	57.21	nu star (bias corrected)	57.04
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (57.04, α)	40.68	Adjusted Chi Square Value (57.04, β)	40.5
95% Gamma Approximate UCL (use when n>=50)	1.327	95% Gamma Adjusted UCL (use when n<50)	1.333

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.615	SD (KM)	1.83
Variance (KM)	3.351	SE of Mean (KM)	0.235
k hat (KM)	0.778	k star (KM)	0.764
nu hat (KM)	177.4	nu star (KM)	174.1
theta hat (KM)	2.075	theta star (KM)	2.115
80% gamma percentile (KM)	2.645	90% gamma percentile (KM)	3.971
95% gamma percentile (KM)	5.327	99% gamma percentile (KM)	8.541

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (174.09, α)	144.6	Adjusted Chi Square Value (174.09, β)	144.2
95% Gamma Approximate KM-UCL (use when n>=50)	1.944	95% Gamma Adjusted KM-UCL (use when n<50)	1.949

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.94	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.881	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.146	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.22	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.248	Mean in Log Scale	-0.474
SD in Original Scale	1.805	SD in Log Scale	1.189
95% t UCL (assumes normality of ROS data)	1.529	95% Percentile Bootstrap UCL	1.54

95% BCA Bootstrap UCL	1.598	95% Bootstrap t UCL	1.604
95% H-UCL (Log ROS)	1.651		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.21	KM Geo Mean	1.234
KM SD (logged)	0.589	95% Critical H Value (KM-Log)	1.89
KM Standard Error of Mean (logged)	0.0757	95% H-UCL (KM -Log)	1.63
KM SD (logged)	0.589	95% Critical H Value (KM-Log)	1.89
KM Standard Error of Mean (logged)	0.0757		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	11.46	Mean in Log Scale	1.217
SD in Original Scale	11.9	SD in Log Scale	1.853
95% t UCL (Assumes normality)	13.31	95% H-Stat UCL	32.57

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 2.005

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_copper_7440-50-8)

General Statistics

Total Number of Observations	113	Number of Distinct Observations	24
Number of Detects	25	Number of Non-Detects	88
Number of Distinct Detects	22	Number of Distinct Non-Detects	3
Minimum Detect	1	Minimum Non-Detect	1
Maximum Detect	1170	Maximum Non-Detect	25
Variance Detects	54195	Percent Non-Detects	77.88%
Mean Detects	53.83	SD Detects	232.8
Median Detects	3.6	CV Detects	4.325
Skewness Detects	4.982	Kurtosis Detects	24.87
Mean of Logged Detects	1.573	SD of Logged Detects	1.53

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.233	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.918	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.478	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.173	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	13.25	KM Standard Error of Mean	10.51
KM SD	109.5	95% KM (BCA) UCL	34.88
95% KM (t) UCL	30.69	95% KM (Percentile Bootstrap) UCL	33.81
95% KM (z) UCL	30.54	95% KM Bootstrap t UCL	291.2
90% KM Chebyshev UCL	44.79	95% KM Chebyshev UCL	59.07
97.5% KM Chebyshev UCL	78.9	99% KM Chebyshev UCL	117.8

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	5.107	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.858	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.366	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.19	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.288	k star (bias corrected MLE)	0.28
Theta hat (MLE)	187.1	Theta star (bias corrected MLE)	192.3
nu hat (MLE)	14.39	nu star (bias corrected)	13.99
Mean (detects)	53.83		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	16.9
Maximum	1170	Median	0.01
SD	112.1	CV	6.633
k hat (MLE)	0.141	k star (bias corrected MLE)	0.143
Theta hat (MLE)	119.7	Theta star (bias corrected MLE)	117.9
nu hat (MLE)	31.92	nu star (bias corrected)	32.4
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (32.40, α)	20.39	Adjusted Chi Square Value (32.40, β)	20.27
95% Gamma Approximate UCL (use when n>=50)	26.85	95% Gamma Adjusted UCL (use when n<50)	27.02

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	13.25	SD (KM)	109.5

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Variance (KM)	11981	SE of Mean (KM)	10.51
k hat (KM)	0.0147	k star (KM)	0.0202
nu hat (KM)	3.314	nu star (KM)	4.559
theta hat (KM)	904	theta star (KM)	657
80% gamma percentile (KM)	0.00589	90% gamma percentile (KM)	2.028
95% gamma percentile (KM)	30.87	99% gamma percentile (KM)	370

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.56, α)	0.954	Adjusted Chi Square Value (4.56, β)	0.934
95% Gamma Approximate KM-UCL (use when n>=50)	63.33	95% Gamma Adjusted KM-UCL (use when n<50)	64.71

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.793	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.918	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.221	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.173	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	12.98	Mean in Log Scale	-0.501
SD in Original Scale	110	SD in Log Scale	2.019
95% t UCL (assumes normality of ROS data)	30.14	95% Percentile Bootstrap UCL	33.77
95% BCA Bootstrap UCL	44.69	95% Bootstrap t UCL	282.6
95% H-UCL (Log ROS)	8.81		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.58	KM Geo Mean	1.785
KM SD (logged)	1.01	95% Critical H Value (KM-Log)	2.226
KM Standard Error of Mean (logged)	0.116	95% H-UCL (KM -Log)	3.679
KM SD (logged)	1.01	95% Critical H Value (KM-Log)	2.226
KM Standard Error of Mean (logged)	0.116		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	17.62	Mean in Log Scale	1.364
SD in Original Scale	109.6	SD in Log Scale	1.423
95% t UCL (Assumes normality)	34.72	95% H-Stat UCL	15.36

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	59.07

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_diethyl ether (ethyl ether)_60-29-7)

General Statistics

Total Number of Observations	131	Number of Distinct Observations	57
Number of Detects	88	Number of Non-Detects	43
Number of Distinct Detects	56	Number of Distinct Non-Detects	1
Minimum Detect	1.1	Minimum Non-Detect	50
Maximum Detect	620	Maximum Non-Detect	50
Variance Detects	12003	Percent Non-Detects	32.82%
Mean Detects	120.1	SD Detects	109.6
Median Detects	92.5	CV Detects	0.913
Skewness Detects	1.709	Kurtosis Detects	4.345
Mean of Logged Detects	4.296	SD of Logged Detects	1.159

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.854	**Normal GOF Test on Detected Observations Only**	
5% Shapiro Wilk P Value	3.267E-12	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.141	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0946	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	88	KM Standard Error of Mean	8.885
KM SD	100.6	95% KM (BCA) UCL	102.7
95% KM (t) UCL	102.7	95% KM (Percentile Bootstrap) UCL	102.5
95% KM (z) UCL	102.6	95% KM Bootstrap t UCL	104.8
90% KM Chebyshev UCL	114.7	95% KM Chebyshev UCL	126.7
97.5% KM Chebyshev UCL	143.5	99% KM Chebyshev UCL	176.4

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.265	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.779	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.0561	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.0978	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.155	k star (bias corrected MLE)	1.123
Theta hat (MLE)	104	Theta star (bias corrected MLE)	106.9
nu hat (MLE)	203.2	nu star (bias corrected)	197.6
Mean (detects)	120.1		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	86.62
Maximum	620	Median	49.41
SD	102.3	CV	1.181
k hat (MLE)	0.432	k star (bias corrected MLE)	0.427
Theta hat (MLE)	200.4	Theta star (bias corrected MLE)	202.6
nu hat (MLE)	113.3	nu star (bias corrected)	112
Adjusted Level of Significance (β)	0.0482		
Approximate Chi Square Value (111.99, α)	88.56	Adjusted Chi Square Value (111.99, β)	88.33
95% Gamma Approximate UCL (use when n>=50)	109.5	95% Gamma Adjusted UCL (use when n<50)	109.8

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	88	SD (KM)	100.6
Variance (KM)	10115	SE of Mean (KM)	8.885
k hat (KM)	0.766	k star (KM)	0.753
nu hat (KM)	200.6	nu star (KM)	197.3
theta hat (KM)	114.9	theta star (KM)	116.8
80% gamma percentile (KM)	144.2	90% gamma percentile (KM)	217.1
95% gamma percentile (KM)	291.7	99% gamma percentile (KM)	468.8

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (197.34, α)	165.8	Adjusted Chi Square Value (197.34, β)	165.5
95% Gamma Approximate KM-UCL (use when n>=50)	104.7	95% Gamma Adjusted KM-UCL (use when n<50)	104.9

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.946	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0.00261	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.106	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0946	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	88.3	Mean in Log Scale	3.85
SD in Original Scale	100.8	SD in Log Scale	1.216
95% t UCL (assumes normality of ROS data)	102.9	95% Percentile Bootstrap UCL	103.2
95% BCA Bootstrap UCL	104.2	95% Bootstrap t UCL	104.6
95% H-UCL (Log ROS)	127		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.831	KM Geo Mean	46.13
KM SD (logged)	1.248	95% Critical H Value (KM-Log)	2.427
KM Standard Error of Mean (logged)	0.128	95% H-UCL (KM -Log)	131
KM SD (logged)	1.248	95% Critical H Value (KM-Log)	2.427
KM Standard Error of Mean (logged)	0.128		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	88.85	Mean in Log Scale	3.942
SD in Original Scale	100.2	SD in Log Scale	1.075
95% t UCL (Assumes normality)	103.4	95% H-Stat UCL	113.7

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	104.7	95% GROS Approximate Gamma UCL	109.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_endrin aldehyde_7421-93-4)

General Statistics

Total Number of Observations	118	Number of Distinct Observations	11
Number of Detects	8	Number of Non-Detects	110
Number of Distinct Detects	8	Number of Distinct Non-Detects	4
Minimum Detect	2.8000E-4	Minimum Non-Detect	0.005
Maximum Detect	0.02	Maximum Non-Detect	0.02
Variance Detects	4.4605E-5	Percent Non-Detects	93.22%
Mean Detects	0.0101	SD Detects	0.00668
Median Detects	0.0109	CV Detects	0.659
Skewness Detects	-0.284	Kurtosis Detects	-0.59
Mean of Logged Detects	-5.103	SD of Logged Detects	1.463

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.954	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.153	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

KM Mean	0.00437	KM Standard Error of Mean	0.00181
KM SD	0.00444	95% KM (BCA) UCL	0.00868
95% KM (t) UCL	0.00737	95% KM (Percentile Bootstrap) UCL	0.00871
95% KM (z) UCL	0.00734	95% KM Bootstrap t UCL	0.0182
90% KM Chebyshev UCL	0.0098	95% KM Chebyshev UCL	0.0123
97.5% KM Chebyshev UCL	0.0157	99% KM Chebyshev UCL	0.0224

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.7	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.734	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.307	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.301	Detected Data Not Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.115	k star (bias corrected MLE)	0.78
Theta hat (MLE)	0.00909	Theta star (bias corrected MLE)	0.013
nu hat (MLE)	17.84	nu star (bias corrected)	12.48
Mean (detects)	0.0101		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	2.8000E-4	Mean	0.01
Maximum	0.02	Median	0.01
SD	0.00165	CV	0.164
k hat (MLE)	14.51	k star (bias corrected MLE)	14.14
Theta hat (MLE)	6.9222E-4	Theta star (bias corrected MLE)	7.1000E-4
nu hat (MLE)	3423	nu star (bias corrected)	3338
Adjusted Level of Significance (β)	0.048		
Approximate Chi Square Value (N/A, α)	3204	Adjusted Chi Square Value (N/A, β)	3203
95% Gamma Approximate UCL (use when n>=50)	0.0105	95% Gamma Adjusted UCL (use when n<50)	0.0105

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.00437	SD (KM)	0.00444
Variance (KM)	1.9746E-5	SE of Mean (KM)	0.00181
k hat (KM)	0.965	k star (KM)	0.946
nu hat (KM)	227.8	nu star (KM)	223.4
theta hat (KM)	0.00452	theta star (KM)	0.00461
80% gamma percentile (KM)	0.00706	90% gamma percentile (KM)	0.0102
95% gamma percentile (KM)	0.0133	99% gamma percentile (KM)	0.0207

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (223.36, α)	189.8	Adjusted Chi Square Value (223.36, β)	189.4
95% Gamma Approximate KM-UCL (use when n>=50)	0.00514	95% Gamma Adjusted KM-UCL (use when n<50)	0.00515

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.767	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.341	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0029	Mean in Log Scale	-6.363
SD in Original Scale	0.00333	SD in Log Scale	1.045
95% t UCL (assumes normality of ROS data)	0.00341	95% Percentile Bootstrap UCL	0.00343
95% BCA Bootstrap UCL	0.00345	95% Bootstrap t UCL	0.00352
95% H-UCL (Log ROS)	0.00371		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-6.26	KM Geo Mean	0.00191
KM SD (logged)	1.464	95% Critical H Value (KM-Log)	2.7
KM Standard Error of Mean (logged)	0.697	95% H-UCL (KM -Log)	0.00804
KM SD (logged)	1.464	95% Critical H Value (KM-Log)	2.7
KM Standard Error of Mean (logged)	0.697		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.00549	Mean in Log Scale	-5.268
SD in Original Scale	0.00227	SD in Log Scale	0.388
95% t UCL (Assumes normality)	0.00584	95% H-Stat UCL	0.00592

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.00737

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_iron_7439-89-6)

General Statistics

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Total Number of Observations	114	Number of Distinct Observations	97
Number of Detects	98	Number of Non-Detects	16
Number of Distinct Detects	95	Number of Distinct Non-Detects	3
Minimum Detect	31.6	Minimum Non-Detect	50
Maximum Detect	44700	Maximum Non-Detect	200
Variance Detects	36815291	Percent Non-Detects	14.04%
Mean Detects	2574	SD Detects	6068
Median Detects	611	CV Detects	2.357
Skewness Detects	4.653	Kurtosis Detects	26.04
Mean of Logged Detects	6.535	SD of Logged Detects	1.553

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.454	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.338	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0897	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2220	KM Standard Error of Mean	533.3
KM SD	5665	95% KM (BCA) UCL	3255
95% KM (t) UCL	3104	95% KM (Percentile Bootstrap) UCL	3189
95% KM (z) UCL	3097	95% KM Bootstrap t UCL	3634
90% KM Chebyshev UCL	3820	95% KM Chebyshev UCL	4544
97.5% KM Chebyshev UCL	5550	99% KM Chebyshev UCL	7526

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	5.041	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.822	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.186	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.0958	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.484	k star (bias corrected MLE)	0.476
Theta hat (MLE)	5315	Theta star (bias corrected MLE)	5404
nu hat (MLE)	94.92	nu star (bias corrected)	93.35
Mean (detects)	2574		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2213
Maximum	44700	Median	417
SD	5693	CV	2.573
k hat (MLE)	0.259	k star (bias corrected MLE)	0.258
Theta hat (MLE)	8553	Theta star (bias corrected MLE)	8584
nu hat (MLE)	58.99	nu star (bias corrected)	58.77
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (58.77, α)	42.14	Adjusted Chi Square Value (58.77, β)	41.96
95% Gamma Approximate UCL (use when n>=50)	3085	95% Gamma Adjusted UCL (use when n<50)	3099

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2220	SD (KM)	5665
Variance (KM)	32093754	SE of Mean (KM)	533.3
k hat (KM)	0.154	k star (KM)	0.155
nu hat (KM)	35	nu star (KM)	35.41
theta hat (KM)	14459	theta star (KM)	14291
80% gamma percentile (KM)	2485	90% gamma percentile (KM)	6612
95% gamma percentile (KM)	12132	99% gamma percentile (KM)	28040

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (35.41, α)	22.8	Adjusted Chi Square Value (35.41, β)	22.67
95% Gamma Approximate KM-UCL (use when n>=50)	3448	95% Gamma Adjusted KM-UCL (use when n<50)	3468

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.965	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0.0645	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0635	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0897	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2218	Mean in Log Scale	6.095
SD in Original Scale	5691	SD in Log Scale	1.83
95% t UCL (assumes normality of ROS data)	3102	95% Percentile Bootstrap UCL	3184
95% BCA Bootstrap UCL	3457	95% Bootstrap t UCL	3627
95% H-UCL (Log ROS)	4048		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.149	KM Geo Mean	468.4
KM SD (logged)	1.731	95% Critical H Value (KM-Log)	3
KM Standard Error of Mean (logged)	0.164	95% H-UCL (KM -Log)	3416
KM SD (logged)	1.731	95% Critical H Value (KM-Log)	3
KM Standard Error of Mean (logged)	0.164		

DL/2 Statistics

DL/2 Normal **DL/2 Log-Transformed**

Mean in Original Scale	2219	Mean in Log Scale	6.143
SD in Original Scale	5690	SD in Log Scale	1.747
95% t UCL (Assumes normality)	3103	95% H-Stat UCL	3517

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	3416

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_lead_7439-92-1)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	35
Number of Detects	52	Number of Non-Detects	62
Number of Distinct Detects	34	Number of Distinct Non-Detects	2
Minimum Detect	1	Minimum Non-Detect	1
Maximum Detect	175	Maximum Non-Detect	10
Variance Detects	1100	Percent Non-Detects	54.39%
Mean Detects	11.03	SD Detects	33.17
Median Detects	2.55	CV Detects	3.006
Skewness Detects	4.491	Kurtosis Detects	19.85
Mean of Logged Detects	1.204	SD of Logged Detects	1.119

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.313	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.432	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.122	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.791	KM Standard Error of Mean	2.15
KM SD	22.72	95% KM (BCA) UCL	9.783
95% KM (t) UCL	9.356	95% KM (Percentile Bootstrap) UCL	9.558
95% KM (z) UCL	9.327	95% KM Bootstrap t UCL	22.52
90% KM Chebyshev UCL	12.24	95% KM Chebyshev UCL	15.16
97.5% KM Chebyshev UCL	19.22	99% KM Chebyshev UCL	27.18

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	8.732	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.812	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.319	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.13	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.527	k star (bias corrected MLE)	0.509
Theta hat (MLE)	20.95	Theta star (bias corrected MLE)	21.68
nu hat (MLE)	54.77	nu star (bias corrected)	52.94
Mean (detects)	11.03		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	5.786
Maximum	175	Median	1.05
SD	23.13	CV	3.998
k hat (MLE)	0.217	k star (bias corrected MLE)	0.217
Theta hat (MLE)	26.67	Theta star (bias corrected MLE)	26.65
nu hat (MLE)	49.47	nu star (bias corrected)	49.5
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (49.50, α)	34.35	Adjusted Chi Square Value (49.50, β)	34.19
95% Gamma Approximate UCL (use when n>=50)	8.338	95% Gamma Adjusted UCL (use when n<50)	8.378

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	5.791	SD (KM)	22.72
Variance (KM)	516	SE of Mean (KM)	2.15
k hat (KM)	0.065	k star (KM)	0.0691
nu hat (KM)	14.82	nu star (KM)	15.76
theta hat (KM)	89.1	theta star (KM)	83.77
80% gamma percentile (KM)	2.014	90% gamma percentile (KM)	12.37
95% gamma percentile (KM)	33.26	99% gamma percentile (KM)	109.7

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.76, α)	7.794	Adjusted Chi Square Value (15.76, β)	7.722
95% Gamma Approximate KM-UCL (use when n>=50)	11.71	95% Gamma Adjusted KM-UCL (use when n<50)	11.82

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.779	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	5.366E-10	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.204	**Lilliefors GOF Test**

5% Lilliefors Critical Value	0.122	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	5.536	Mean in Log Scale	0.0343
SD in Original Scale	22.88	SD in Log Scale	1.607
95% t UCL (assumes normality of ROS data)	9.091	95% Percentile Bootstrap UCL	9.347
95% BCA Bootstrap UCL	11.19	95% Bootstrap t UCL	23.92
95% H-UCL (Log ROS)	5.79		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.649	KM Geo Mean	1.914
KM SD (logged)	0.962	95% Critical H Value (KM-Log)	2.183
KM Standard Error of Mean (logged)	0.0956	95% H-UCL (KM -Log)	3.706
KM SD (logged)	0.962	95% Critical H Value (KM-Log)	2.183
KM Standard Error of Mean (logged)	0.0956		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	6.213	Mean in Log Scale	0.637
SD in Original Scale	22.78	SD in Log Scale	1.231
95% t UCL (Assumes normality)	9.751	95% H-Stat UCL	5.357

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL 15.16

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_manganese_7439-96-5)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	108
Number of Detects	112	Number of Non-Detects	2
Number of Distinct Detects	107	Number of Distinct Non-Detects	1
Minimum Detect	1.7	Minimum Non-Detect	15
Maximum Detect	4960	Maximum Non-Detect	15
Variance Detects	824485	Percent Non-Detects	1.754%
Mean Detects	368.3	SD Detects	908
Median Detects	79.8	CV Detects	2.465
Skewness Detects	3.824	Kurtosis Detects	14.23
Mean of Logged Detects	4.46	SD of Logged Detects	1.669

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.416	**Normal GOF Test on Detected Observations Only**	
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.344	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.084	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	361.9	KM Standard Error of Mean	84.41
KM SD	897.2	95% KM (BCA) UCL	534.9
95% KM (t) UCL	501.9	95% KM (Percentile Bootstrap) UCL	513.1
95% KM (z) UCL	500.8	95% KM Bootstrap t UCL	574
90% KM Chebyshev UCL	615.2	95% KM Chebyshev UCL	729.9
97.5% KM Chebyshev UCL	889.1	99% KM Chebyshev UCL	1202

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	6.245	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.832	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.172	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.092	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.446	k star (bias corrected MLE)	0.44
Theta hat (MLE)	825.2	Theta star (bias corrected MLE)	836.4
nu hat (MLE)	99.98	nu star (bias corrected)	98.63
Mean (detects)	368.3		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	361.8
Maximum	4960	Median	79.3
SD	901.2	CV	2.491
k hat (MLE)	0.412	k star (bias corrected MLE)	0.407
Theta hat (MLE)	878.5	Theta star (bias corrected MLE)	889.2
nu hat (MLE)	93.91	nu star (bias corrected)	92.77
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (92.77, α)	71.56	Adjusted Chi Square Value (92.77, β)	71.32

95% Gamma Approximate UCL (use when n>=50)	469.1	95% Gamma Adjusted UCL (use when n<50)	470.6

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	361.9	SD (KM)	897.2
Variance (KM)	805053	SE of Mean (KM)	84.41
k hat (KM)	0.163	k star (KM)	0.164
nu hat (KM)	37.1	nu star (KM)	37.46
theta hat (KM)	2224	theta star (KM)	2203
80% gamma percentile (KM)	422.5	90% gamma percentile (KM)	1085
95% gamma percentile (KM)	1955	99% gamma percentile (KM)	4436

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (37.46, α)	24.44	Adjusted Chi Square Value (37.46, β)	24.31
95% Gamma Approximate KM-UCL (use when n>=50)	554.6	95% Gamma Adjusted KM-UCL (use when n<50)	557.7

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.97	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk P Value	0.115	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0546	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.084	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	361.9	Mean in Log Scale	4.413
SD in Original Scale	901.2	SD in Log Scale	1.693
95% t UCL (assumes normality of ROS data)	501.9	95% Percentile Bootstrap UCL	508.2
95% BCA Bootstrap UCL	534.6	95% Bootstrap t UCL	553.9
95% H-UCL (Log ROS)	553.3		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.41	KM Geo Mean	82.25
KM SD (logged)	1.692	95% Critical H Value (KM-Log)	2.953
KM Standard Error of Mean (logged)	0.159	95% H-UCL (KM -Log)	550.4
KM SD (logged)	1.692	95% Critical H Value (KM-Log)	2.953
KM Standard Error of Mean (logged)	0.159		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	362	Mean in Log Scale	4.417
SD in Original Scale	901.2	SD in Log Scale	1.686
95% t UCL (Assumes normality)	501.9	95% H-Stat UCL	547.3

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	550.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_nickel_7440-02-0)

General Statistics

Total Number of Observations	110	Number of Distinct Observations	45
Number of Detects	57	Number of Non-Detects	53
Number of Distinct Detects	43	Number of Distinct Non-Detects	2
Minimum Detect	0.44	Minimum Non-Detect	1
Maximum Detect	149	Maximum Non-Detect	40
Variance Detects	1041	Percent Non-Detects	48.18%
Mean Detects	17.39	SD Detects	32.26
Median Detects	3.2	CV Detects	1.855
Skewness Detects	2.648	Kurtosis Detects	7.158
Mean of Logged Detects	1.527	SD of Logged Detects	1.59

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.58	**Normal GOF Test on Detected Observations Only**	
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.333	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.117	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	10.16	KM Standard Error of Mean	2.389
KM SD	24.49	95% KM (BCA) UCL	14.26
95% KM (t) UCL	14.12	95% KM (Percentile Bootstrap) UCL	14.38
95% KM (z) UCL	14.09	95% KM Bootstrap t UCL	16.07
90% KM Chebyshev UCL	17.33	95% KM Chebyshev UCL	20.58
97.5% KM Chebyshev UCL	25.08	99% KM Chebyshev UCL	33.94

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	4.14	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.82	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.253	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.125	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.481	k star (bias corrected MLE)	0.467
Theta hat (MLE)	36.18	Theta star (bias corrected MLE)	37.23
nu hat (MLE)	54.8	nu star (bias corrected)	53.25
Mean (detects)	17.39		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	10.4
Maximum	149	Median	1.35
SD	24.82	CV	2.386
k hat (MLE)	0.23	k star (bias corrected MLE)	0.229
Theta hat (MLE)	45.31	Theta star (bias corrected MLE)	45.35
nu hat (MLE)	50.51	nu star (bias corrected)	50.46
Adjusted Level of Significance (β)	0.0478		
Approximate Chi Square Value (50.46, α)	35.15	Adjusted Chi Square Value (50.46, β)	34.98
95% Gamma Approximate UCL (use when n>=50)	14.93	95% Gamma Adjusted UCL (use when n<50)	15

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	10.16	SD (KM)	24.49
Variance (KM)	599.6	SE of Mean (KM)	2.389
k hat (KM)	0.172	k star (KM)	0.174
nu hat (KM)	37.88	nu star (KM)	38.18
theta hat (KM)	59.01	theta star (KM)	58.55
80% gamma percentile (KM)	12.32	90% gamma percentile (KM)	30.58
95% gamma percentile (KM)	54.21	99% gamma percentile (KM)	120.9

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (38.18, α)	25.03	Adjusted Chi Square Value (38.18, β)	24.89
95% Gamma Approximate KM-UCL (use when n>=50)	15.5	95% Gamma Adjusted KM-UCL (use when n<50)	15.59

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.907	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	1.6803E-4	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.151	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.117	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	9.99	Mean in Log Scale	0.69
SD in Original Scale	24.48	SD in Log Scale	1.718
95% t UCL (assumes normality of ROS data)	13.86	95% Percentile Bootstrap UCL	13.96
95% BCA Bootstrap UCL	15.29	95% Bootstrap t UCL	15.32
95% H-UCL (Log ROS)	14.24		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.849	KM Geo Mean	2.337
KM SD (logged)	1.489	95% Critical H Value (KM-Log)	2.715
KM Standard Error of Mean (logged)	0.162	95% H-UCL (KM -Log)	10.43
KM SD (logged)	1.489	95% Critical H Value (KM-Log)	2.715
KM Standard Error of Mean (logged)	0.162		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	14.22	Mean in Log Scale	1.396
SD in Original Scale	24.32	SD in Log Scale	1.722
95% t UCL (Assumes normality)	18.06	95% H-Stat UCL	29.1

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	20.58

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_sodium_7440-23-5)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	101
		Number of Missing Observations	0
Minimum	3100	Mean	18159
Maximum	489000	Median	8370
SD	47199	Std. Error of Mean	4421
Coefficient of Variation	2.599	Skewness	9.008

Normal GOF Test

Shapiro Wilk Test Statistic	0.277	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.375	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0833	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	25490	95% Adjusted-CLT UCL (Chen-1995)	29415
		95% Modified-t UCL (Johnson-1978)	26112

Gamma GOF Test

A-D Test Statistic	10.95	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.783	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.245	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.0884	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.994	k star (bias corrected MLE)	0.973
Theta hat (MLE)	18277	Theta star (bias corrected MLE)	18658
nu hat (MLE)	226.5	nu star (bias corrected)	221.9
MLE Mean (bias corrected)	18159	MLE Sd (bias corrected)	18407
		Approximate Chi Square Value (0.05)	188.4
Adjusted Level of Significance	0.0479	Adjusted Chi Square Value	188

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	21385	95% Adjusted Gamma UCL (use when n<50)	21430

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.876	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk P Value	5.362E-14	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.14	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.0833	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	8.039	Mean of logged Data	9.226
Maximum of Logged Data	13.1	SD of logged Data	0.833

Assuming Lognormal Distribution

95% H-UCL	16891	90% Chebyshev (MVUE) UCL	18137
95% Chebyshev (MVUE) UCL	19874	97.5% Chebyshev (MVUE) UCL	22285
99% Chebyshev (MVUE) UCL	27021		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	25430	95% Jackknife UCL	25490
95% Standard Bootstrap UCL	25355	95% Bootstrap-t UCL	38827
95% Hall's Bootstrap UCL	51752	95% Percentile Bootstrap UCL	26321
95% BCA Bootstrap UCL	31932		
90% Chebyshev(Mean, Sd) UCL	31421	95% Chebyshev(Mean, Sd) UCL	37428
97.5% Chebyshev(Mean, Sd) UCL	45766	99% Chebyshev(Mean, Sd) UCL	62144

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	37428

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_tert-butyl alcohol_75-65-0)

General Statistics

Total Number of Observations	83	Number of Distinct Observations	21
Number of Detects	22	Number of Non-Detects	61
Number of Distinct Detects	20	Number of Distinct Non-Detects	2
Minimum Detect	6.1	Minimum Non-Detect	5
Maximum Detect	140	Maximum Non-Detect	10
Variance Detects	1088	Percent Non-Detects	73.49%
Mean Detects	32.35	SD Detects	32.98
Median Detects	19.5	CV Detects	1.02
Skewness Detects	2.153	Kurtosis Detects	4.857
Mean of Logged Detects	3.097	SD of Logged Detects	0.866

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.733	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.248	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	12.99	KM Standard Error of Mean	2.299
KM SD	20.28	95% KM (BCA) UCL	16.83
95% KM (t) UCL	16.81	95% KM (Percentile Bootstrap) UCL	16.96
95% KM (z) UCL	16.77	95% KM Bootstrap t UCL	19.27
90% KM Chebyshev UCL	19.88	95% KM Chebyshev UCL	23.01
97.5% KM Chebyshev UCL	27.35	99% KM Chebyshev UCL	35.87

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.645	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.76	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.145	**Kolmogorov-Smirnov GOF**	

5% K-S Critical Value	0.189	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.463	k star (bias corrected MLE)	1.294
Theta hat (MLE)	22.11	Theta star (bias corrected MLE)	25
nu hat (MLE)	64.37	nu star (bias corrected)	56.92
Mean (detects)	32.35		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	9.021
Maximum	140	Median	0.01
SD	21.91	CV	2.429
k hat (MLE)	0.176	k star (bias corrected MLE)	0.178
Theta hat (MLE)	51.27	Theta star (bias corrected MLE)	50.79
nu hat (MLE)	29.21	nu star (bias corrected)	29.49
Adjusted Level of Significance (β)	0.0471		
Approximate Chi Square Value (29.49, α)	18.09	Adjusted Chi Square Value (29.49, β)	17.93
95% Gamma Approximate UCL (use when n>=50)	14.7	95% Gamma Adjusted UCL (use when n<50)	14.83

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	12.99	SD (KM)	20.28
Variance (KM)	411.3	SE of Mean (KM)	2.299
k hat (KM)	0.41	k star (KM)	0.403
nu hat (KM)	68.06	nu star (KM)	66.93
theta hat (KM)	31.67	theta star (KM)	32.21
80% gamma percentile (KM)	20.98	90% gamma percentile (KM)	36.63
95% gamma percentile (KM)	53.81	99% gamma percentile (KM)	96.97

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (66.93, α)	49.11	Adjusted Chi Square Value (66.93, β)	48.84
95% Gamma Approximate KM-UCL (use when n>=50)	17.7	95% Gamma Adjusted KM-UCL (use when n<50)	17.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.958	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.911	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.108	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.184	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	11.36	Mean in Log Scale	1.479
SD in Original Scale	21.15	SD in Log Scale	1.388
95% t UCL (assumes normality of ROS data)	15.22	95% Percentile Bootstrap UCL	15.12
95% BCA Bootstrap UCL	17.14	95% Bootstrap t UCL	17.34
95% H-UCL (Log ROS)	17.23		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.125	KM Geo Mean	8.375
KM SD (logged)	0.746	95% Critical H Value (KM-Log)	2.032
KM Standard Error of Mean (logged)	0.0976	95% H-UCL (KM -Log)	13.08
KM SD (logged)	0.746	95% Critical H Value (KM-Log)	2.032
KM Standard Error of Mean (logged)	0.0976		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	12.13	Mean in Log Scale	1.97
SD in Original Scale	20.69	SD in Log Scale	0.823
95% t UCL (Assumes normality)	15.91	95% H-Stat UCL	12.16

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	17.7	95% GROS Approximate Gamma UCL	14.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_tetrachloroethylene(pce)_127-18-4)

General Statistics

Total Number of Observations	102	Number of Distinct Observations	18
Number of Detects	21	Number of Non-Detects	81
Number of Distinct Detects	18	Number of Distinct Non-Detects	1
Minimum Detect	0.12	Minimum Non-Detect	0.5
Maximum Detect	2	Maximum Non-Detect	0.5
Variance Detects	0.197	Percent Non-Detects	79.41%
Mean Detects	0.501	SD Detects	0.444
Median Detects	0.36	CV Detects	0.885
Skewness Detects	2.16	Kurtosis Detects	5.805
Mean of Logged Detects	-0.99	SD of Logged Detects	0.78

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.777	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.908	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.2	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.188	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.3	KM Standard Error of Mean	0.0345
KM SD	0.239	95% KM (BCA) UCL	0.35
95% KM (t) UCL	0.358	95% KM (Percentile Bootstrap) UCL	0.358
95% KM (z) UCL	0.357	95% KM Bootstrap t UCL	0.365
90% KM Chebyshev UCL	0.404	95% KM Chebyshev UCL	0.451
97.5% KM Chebyshev UCL	0.516	99% KM Chebyshev UCL	0.644

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.368	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.755	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.125	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.192	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.822	k star (bias corrected MLE)	1.593
Theta hat (MLE)	0.275	Theta star (bias corrected MLE)	0.314
nu hat (MLE)	76.52	nu star (bias corrected)	66.92
Mean (detects)	0.501		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.292
Maximum	2	Median	0.234
SD	0.28	CV	0.958
k hat (MLE)	1.079	k star (bias corrected MLE)	1.054
Theta hat (MLE)	0.271	Theta star (bias corrected MLE)	0.277
nu hat (MLE)	220.2	nu star (bias corrected)	215.1
Adjusted Level of Significance (β)	0.0476		
Approximate Chi Square Value (215.05, α)	182.1	Adjusted Chi Square Value (215.05, β)	181.7
95% Gamma Approximate UCL (use when n>=50)	0.345	95% Gamma Adjusted UCL (use when n<50)	0.346

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.3	SD (KM)	0.239
Variance (KM)	0.0571	SE of Mean (KM)	0.0345
k hat (KM)	1.581	k star (KM)	1.541
nu hat (KM)	322.6	nu star (KM)	314.4
theta hat (KM)	0.19	theta star (KM)	0.195
80% gamma percentile (KM)	0.463	90% gamma percentile (KM)	0.622
95% gamma percentile (KM)	0.776	99% gamma percentile (KM)	1.122

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (314.44, α)	274.4	Adjusted Chi Square Value (314.44, β)	273.8
95% Gamma Approximate KM-UCL (use when n>=50)	0.344	95% Gamma Adjusted KM-UCL (use when n<50)	0.345

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.968	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.908	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0906	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.188	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.309	Mean in Log Scale	-1.389
SD in Original Scale	0.251	SD in Log Scale	0.636
95% t UCL (assumes normality of ROS data)	0.35	95% Percentile Bootstrap UCL	0.351
95% BCA Bootstrap UCL	0.36	95% Bootstrap t UCL	0.362
95% H-UCL (Log ROS)	0.344		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.382	KM Geo Mean	0.251
KM SD (logged)	0.559	95% Critical H Value (KM-Log)	1.865
KM Standard Error of Mean (logged)	0.121	95% H-UCL (KM -Log)	0.326
KM SD (logged)	0.559	95% Critical H Value (KM-Log)	1.865
KM Standard Error of Mean (logged)	0.121		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.302	Mean in Log Scale	-1.305
SD in Original Scale	0.222	SD in Log Scale	0.383
95% t UCL (Assumes normality)	0.338	95% H-Stat UCL	0.312

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	0.344	95% GROS Approximate Gamma UCL	0.345

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_trichloroethylene (tce)_79-01-6)

General Statistics

Total Number of Observations	110	Number of Distinct Observations	45
Number of Detects	63	Number of Non-Detects	47
Number of Distinct Detects	44	Number of Distinct Non-Detects	1
Minimum Detect	0.075	Minimum Non-Detect	0.5
Maximum Detect	4	Maximum Non-Detect	0.5
Variance Detects	0.486	Percent Non-Detects	42.73%
Mean Detects	0.633	SD Detects	0.697
Median Detects	0.38	CV Detects	1.1
Skewness Detects	2.927	Kurtosis Detects	10.41
Mean of Logged Detects	-0.843	SD of Logged Detects	0.849

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.679	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.212	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.111	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.479	KM Standard Error of Mean	0.0544
KM SD	0.557	95% KM (BCA) UCL	0.585
95% KM (t) UCL	0.57	95% KM (Percentile Bootstrap) UCL	0.572
95% KM (z) UCL	0.569	95% KM Bootstrap t UCL	0.603
90% KM Chebyshev UCL	0.642	95% KM Chebyshev UCL	0.716
97.5% KM Chebyshev UCL	0.819	99% KM Chebyshev UCL	1.02

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.63	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.77	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.149	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.114	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.437	k star (bias corrected MLE)	1.379
Theta hat (MLE)	0.441	Theta star (bias corrected MLE)	0.459
nu hat (MLE)	181	nu star (bias corrected)	173.7
Mean (detects)	0.633		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.469
Maximum	4	Median	0.315
SD	0.58	CV	1.237
k hat (MLE)	0.859	k star (bias corrected MLE)	0.842
Theta hat (MLE)	0.546	Theta star (bias corrected MLE)	0.557
nu hat (MLE)	189	nu star (bias corrected)	185.2
Adjusted Level of Significance (β)	0.0478		
Approximate Chi Square Value (185.16, α)	154.7	Adjusted Chi Square Value (185.16, β)	154.3
95% Gamma Approximate UCL (use when n>=50)	0.561	95% Gamma Adjusted UCL (use when n<50)	0.562

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.479	SD (KM)	0.557
Variance (KM)	0.31	SE of Mean (KM)	0.0544
k hat (KM)	0.741	k star (KM)	0.726
nu hat (KM)	162.9	nu star (KM)	159.8
theta hat (KM)	0.647	theta star (KM)	0.66
80% gamma percentile (KM)	0.787	90% gamma percentile (KM)	1.193
95% gamma percentile (KM)	1.61	99% gamma percentile (KM)	2.602

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (159.81, α)	131.6	Adjusted Chi Square Value (159.81, β)	131.2
95% Gamma Approximate KM-UCL (use when n>=50)	0.582	95% Gamma Adjusted KM-UCL (use when n<50)	0.584

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Approximate Test Statistic	0.972	**Shapiro Wilk GOF Test**
5% Shapiro Wilk P Value	0.364	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0989	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.111	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.489	Mean in Log Scale	-1.066
SD in Original Scale	0.56	SD in Log Scale	0.786
95% t UCL (assumes normality of ROS data)	0.578	95% Percentile Bootstrap UCL	0.583
95% BCA Bootstrap UCL	0.607	95% Bootstrap t UCL	0.614
95% H-UCL (Log ROS)	0.546		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.076	KM Geo Mean	0.341
KM SD (logged)	0.751	95% Critical H Value (KM-Log)	2.004
KM Standard Error of Mean (logged)	0.0835	95% H-UCL (KM -Log)	0.522
KM SD (logged)	0.751	95% Critical H Value (KM-Log)	2.004
KM Standard Error of Mean (logged)	0.0835		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.47	Mean in Log Scale	-1.075
SD in Original Scale	0.559	SD in Log Scale	0.695
95% t UCL (Assumes normality)	0.558	95% H-Stat UCL	0.495

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	0.522

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_vanadium_7440-62-2)

General Statistics

Total Number of Observations	114	Number of Distinct Observations	15
Number of Detects	12	Number of Non-Detects	102
Number of Distinct Detects	12	Number of Distinct Non-Detects	3
Minimum Detect	0.3	Minimum Non-Detect	1
Maximum Detect	32.2	Maximum Non-Detect	50
Variance Detects	128	Percent Non-Detects	89.47%
Mean Detects	8.273	SD Detects	11.31
Median Detects	3.2	CV Detects	1.367
Skewness Detects	1.566	Kurtosis Detects	1.2
Mean of Logged Detects	1.042	SD of Logged Detects	1.69

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.725	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.295	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.032	KM Standard Error of Mean	0.786
KM SD	5.786	95% KM (BCA) UCL	3.701
95% KM (t) UCL	3.336	95% KM (Percentile Bootstrap) UCL	3.493
95% KM (z) UCL	3.325	95% KM Bootstrap t UCL	5.423
90% KM Chebyshev UCL	4.391	95% KM Chebyshev UCL	5.459
97.5% KM Chebyshev UCL	6.942	99% KM Chebyshev UCL	9.855

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.413	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.779	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.158	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.257	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.58	k star (bias corrected MLE)	0.491
Theta hat (MLE)	14.26	Theta star (bias corrected MLE)	16.86
nu hat (MLE)	13.92	nu star (bias corrected)	11.77
Mean (detects)	8.273		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.113
Maximum	32.2	Median	0.01
SD	5.448	CV	2.578
k hat (MLE)	0.207	k star (bias corrected MLE)	0.208
Theta hat (MLE)	10.19	Theta star (bias corrected MLE)	10.17
nu hat (MLE)	47.29	nu star (bias corrected)	47.38
Adjusted Level of Significance (β)	0.0479		
Approximate Chi Square Value (47.38, α)	32.59	Adjusted Chi Square Value (47.38, β)	32.43
95% Gamma Approximate UCL (use when n>=50)	3.073	95% Gamma Adjusted UCL (use when n<50)	3.088

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.032	SD (KM)	5.786
Variance (KM)	33.47	SE of Mean (KM)	0.786
k hat (KM)	0.123	k star (KM)	0.126
nu hat (KM)	28.13	nu star (KM)	28.72
theta hat (KM)	16.47	theta star (KM)	16.13
80% gamma percentile (KM)	1.88	90% gamma percentile (KM)	5.831
95% gamma percentile (KM)	11.52	99% gamma percentile (KM)	28.68

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (28.72, α)	17.49	Adjusted Chi Square Value (28.72, β)	17.38
95% Gamma Approximate KM-UCL (use when n>=50)	3.337	95% Gamma Adjusted KM-UCL (use when n<50)	3.359

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.927	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.859	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.142	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.243	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.909	Mean in Log Scale	-0.721
SD in Original Scale	4.727	SD in Log Scale	1.637
95% t UCL (assumes normality of ROS data)	2.643	95% Percentile Bootstrap UCL	2.69
95% BCA Bootstrap UCL	2.844	95% Bootstrap t UCL	3.001
95% H-UCL (Log ROS)	2.897		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.582	KM Geo Mean	0.559
KM SD (logged)	1.179	95% Critical H Value (KM-Log)	2.391
KM Standard Error of Mean (logged)	0.182	95% H-UCL (KM -Log)	1.459
KM SD (logged)	1.179	95% Critical H Value (KM-Log)	2.391
KM Standard Error of Mean (logged)	0.182		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	13.4	Mean in Log Scale	1.724
SD in Original Scale	11.78	SD in Log Scale	1.624
95% t UCL (Assumes normality)	15.23	95% H-Stat UCL	32.51

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Approximate Gamma UCL	3.337

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (wg_vinyl chloride_75-01-4)

General Statistics

Total Number of Observations	87	Number of Distinct Observations	4
Number of Detects	3	Number of Non-Detects	84
Number of Distinct Detects	3	Number of Distinct Non-Detects	1
Minimum Detect	0.18	Minimum Non-Detect	0.5
Maximum Detect	0.24	Maximum Non-Detect	0.5
Variance Detects	0.00103	Percent Non-Detects	96.55%
Mean Detects	0.203	SD Detects	0.0321
Median Detects	0.19	CV Detects	0.158
Skewness Detects	1.545	Kurtosis Detects	N/A
Mean of Logged Detects	-1.601	SD of Logged Detects	0.153

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.871	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.203	KM Standard Error of Mean	0.0186
KM SD	0.0262	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.234	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.234	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	0.259	95% KM Chebyshev UCL	0.284
97.5% KM Chebyshev UCL	0.319	99% KM Chebyshev UCL	0.388

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	62.87	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00323	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	377.2	nu star (bias corrected)	N/A
Mean (detects)	0.203		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

TABLE B.1
PROUCL 5.1 RAW OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Minimum	0.111	Mean	0.204
Maximum	0.314	Median	0.202
SD	0.0426	CV	0.208
k hat (MLE)	22.76	k star (bias corrected MLE)	21.98
Theta hat (MLE)	0.00898	Theta star (bias corrected MLE)	0.0093
nu hat (MLE)	3960	nu star (bias corrected)	3825
Adjusted Level of Significance (β)	0.0472		
Approximate Chi Square Value (N/A, α)	3682	Adjusted Chi Square Value (N/A, β)	3680
95% Gamma Approximate UCL (use when n>=50)	0.212	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.203	SD (KM)	0.0262
Variance (KM)	6.8889E-4	SE of Mean (KM)	0.0186
k hat (KM)	60.02	k star (KM)	57.95
nu hat (KM)	10443	nu star (KM)	10084
theta hat (KM)	0.00339	theta star (KM)	0.00351
80% gamma percentile (KM)	0.225	90% gamma percentile (KM)	0.238
95% gamma percentile (KM)	0.249	99% gamma percentile (KM)	0.271

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (N/A, α)	9852	Adjusted Chi Square Value (N/A, β)	9848
95% Gamma Approximate KM-UCL (use when n>=50)	0.208	95% Gamma Adjusted KM-UCL (use when n<50)	0.208

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.885	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.319	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.206	Mean in Log Scale	-1.601
SD in Original Scale	0.042	SD in Log Scale	0.203
95% t UCL (assumes normality of ROS data)	0.213	95% Percentile Bootstrap UCL	0.213
95% BCA Bootstrap UCL	0.214	95% Bootstrap t UCL	0.214
95% H-UCL (Log ROS)	0.214		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.601	KM Geo Mean	0.202
KM SD (logged)	0.125	95% Critical H Value (KM-Log)	1.682
KM Standard Error of Mean (logged)	0.0883	95% H-UCL (KM -Log)	0.208
KM SD (logged)	0.125	95% Critical H Value (KM-Log)	1.682
KM Standard Error of Mean (logged)	0.0883		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.248	Mean in Log Scale	-1.394
SD in Original Scale	0.00987	SD in Log Scale	0.0458
95% t UCL (Assumes normality)	0.25	95% H-Stat UCL	N/A

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.234

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

TABLE B.2
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.11/17/2018 1:31:39 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

result (ws_1,4-dioxane (p-dioxane)_123-91-1)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	12
Number of Detects	12	Number of Non-Detects	6
Number of Distinct Detects	11	Number of Distinct Non-Detects	1
Minimum Detect	0.48	Minimum Non-Detect	0.5
Maximum Detect	35	Maximum Non-Detect	0.5
Variance Detects	89.46	Percent Non-Detects	33.33%
Mean Detects	6.365	SD Detects	9.458
Median Detects	4.2	CV Detects	1.486
Skewness Detects	2.934	Kurtosis Detects	9.286
Mean of Logged Detects	1.137	SD of Logged Detects	1.27

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.596	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	4.403	KM Standard Error of Mean	1.944
KM SD	7.897	95% KM (BCA) UCL	8.069
95% KM (t) UCL	7.785	95% KM (Percentile Bootstrap) UCL	7.715
95% KM (z) UCL	7.601	95% KM Bootstrap t UCL	14.13
90% KM Chebyshev UCL	10.24	95% KM Chebyshev UCL	12.88
97.5% KM Chebyshev UCL	16.54	99% KM Chebyshev UCL	23.75

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.538	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.763	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.218	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.254	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.828	k star (bias corrected MLE)	0.676
Theta hat (MLE)	7.688	Theta star (bias corrected MLE)	9.409
nu hat (MLE)	19.87	nu star (bias corrected)	16.24
Mean (detects)	6.365		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	4.247
Maximum	35	Median	1.165
SD	8.209	CV	1.933
k hat (MLE)	0.309	k star (bias corrected MLE)	0.294
Theta hat (MLE)	13.76	Theta star (bias corrected MLE)	14.43
nu hat (MLE)	11.11	nu star (bias corrected)	10.6
Adjusted Level of Significance (β)	0.0357		
Approximate Chi Square Value (10.60, α)	4.317	Adjusted Chi Square Value (10.60, β)	3.939
95% Gamma Approximate UCL (use when n>=50)	10.42	95% Gamma Adjusted UCL (use when n<50)	11.42

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4.403	SD (KM)	7.897
Variance (KM)	62.37	SE of Mean (KM)	1.944
k hat (KM)	0.311	k star (KM)	0.296
nu hat (KM)	11.19	nu star (KM)	10.66
theta hat (KM)	14.16	theta star (KM)	14.87
80% gamma percentile (KM)	6.731	90% gamma percentile (KM)	13.01
95% gamma percentile (KM)	20.23	99% gamma percentile (KM)	39.02

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (10.66, α)	4.358	Adjusted Chi Square Value (10.66, β)	3.978
95% Gamma Approximate KM-UCL (use when n>=50)	10.77	95% Gamma Adjusted KM-UCL (use when n<50)	11.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.934	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.176	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	4.352	Mean in Log Scale	0.315
SD in Original Scale	8.154	SD in Log Scale	1.626

95% t UCL (assumes normality of ROS data)	7.695	95% Percentile Bootstrap UCL	7.917
95% BCA Bootstrap UCL	10.12	95% Bootstrap t UCL	13.28
95% H-UCL (Log ROS)	21.71		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.513	KM Geo Mean	1.671
KM SD (logged)	1.328	95% Critical H Value (KM-Log)	3.147
KM Standard Error of Mean (logged)	0.327	95% H-UCL (KM -Log)	11.13
KM SD (logged)	1.328	95% Critical H Value (KM-Log)	3.147
KM Standard Error of Mean (logged)	0.327		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	4.327	Mean in Log Scale	0.296
SD in Original Scale	8.166	SD in Log Scale	1.595
95% t UCL (Assumes normality)	7.675	95% H-Stat UCL	19.26

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

amma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	11.8

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_aluminum_7429-90-5)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	13
Number of Detects	12	Number of Non-Detects	6
Number of Distinct Detects	12	Number of Distinct Non-Detects	1
Minimum Detect	77.8	Minimum Non-Detect	200
Maximum Detect	2100	Maximum Non-Detect	200
Variance Detects	330735	Percent Non-Detects	33.33%
Mean Detects	483.2	SD Detects	575.1
Median Detects	272	CV Detects	1.19
Skewness Detects	2.372	Kurtosis Detects	6.023
Mean of Logged Detects	5.717	SD of Logged Detects	0.956

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.688	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.327	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	356.9	KM Standard Error of Mean	119.3
KM SD	483.9	95% KM (BCA) UCL	582.2
95% KM (t) UCL	564.3	95% KM (Percentile Bootstrap) UCL	558.3
95% KM (z) UCL	553	95% KM Bootstrap t UCL	849.4
90% KM Chebyshev UCL	714.7	95% KM Chebyshev UCL	876.7
97.5% KM Chebyshev UCL	1102	99% KM Chebyshev UCL	1544

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.563	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.752	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.236	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.251	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.219	k star (bias corrected MLE)	0.97
Theta hat (MLE)	396.3	Theta star (bias corrected MLE)	498.1
nu hat (MLE)	29.26	nu star (bias corrected)	23.28
Mean (detects)	483.2		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	325.7
Maximum	2100	Median	170
SD	516.4	CV	1.585
k hat (MLE)	0.237	k star (bias corrected MLE)	0.235
Theta hat (MLE)	1374	Theta star (bias corrected MLE)	1388
nu hat (MLE)	8.535	nu star (bias corrected)	8.446
Adjusted Level of Significance (β)	0.0357		
Approximate Chi Square Value (8.45, α)	2.996	Adjusted Chi Square Value (8.45, β)	2.692
95% Gamma Approximate UCL (use when n>=50)	918.3	95% Gamma Adjusted UCL (use when n<50)	1022

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	356.9	SD (KM)	483.9
Variance (KM)	234194	SE of Mean (KM)	119.3
k hat (KM)	0.544	k star (KM)	0.49

nu hat (KM)	19.58	nu star (KM)	17.65
theta hat (KM)	656.3	theta star (KM)	728
80% gamma percentile (KM)	585.6	90% gamma percentile (KM)	969.4
95% gamma percentile (KM)	1381	99% gamma percentile (KM)	2394

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.65, α)	9.136	Adjusted Chi Square Value (17.65, β)	8.552
95% Gamma Approximate KM-UCL (use when n>=50)	689.3	95% Gamma Adjusted KM-UCL (use when n<50)	736.4

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.961	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.859	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.166	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.243	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	353.6	Mean in Log Scale	5.291
SD in Original Scale	500.1	SD in Log Scale	1.03
95% t UCL (assumes normality of ROS data)	558.7	95% Percentile Bootstrap UCL	569.8
95% BCA Bootstrap UCL	665	95% Bootstrap t UCL	828.9
95% H-UCL (Log ROS)	659.4		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.352	KM Geo Mean	211.1
KM SD (logged)	0.917	95% Critical H Value (KM-Log)	2.519
KM Standard Error of Mean (logged)	0.232	95% H-UCL (KM -Log)	562.8
KM SD (logged)	0.917	95% Critical H Value (KM-Log)	2.519
KM Standard Error of Mean (logged)	0.232		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	355.4	Mean in Log Scale	5.347
SD in Original Scale	498.5	SD in Log Scale	0.939
95% t UCL (Assumes normality)	559.9	95% H-Stat UCL	583

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

amma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	736.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_arsenic_7440-38-2)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	2
Number of Detects	1	Number of Non-Detects	17
Number of Distinct Detects	1	Number of Distinct Non-Detects	1

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable result (ws_arsenic_7440-38-2) was not processed!

result (ws_cobalt_7440-48-4)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	4
Number of Detects	3	Number of Non-Detects	15
Number of Distinct Detects	3	Number of Distinct Non-Detects	1
Minimum Detect	0.87	Minimum Non-Detect	50
Maximum Detect	3.9	Maximum Non-Detect	50
Variance Detects	2.688	Percent Non-Detects	83.33%
Mean Detects	2.023	SD Detects	1.639
Median Detects	1.3	CV Detects	0.81
Skewness Detects	1.599	Kurtosis Detects	N/A
Mean of Logged Detects	0.495	SD of Logged Detects	0.777

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.854	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.337	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.023	KM Standard Error of Mean	0.947
KM SD	1.339	95% KM (BCA) UCL	N/A
95% KM (t) UCL	3.67	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	3.58	95% KM Bootstrap t UCL	N/A

90% KM Chebyshev UCL	4.863	95% KM Chebyshev UCL	6.149
97.5% KM Chebyshev UCL	7.934	99% KM Chebyshev UCL	11.44

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.535	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.798	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	15.21	nu star (bias corrected)	N/A
Mean (detects)	2.023		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.234
Maximum	6.696	Median	1.693
SD	1.913	CV	0.856
k hat (MLE)	0.765	k star (bias corrected MLE)	0.675
Theta hat (MLE)	2.919	Theta star (bias corrected MLE)	3.31
nu hat (MLE)	27.55	nu star (bias corrected)	24.29
Adjusted Level of Significance (β)	0.0357		
Approximate Chi Square Value (24.29, α)	14.07	Adjusted Chi Square Value (24.29, β)	13.33
95% Gamma Approximate UCL (use when n>=50)	3.857	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.023	SD (KM)	1.339
Variance (KM)	1.792	SE of Mean (KM)	0.947
k hat (KM)	2.285	k star (KM)	1.941
nu hat (KM)	82.25	nu star (KM)	69.88
theta hat (KM)	0.886	theta star (KM)	1.042
80% gamma percentile (KM)	3.04	90% gamma percentile (KM)	3.963
95% gamma percentile (KM)	4.845	99% gamma percentile (KM)	6.805

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (69.88, α)	51.63	Adjusted Chi Square Value (69.88, β)	50.13
95% Gamma Approximate KM-UCL (use when n>=50)	2.738	95% Gamma Adjusted KM-UCL (use when n<50)	2.82

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.284	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.402	Mean in Log Scale	0.495
SD in Original Scale	2.26	SD in Log Scale	0.916
95% t UCL (assumes normality of ROS data)	3.329	95% Percentile Bootstrap UCL	3.305
95% BCA Bootstrap UCL	3.46	95% Bootstrap t UCL	3.729
95% H-UCL (Log ROS)	4.369		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.495	KM Geo Mean	1.64
KM SD (logged)	0.634	95% Critical H Value (KM-Log)	2.162
KM Standard Error of Mean (logged)	0.448	95% H-UCL (KM -Log)	2.796
KM SD (logged)	0.634	95% Critical H Value (KM-Log)	2.162
KM Standard Error of Mean (logged)	0.448		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	21.17	Mean in Log Scale	2.765
SD in Original Scale	8.829	SD in Log Scale	1.078
95% t UCL (Assumes normality)	24.79	95% H-Stat UCL	58.32

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	3.67

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_iron_7439-89-6)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	46.2	Mean	954.2
Maximum	5410	Median	453
SD	1351	Std. Error of Mean	318.4
Coefficient of Variation	1.416	Skewness	2.753

TABLE B.2
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Normal GOF Test

Shapiro Wilk Test Statistic	0.582	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.323	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.202	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	1508	95% Adjusted-CLT UCL (Chen-1995)	1699
		95% Modified-t UCL (Johnson-1978)	1543

Gamma GOF Test

A-D Test Statistic	1.195	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.767	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.214	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.209	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.993	k star (bias corrected MLE)	0.864
Theta hat (MLE)	961.1	Theta star (bias corrected MLE)	1104
nu hat (MLE)	35.74	nu star (bias corrected)	31.12
MLE Mean (bias corrected)	954.2	MLE Sd (bias corrected)	1026
		Approximate Chi Square Value (0.05)	19.37
Adjusted Level of Significance	0.0357	Adjusted Chi Square Value	18.49

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1533	95% Adjusted Gamma UCL (use when n<50)	1606

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.203	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.202	Data Not Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.833	Mean of logged Data	6.279
Maximum of Logged Data	8.596	SD of logged Data	1.077

Assuming Lognormal Distribution

95% H-UCL	1952	90% Chebyshev (MVUE) UCL	1684
95% Chebyshev (MVUE) UCL	2035	97.5% Chebyshev (MVUE) UCL	2522
99% Chebyshev (MVUE) UCL	3480		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	1478	95% Jackknife UCL	1508
95% Standard Bootstrap UCL	1469	95% Bootstrap-t UCL	2942
95% Hall's Bootstrap UCL	4210	95% Percentile Bootstrap UCL	1490
95% BCA Bootstrap UCL	1708		
90% Chebyshev(Mean, Sd) UCL	1910	95% Chebyshev(Mean, Sd) UCL	2342
97.5% Chebyshev(Mean, Sd) UCL	2943	99% Chebyshev(Mean, Sd) UCL	4123

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	2342

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_lead_7439-92-1)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	11
Number of Detects	10	Number of Non-Detects	8
Number of Distinct Detects	10	Number of Distinct Non-Detects	1
Minimum Detect	2	Minimum Non-Detect	10
Maximum Detect	26.6	Maximum Non-Detect	10
Variance Detects	60.35	Percent Non-Detects	44.44%
Mean Detects	7.31	SD Detects	7.769
Median Detects	3.6	CV Detects	1.063
Skewness Detects	2.054	Kurtosis Detects	4.196
Mean of Logged Detects	1.622	SD of Logged Detects	0.833

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.695	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.842	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.356	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.262	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.483	KM Standard Error of Mean	1.469
KM SD	5.877	95% KM (BCA) UCL	8.083
95% KM (t) UCL	8.039	95% KM (Percentile Bootstrap) UCL	8.126
95% KM (z) UCL	7.9	95% KM Bootstrap t UCL	11.67

90% KM Chebyshev UCL	9.891	95% KM Chebyshev UCL	11.89
97.5% KM Chebyshev UCL	14.66	99% KM Chebyshev UCL	20.1

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.962	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.739	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.332	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.271	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.506	k star (bias corrected MLE)	1.121
Theta hat (MLE)	4.855	Theta star (bias corrected MLE)	6.523
nu hat (MLE)	30.11	nu star (bias corrected)	22.41
Mean (detects)	7.31		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	5.609
Maximum	26.6	Median	3.508
SD	6.307	CV	1.124
k hat (MLE)	0.83	k star (bias corrected MLE)	0.729
Theta hat (MLE)	6.755	Theta star (bias corrected MLE)	7.694
nu hat (MLE)	29.89	nu star (bias corrected)	26.24
Adjusted Level of Significance (β)	0.0357		
Approximate Chi Square Value (26.24, α)	15.57	Adjusted Chi Square Value (26.24, β)	14.78
95% Gamma Approximate UCL (use when n>=50)	9.456	95% Gamma Adjusted UCL (use when n<50)	9.96

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	5.483	SD (KM)	5.877
Variance (KM)	34.54	SE of Mean (KM)	1.469
k hat (KM)	0.87	k star (KM)	0.762
nu hat (KM)	31.33	nu star (KM)	27.44
theta hat (KM)	6.3	theta star (KM)	7.193
80% gamma percentile (KM)	8.983	90% gamma percentile (KM)	13.49
95% gamma percentile (KM)	18.1	99% gamma percentile (KM)	29.03

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (27.44, α)	16.5	Adjusted Chi Square Value (27.44, β)	15.68
95% Gamma Approximate KM-UCL (use when n>=50)	9.123	95% Gamma Adjusted KM-UCL (use when n<50)	9.595

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.858	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.289	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.262	Detected Data Not Lognormal at 5% Significance Level

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	5.748	Mean in Log Scale	1.443
SD in Original Scale	6.051	SD in Log Scale	0.724
95% t UCL (assumes normality of ROS data)	8.229	95% Percentile Bootstrap UCL	8.158
95% BCA Bootstrap UCL	9.17	95% Bootstrap t UCL	11.08
95% H-UCL (Log ROS)	8.189		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.407	KM Geo Mean	4.085
KM SD (logged)	0.653	95% Critical H Value (KM-Log)	2.183
KM Standard Error of Mean (logged)	0.171	95% H-UCL (KM -Log)	7.146
KM SD (logged)	0.653	95% Critical H Value (KM-Log)	2.183
KM Standard Error of Mean (logged)	0.171		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	6.283	Mean in Log Scale	1.616
SD in Original Scale	5.775	SD in Log Scale	0.606
95% t UCL (Assumes normality)	8.651	95% H-Stat UCL	8.274

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	7.146

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_manganese_7439-96-5)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	18
Number of Detects	17	Number of Non-Detects	1
Number of Distinct Detects	17	Number of Distinct Non-Detects	1
Minimum Detect	20	Minimum Non-Detect	15

TABLE B.2
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Maximum Detect	381	Maximum Non-Detect	15
Variance Detects	8541	Percent Non-Detects	5.556%
Mean Detects	85.76	SD Detects	92.42
Median Detects	53.7	CV Detects	1.078
Skewness Detects	2.344	Kurtosis Detects	6.17
Mean of Logged Detects	4.068	SD of Logged Detects	0.846

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.702	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.282	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	81.83	KM Standard Error of Mean	21.53
KM SD	88.63	95% KM (BCA) UCL	120.1
95% KM (t) UCL	119.3	95% KM (Percentile Bootstrap) UCL	120.6
95% KM (z) UCL	117.2	95% KM Bootstrap t UCL	149.1
90% KM Chebyshev UCL	146.4	95% KM Chebyshev UCL	175.7
97.5% KM Chebyshev UCL	216.3	99% KM Chebyshev UCL	296.1

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.856	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.757	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.2	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.213	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.448	k star (bias corrected MLE)	1.231
Theta hat (MLE)	59.24	Theta star (bias corrected MLE)	69.64
nu hat (MLE)	49.22	nu star (bias corrected)	41.87
Mean (detects)	85.76		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	81
Maximum	381	Median	46.05
SD	91.91	CV	1.135
k hat (MLE)	0.742	k star (bias corrected MLE)	0.655
Theta hat (MLE)	109.2	Theta star (bias corrected MLE)	123.6
nu hat (MLE)	26.7	nu star (bias corrected)	23.59
Adjusted Level of Significance (β)	0.0357		
Approximate Chi Square Value (23.59, α)	13.54	Adjusted Chi Square Value (23.59, β)	12.81
95% Gamma Approximate UCL (use when n>=50)	141.1	95% Gamma Adjusted UCL (use when n<50)	149.2

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	81.83	SD (KM)	88.63
Variance (KM)	7854	SE of Mean (KM)	21.53
k hat (KM)	0.852	k star (KM)	0.747
nu hat (KM)	30.69	nu star (KM)	26.91
theta hat (KM)	95.99	theta star (KM)	109.5
80% gamma percentile (KM)	134.2	90% gamma percentile (KM)	202.2
95% gamma percentile (KM)	272	99% gamma percentile (KM)	437.7

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (26.91, α)	16.08	Adjusted Chi Square Value (26.91, β)	15.28
95% Gamma Approximate KM-UCL (use when n>=50)	136.9	95% Gamma Adjusted KM-UCL (use when n<50)	144.1

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.927	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.161	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	81.41	Mean in Log Scale	3.953
SD in Original Scale	91.54	SD in Log Scale	0.955
95% t UCL (assumes normality of ROS data)	118.9	95% Percentile Bootstrap UCL	118
95% BCA Bootstrap UCL	130.5	95% Bootstrap t UCL	150.2
95% H-UCL (Log ROS)	149.1		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.992	KM Geo Mean	54.19
KM SD (logged)	0.857	95% Critical H Value (KM-Log)	2.437
KM Standard Error of Mean (logged)	0.208	95% H-UCL (KM -Log)	129.8
KM SD (logged)	0.857	95% Critical H Value (KM-Log)	2.437
KM Standard Error of Mean (logged)	0.208		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	81.41	Mean in Log Scale	3.954
SD in Original Scale	91.53	SD in Log Scale	0.953
95% t UCL (Assumes normality)	118.9	95% H-Stat UCL	148.8

DL/2 is not a recommended method, provided for comparisons and historical reasons

TABLE B.2
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	144.1	95% GROS Adjusted Gamma UCL	149.2

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_trichloroethylene (tce)_79-01-6)

General Statistics

Total Number of Observations	11	Number of Distinct Observations	3
Number of Detects	2	Number of Non-Detects	9
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	0.22	Minimum Non-Detect	0.5
Maximum Detect	0.4	Maximum Non-Detect	0.5
Variance Detects	0.0162	Percent Non-Detects	81.82%
Mean Detects	0.31	SD Detects	0.127
Median Detects	0.31	CV Detects	0.411
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-1.215	SD of Logged Detects	0.423

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.31	KM Standard Error of Mean	0.09
KM SD	0.09	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.473	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.458	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	0.58	95% KM Chebyshev UCL	0.702
97.5% KM Chebyshev UCL	0.872	99% KM Chebyshev UCL	1.205

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	11.52	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0269	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	46.08	nu star (bias corrected)	N/A
Mean (detects)	0.31		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.31	SD (KM)	0.09
Variance (KM)	0.0081	SE of Mean (KM)	0.09
k hat (KM)	11.86	k star (KM)	8.689
nu hat (KM)	261	nu star (KM)	191.2
theta hat (KM)	0.0261	theta star (KM)	0.0357
80% gamma percentile (KM)	0.393	90% gamma percentile (KM)	0.45
95% gamma percentile (KM)	0.501	99% gamma percentile (KM)	0.605

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0278
Approximate Chi Square Value (191.16, α)	160.2	Adjusted Chi Square Value (191.16, β)	155.6
95% Gamma Approximate KM-UCL (use when n>=50)	0.37	95% Gamma Adjusted KM-UCL (use when n<50)	0.381

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.336	Mean in Log Scale	-1.215
SD in Original Scale	0.177	SD in Log Scale	0.526
95% t UCL (assumes normality of ROS data)	0.433	95% Percentile Bootstrap UCL	0.425
95% BCA Bootstrap UCL	0.439	95% Bootstrap t UCL	0.469
95% H-UCL (Log ROS)	0.492		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.215	KM Geo Mean	0.297
KM SD (logged)	0.299	95% Critical H Value (KM-Log)	1.948
KM Standard Error of Mean (logged)	0.299	95% H-UCL (KM -Log)	0.373
KM SD (logged)	0.299	95% Critical H Value (KM-Log)	1.948
KM Standard Error of Mean (logged)	0.299		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.261	Mean in Log Scale	-1.355
SD in Original Scale	0.047	SD in Log Scale	0.151
95% t UCL (Assumes normality)	0.287	95% H-Stat UCL	0.284

DL/2 is not a recommended method, provided for comparisons and historical reasons

TABLE B.2
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.473	KM H-UCL	0.373
95% KM (BCA) UCL	N/A		

Warning: One or more Recommended UCL(s) not available!

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_vanadium_7440-62-2)

General Statistics

Total Number of Observations	18	Number of Distinct Observations	3
Number of Detects	2	Number of Non-Detects	16
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	5	Minimum Non-Detect	50
Maximum Detect	9.2	Maximum Non-Detect	50
Variance Detects	8.82	Percent Non-Detects	88.89%
Mean Detects	7.1	SD Detects	2.97
Median Detects	7.1	CV Detects	0.418
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	1.914	SD of Logged Detects	0.431

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	7.1	KM Standard Error of Mean	2.1
KM SD	2.1	95% KM (BCA) UCL	N/A
95% KM (t) UCL	10.75	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	10.55	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	13.4	95% KM Chebyshev UCL	16.25
97.5% KM Chebyshev UCL	20.21	99% KM Chebyshev UCL	27.99

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	11.09	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.64	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	44.35	nu star (bias corrected)	N/A
Mean (detects)	7.1		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	7.1	SD (KM)	2.1
Variance (KM)	4.41	SE of Mean (KM)	2.1
k hat (KM)	11.43	k star (KM)	9.563
nu hat (KM)	411.5	nu star (KM)	344.3
theta hat (KM)	0.621	theta star (KM)	0.742
80% gamma percentile (KM)	8.926	90% gamma percentile (KM)	10.16
95% gamma percentile (KM)	11.25	99% gamma percentile (KM)	13.5

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0357
Approximate Chi Square Value (344.26, α)	302.3	Adjusted Chi Square Value (344.26, β)	298.5
95% Gamma Approximate KM-UCL (use when n>=50)	8.086	95% Gamma Adjusted KM-UCL (use when n<50)	8.189

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	7.974	Mean in Log Scale	1.914
SD in Original Scale	4.79	SD in Log Scale	0.591
95% t UCL (assumes normality of ROS data)	9.938	95% Percentile Bootstrap UCL	9.876
95% BCA Bootstrap UCL	10.36	95% Bootstrap t UCL	10.42
95% H-UCL (Log ROS)	10.93		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.914	KM Geo Mean	6.782
KM SD (logged)	0.305	95% Critical H Value (KM-Log)	1.857
KM Standard Error of Mean (logged)	0.305	95% H-UCL (KM -Log)	8.15
KM SD (logged)	0.305	95% Critical H Value (KM-Log)	1.857
KM Standard Error of Mean (logged)	0.305		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	23.01	Mean in Log Scale	3.074
SD in Original Scale	5.833	SD in Log Scale	0.435
95% t UCL (Assumes normality)	25.4	95% H-Stat UCL	29.23

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

TABLE B.2
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	10.75	KM H-UCL	8.15
95% KM (BCA) UCL	N/A		

Warning: One or more Recommended UCL(s) not available!

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

TABLE B.3
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.11/17/2018 1:32:36 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

result (ws_trt_1,4-dioxane (p-dioxane)_123-91-1)

General Statistics

Total Number of Observations	6	Number of Distinct Observations	5
		Number of Missing Observations	0
Minimum	21	Mean	35.67
Maximum	61	Median	35
SD	14.58	Std. Error of Mean	5.954
Coefficient of Variation	0.409	Skewness	1.028

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.891	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.217	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	47.66	95% Adjusted-CLT UCL (Chen-1995)	48.13
		95% Modified-t UCL (Johnson-1978)	48.08

Gamma GOF Test

A-D Test Statistic	0.349	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.698	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.201	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.333	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	7.676	k star (bias corrected MLE)	3.949
Theta hat (MLE)	4.646	Theta star (bias corrected MLE)	9.031
nu hat (MLE)	92.12	nu star (bias corrected)	47.39
MLE Mean (bias corrected)	35.67	MLE Sd (bias corrected)	17.95
		Approximate Chi Square Value (0.05)	32.59
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	28.23

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	51.86	95% Adjusted Gamma UCL (use when n<50)	59.87

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.923	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.214	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.045	Mean of logged Data	3.508
Maximum of Logged Data	4.111	SD of logged Data	0.397

Assuming Lognormal Distribution

95% H-UCL	55.41	90% Chebyshev (MVUE) UCL	52.94
95% Chebyshev (MVUE) UCL	60.79	97.5% Chebyshev (MVUE) UCL	71.68
99% Chebyshev (MVUE) UCL	93.07		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	45.46	95% Jackknife UCL	47.66
95% Standard Bootstrap UCL	44.76	95% Bootstrap-t UCL	50.9
95% Hall's Bootstrap UCL	60.07	95% Percentile Bootstrap UCL	45.33
95% BCA Bootstrap UCL	46.5		
90% Chebyshev(Mean, Sd) UCL	53.53	95% Chebyshev(Mean, Sd) UCL	61.62
97.5% Chebyshev(Mean, Sd) UCL	72.85	99% Chebyshev(Mean, Sd) UCL	94.9

Suggested UCL to Use

95% Student's-t UCL 47.66

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

result (ws_trt_alpha-chlordane_5103-71-9)

TABLE B.3
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

General Statistics

Total Number of Observations	6	Number of Distinct Observations	3
Number of Detects	2	Number of Non-Detects	4
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	0.0021	Minimum Non-Detect	0.005
Maximum Detect	0.0048	Maximum Non-Detect	0.005
Variance Detects	3.6450E-6	Percent Non-Detects	66.67%
Mean Detects	0.00345	SD Detects	0.00191
Median Detects	0.00345	CV Detects	0.553
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-5.752	SD of Logged Detects	0.585

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.00345	KM Standard Error of Mean	0.00135
KM SD	0.00135	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.00617	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.00567	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	0.0075	95% KM Chebyshev UCL	0.00933
97.5% KM Chebyshev UCL	0.0119	99% KM Chebyshev UCL	0.0169

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	6.179	k star (bias corrected MLE)	N/A
Theta hat (MLE)	5.5835E-4	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	24.72	nu star (bias corrected)	N/A
Mean (detects)	0.00345		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.00345	SD (KM)	0.00135
Variance (KM)	1.8225E-6	SE of Mean (KM)	0.00135
k hat (KM)	6.531	k star (KM)	3.377
nu hat (KM)	78.37	nu star (KM)	40.52
theta hat (KM)	5.2826E-4	theta star (KM)	0.00102
80% gamma percentile (KM)	0.00485	90% gamma percentile (KM)	0.00597
95% gamma percentile (KM)	0.007	99% gamma percentile (KM)	0.00923

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0122
Approximate Chi Square Value (40.52, α)	26.93	Adjusted Chi Square Value (40.52, β)	23.01
95% Gamma Approximate KM-UCL (use when n>=50)	0.00519	95% Gamma Adjusted KM-UCL (use when n<50)	0.00607

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.00366	Mean in Log Scale	-5.752
SD in Original Scale	0.00211	SD in Log Scale	0.594
95% t UCL (assumes normality of ROS data)	0.0054	95% Percentile Bootstrap UCL	0.005
95% BCA Bootstrap UCL	0.00513	95% Bootstrap t UCL	0.00584
95% H-UCL (Log ROS)	0.00813		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-5.752	KM Geo Mean	0.00317
KM SD (logged)	0.413	95% Critical H Value (KM-Log)	2.443
KM Standard Error of Mean (logged)	0.413	95% H-UCL (KM -Log)	0.00543
KM SD (logged)	0.413	95% Critical H Value (KM-Log)	2.443
KM Standard Error of Mean (logged)	0.413		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.00282	Mean in Log Scale	-5.912
SD in Original Scale	9.8472E-4	SD in Log Scale	0.289
95% t UCL (Assumes normality)	0.00363	95% H-Stat UCL	0.00376

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	0.00933

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

TABLE B.3
PROUCL 5.1 RAW OUTPUT FOR SURFACE WATER DOWNSTREAM OF THE LEACHATE TREATMENT PLANT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

result (ws_trt_arsenic_7440-38-2)

General Statistics

Total Number of Observations	6	Number of Distinct Observations	2
Number of Detects	1	Number of Non-Detects	5
Number of Distinct Detects	1	Number of Distinct Non-Detects	1

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable result (ws_trt_arsenic_7440-38-2) was not processed!

result (ws_trt_manganese_7439-96-5)

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	6.8	Mean	27.03
Maximum	70.5	Median	21.4
SD	23.92	Std. Error of Mean	9.765
Coefficient of Variation	0.885	Skewness	1.435

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.857	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.211	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	46.71	95% Adjusted-CLT UCL (Chen-1995)	49.21
		95% Modified-t UCL (Johnson-1978)	47.66

Gamma GOF Test

A-D Test Statistic	0.261	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.707	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.191	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.337	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.656	k star (bias corrected MLE)	0.939
Theta hat (MLE)	16.32	Theta star (bias corrected MLE)	28.78
nu hat (MLE)	19.88	nu star (bias corrected)	11.27
MLE Mean (bias corrected)	27.03	MLE Sd (bias corrected)	27.89
		Approximate Chi Square Value (0.05)	4.751
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	3.347

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	64.13	95% Adjusted Gamma UCL (use when n<50)	91.04

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.946	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.182	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.917	Mean of logged Data	2.966
Maximum of Logged Data	4.256	SD of logged Data	0.909

Assuming Lognormal Distribution

95% H-UCL	137.4	90% Chebyshev (MVUE) UCL	56.62
95% Chebyshev (MVUE) UCL	70.06	97.5% Chebyshev (MVUE) UCL	88.7
99% Chebyshev (MVUE) UCL	125.3		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	43.1	95% Jackknife UCL	46.71
95% Standard Bootstrap UCL	41.45	95% Bootstrap-t UCL	59.68
95% Hall's Bootstrap UCL	113.9	95% Percentile Bootstrap UCL	43.52
95% BCA Bootstrap UCL	46.9		
90% Chebyshev(Mean, Sd) UCL	56.33	95% Chebyshev(Mean, Sd) UCL	69.6
97.5% Chebyshev(Mean, Sd) UCL	88.02	99% Chebyshev(Mean, Sd) UCL	124.2

Suggested UCL to Use

95% Student's-t UCL 46.71

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	3.8	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.6	1	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.35	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.4	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.41	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.31	1	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.34	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.3	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.73	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	UJ	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.4	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.32	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/12/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.38	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.42	1	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.6	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.33	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	2.8	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	1.7	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	UJ	0.5
WG_1,2-DICHLOROETHANE_107-06-2	1.1	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	3	1	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	1.9	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.2	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	3.2	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	3	1	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	UJ	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.37	1	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	1.5	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.93	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	1.3	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.47	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	1	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.38	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.18	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.77	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.33	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.3	1	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.39	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.67	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	UJ	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.18	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	11/29/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.23	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	1	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.87	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	UJ	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.46	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.25	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/22/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.51	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2		0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.71	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.19	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	11/29/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.22	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	UJ	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.31	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.48	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/12/2014	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	J	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,2-DICHLOROETHANE_107-06-2	0.5	0	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,2-Dichloroethane	107-06-2	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.2	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.42	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.095	1	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.28	1	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.57	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.13	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.21	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.96	1	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.3	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.94	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.2	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.2	1	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.11	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.52	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	UJ	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.3	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	2.6	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.47	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.87	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.47	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.1	1	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	2	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.67	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.46	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.4	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.8	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.16	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	11/29/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.27	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.21	1	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.4	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.3	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	2	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.14	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_1,4-DICHLOROBENZENE_106-46-7	1.3	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.8	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.39	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.78	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/12/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.12	1	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	1.2	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7		0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	UJ	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	UJ	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.12	1	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	J	0.5
WG_1,4-DICHLOROBENZENE_106-46-7	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	1,4-Dichlorobenzene	106-46-7	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	51	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/23/2017	E625	T	VOC	1,4-Dioxane	123-91-1	J-	11
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.28	1	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	3/3/2017	E625	T	VOC	1,4-Dioxane	123-91-1	B	0.1
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	50	1	CF-209D	CFS-PILOTTEST-INF-20170206-0	2/6/2017	2/13/2017	E625	T	VOC	1,4-Dioxane	123-91-1		10
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.3	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	12/10/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/10/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.1	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/3/2017	E625 SIM	T	VOC	1,4-Dioxane	123-91-1	U	0.1
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	61	1	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/7/2017	E625	T	VOC	1,4-Dioxane	123-91-1		10
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/27/2012	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.9	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/26/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.44	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/27/2012	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/27/2012	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	19	1	CF-209D	CFS-PILOTTEST-COL1-20170208-0	2/8/2017	2/16/2017	E625	T	VOC	1,4-Dioxane	123-91-1		2
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/27/2012	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.1	1	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.5	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	38	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	24	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	5.2	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/18/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	66	1	CF-209D	CF209D-20170227	2/27/2017	3/7/2017	E625	T	VOC	1,4-Dioxane	123-91-1		10
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	40	1	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/19/2017	SW8260C-SIM	T	VOC	1,4-Dioxane	123-91-1		0.4
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	290	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.8	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.8	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	30	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/19/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	130	1	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,4-Dioxane	123-91-1		25
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	130	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,4-Dioxane	123-91-1		25
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	57	1	CF-209D	CF209D-20170216	2/16/2017	2/23/2017	E625	T	VOC	1,4-Dioxane	123-91-1	J-	10
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	29	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/31/2017	E625	T	VOC	1,4-Dioxane	123-91-1	D	4
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.8	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/26/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7.4	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/18/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	8.1	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	93	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	11	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7.9	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	14	1	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/12/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	280	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	14	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.7	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/18/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7.4	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.72	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/19/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	14	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.4	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	140	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	22	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	31	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/19/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.5	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	54	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/13/2017	E625	T	VOC	1,4-Dioxane	123-91-1		10
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.85	1	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	35	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/19/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.7	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/27/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	55	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.8	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	43	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	350	1	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	1,4-Dioxane	123-91-1		25
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	250	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	88	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	34	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	15	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.5	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	5.1	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.9	1	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.65	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/18/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.1	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/18/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.4	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	2.3	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7.2	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/11/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.1	1	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	40	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/26/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.54	1	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.7	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	11	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	7/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	18	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	14	1	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	12/2/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J+	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	23	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	20	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	7/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	30	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.3	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/11/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	34	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.49	1	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	22	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.2	1	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.8	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.2	1	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.94	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/26/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	24	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	35	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	7/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	4.1	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	25	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	8.7	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.5	1	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	19	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/12/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	29	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/27/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7.6	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	16	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.4	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.1	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	39	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/25/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.8	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	6.6	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.2	1	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	44	1	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	7/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	14	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/29/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	8.4	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.44	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/11/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.78	1	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	38	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/19/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.1	1	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/16/2013	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/16/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	7.5	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	42	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/26/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	9.4	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	28	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/26/2012	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.58	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/11/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WG_BENZENE_71-43-2	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.17	1	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	6.1	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	UJ	0.5
WG_BENZENE_71-43-2	0.47	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.37	1	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	UJ	0.5
WG_BENZENE_71-43-2	1.7	1	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	1.9	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/12/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	UJ	0.5
WG_BENZENE_71-43-2	2.7	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/19/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	4.3	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	21	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.8	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	1.2	1	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	4.8	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	2.4	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/19/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	70	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	15	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	1.9	1	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	2.1	1	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	1.7	1	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	2.6	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/19/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.4	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.59	1	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	90	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.35	1	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	4.4	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/13/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	9.2	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	8.4	1	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	1.5	1	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	1.6	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	Benzene	71-43-2		0.5

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_BENZENE_71-43-2	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.36	1	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	3	1	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	3.2	1	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.8	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	5.7	1	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.15	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.26	1	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.1	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	2.2	1	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.85	1	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	1.9	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.36	1	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.2	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	5.6	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	5.6	1	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.56	1	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	UJ	0.5
WG_BENZENE_71-43-2	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	UJ	0.5
WG_BENZENE_71-43-2	0.5	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	3.2	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	5.8	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/22/2012	E524.2	T	VOC	Benzene	71-43-2	J	0.5
WG_BENZENE_71-43-2	0.5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	3.9	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Benzene	71-43-2		0.5
WG_BENZENE_71-43-2	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Benzene	71-43-2	U	0.5
WG_BENZENE_71-43-2	0.5	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Benzene	71-43-2	UJ	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	4.1	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	UJ	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	UJ	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	1.4	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	UJ	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	3.2	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Chloroform	67-66-3	UJ	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	5.8	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Chloroform	67-66-3	J-	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.13	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.16	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.4	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	9.2	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/22/2012	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.17	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	7.2	1	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3		0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.12	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	6.8	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.49	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	Chloroform	67-66-3	J	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CHLOROFORM_67-66-3	0.5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	Chloroform	67-66-3	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	3.3	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.13	1	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.47	1	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.22	1	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.29	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	4.1	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.24	1	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.44	1	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.4	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.46	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.58	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.83	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J+	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.24	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.26	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	3.7	1	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	6	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	3.2	1	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.1	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.61	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J+	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	3.8	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.48	1	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.38	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.54	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.67	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.79	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.51	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	2.2	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.67	1	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.3	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.54	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.58	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.26	1	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.42	1	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.63	1	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.7	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.16	1	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.42	1	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.43	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.34	1	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.5	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.46	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.45	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.45	1	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.74	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.51	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.11	1	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.36	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.7	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.16	1	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.41	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/12/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.76	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.5	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.26	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.51	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J+	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.64	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.16	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.95	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.21	1	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.35	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.51	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.97	1	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.7	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/22/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.73	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.39	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.3	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.31	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.18	1	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.24	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.11	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/22/2012	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.65	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.26	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	1.2	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J+	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.68	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.29	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.66	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2		0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.37	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.34	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	U	0.5
WG_CIS-1,2-DICHLOROETHYLENE_156-59-2	0.19	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	cis-1,2-Dichloroethylene	156-59-2	J	0.5
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	240	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	260	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	240	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	230	1	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	29	1	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	27	1	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	69	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	8.6	1	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	34	1	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	Ethyl Ether	60-29-7		0.5
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	19	1	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	620	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	88	1	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Ethyl Ether	60-29-7		0.5
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	100	1	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Ethyl Ether	60-29-7		0.5
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	75	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	82	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Ethyl Ether	60-29-7		0.5
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	110	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	290	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	250	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	140	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	43	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	28	1	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	28	1	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	16	1	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	290	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	150	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	120	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	59	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	1.1	1	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Ethyl Ether	60-29-7	UJ	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	25	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	150	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	120	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	24	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	70	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	67	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	120	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	24	1	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	250	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	230	1	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	8.7	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	68	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	100	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/12/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	450	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	32	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	110	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	320	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	170	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	320	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	UJ	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	99	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	11/29/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	74	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	UJ	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	290	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	28	1	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	100	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	26	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	6.1	1	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	170	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/22/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	38	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/23/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	140	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	11/29/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	160	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	190	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	340	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	170	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	21	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	170	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	110	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	11/29/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	130	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	210	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/12/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	68	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	230	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	19	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/23/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	54	1	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	76	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/22/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	190	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	UJ	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	54	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	70	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	65	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	7.2	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	11/29/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	130	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	72	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	97	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	7.4	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	4.3	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	210	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	100	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	29	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	36	1	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	36	1	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	170	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/22/2012	E524.2	T	VOC	Ethyl Ether	60-29-7	J	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	50	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Ethyl Ether	60-29-7	U	50
WG_DIETHYL ETHER (ETHYL ETHER)_60-29-7	62	1	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Ethyl Ether	60-29-7		50
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	140	1	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J+	50
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	5	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Tert-butyl Alcohol	75-65-0	U	5
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	UJ	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	5	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	Tert-butyl Alcohol	75-65-0	U	5
WG_TERT-BUTYL ALCOHOL_75-65-0	5	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Tert-butyl Alcohol	75-65-0	U	5
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	23	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	7.4	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	42	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	38	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	11	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	5	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Tert-butyl Alcohol	75-65-0	U	5
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	16	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	7.8	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	92	1	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	35	1	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	18	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/12/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	31	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	11/29/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	40	1	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	7.3	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	6.1	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	19	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	19	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	11	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	82	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	11/29/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	36	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	11/29/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	J	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TERT-BUTYL ALCOHOL_75-65-0	20	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0		10
WG_TERT-BUTYL ALCOHOL_75-65-0	10	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Tert-butyl Alcohol	75-65-0	U	10
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	UJ	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.27	1	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.36	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.18	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	UJ	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.32	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.12	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.96	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4		0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.19	1	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.27	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.66	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4		0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.58	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	1.1	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4		0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.12	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.14	1	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	2	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	UJ	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	UJ	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.37	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.14	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.34	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.69	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4		0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.41	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	J	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.8	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4		0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TETRACHLOROETHYLENE(PCE)_127-18-4	0.5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Tetrachloroethylene (PCE)	127-18-4	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.27	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.31	1	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.32	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/22/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.36	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/1/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.38	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/12/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.1	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.51	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.12	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.23	1	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/18/2017	SW8260C	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.9	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.23	1	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.2	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.4	1	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	UJ	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.16	1	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.23	1	CF-209D	CF209D-20170227	2/27/2017	2/28/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.2	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.2	1	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.33	1	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/30/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.12	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.47	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.11	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.38	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/8/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.28	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/13/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.88	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.28	1	CF-209D	CF209D-20170216	2/16/2017	2/20/2017	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.15	1	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.2	1	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.3	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.94	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.33	1	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8260C	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	3.2	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.32	1	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	UJ	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.12	1	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.65	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.29	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	4	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.77	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.9	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/22/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.4	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.76	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.81	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.28	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.78	1	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.7	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.075	1	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.41	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.29	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.7	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.73	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.32	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.8	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.11	1	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.3	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.5	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.27	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.64	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.58	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.6	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.72	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.43	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	0.46	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/12/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WG_TRICHLOROETHYLENE (TCE)_79-01-6	1.1	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6		0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/13/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-207D	CF207D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-207D	CF207D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/9/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/13/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/13/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-212D	CF212D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-212D	CF212D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/9/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	UJ	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/25/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/24/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-201D	CF201D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-201D	CF201D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-201D	CF201D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-201D	CF201D-GW-R2SV-P4-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/9/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-207D	CF207D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/12/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-207D	CF207D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/17/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/23/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-206D	CF206D-GW-R2SV-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-206D	CF206D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-206D	CF206D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-206D	CF206D-GW-R2SV-P4-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-206D	CF206D-GW-R2SV-P5-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/9/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/12/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/9/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/18/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/2/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/18/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.24	1	CF-222D	CF222D-GW-R2SV-P2-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	J	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/16/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/16/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-218D	CF218D-GW-R2SV-P2-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-218D	CF218D-GW-R2SV-P3-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-218D	CF218D-GW-RS2V-P1-0	7/6/2015	7/8/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/14/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.18	1	CF-222D	CF222D-GW-R2SV-P1-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	J	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/9/2013	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.19	1	CF-222D	CF222D-GW-R2SV-P3-0	7/7/2015	7/9/2015	E524.2	T	VOC	Vinyl chloride	75-01-4	J	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/25/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/25/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/23/2012	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/24/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/25/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/18/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_VINYL CHLORIDE_75-01-4	0.5	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/16/2014	E524.2	T	VOC	Vinyl chloride	75-01-4	U	0.5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5.3	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/23/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5.1
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CFS-PILOTTEST-COL1-20170208-0	2/8/2017	2/16/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	8	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7		5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/7/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/27/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/27/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CFS-PILOTTEST-INF-20170206-0	2/6/2017	2/12/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/7/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/27/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5.3	0	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/23/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5.3
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2.6	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-20170216	2/16/2017	2/23/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/27/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2.2	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2.5	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	3.1	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	3.8	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/29/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2.4	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/19/2017	SW8270D	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	2
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/12/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/29/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/29/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/19/2017	SW8270D	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	2
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/29/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-20170227	2/27/2017	3/7/2017	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/23/2017	SW8270D	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	2
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/27/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	15	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7		5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/19/2017	SW8270D	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	2
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2.4	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/27/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5.4	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/23/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7		5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/20/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	4.3	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/23/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	2.1	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/17/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/23/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	3.8	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	11	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7		5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	4.2	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	J	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/19/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	15	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/18/2012	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7		5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/15/2013	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/29/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/29/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/10/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	UJ	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/16/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/30/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/24/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_BIS(2-ETHYLHEXYL) PHTHALATE_117-81-7	5	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	7/1/2014	E625	T	SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	110	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/27/2012	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	5	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	11	0	CF-209D	CFS-PILOTTEST-COL3-20170220	2/20/2017	2/23/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	11	0	CF-209D	CFS-PILOTTEST-INF-20170220	2/20/2017	2/23/2017	E625	T	SVOC	Caprolactam	105-60-2	U	11
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CFS-PILOTTEST-INF-20170227	2/27/2017	3/7/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CFS-PILOTTEST-COL3-20170227	2/27/2017	3/7/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	6.2	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/27/2012	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CFS-PILOTTEST-COL1-20170208-0	2/8/2017	2/16/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	44	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	42	1	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/27/2012	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CFS-PILOTTEST-INF-20170206-0	2/6/2017	2/12/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	180	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/27/2012	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	3.6	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/30/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	5	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/29/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/12/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/19/2017	SW8270D	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/19/2017	SW8270D	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/19/2017	SW8270D	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/23/2017	SW8270D	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/30/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/27/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF209D-20170216	2/16/2017	2/23/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	43	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/29/2014	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	3/29/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/29/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	7.6	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	5	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	2.3	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	7.6	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	2.1	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	10	0	CF-209D	CF209D-20170227	2/27/2017	3/7/2017	E625	T	SVOC	Caprolactam	105-60-2	U	10
WG_CAPROLACTAM_105-60-2	5	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	2.3	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	5	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/23/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/23/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/29/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	2.6	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	5	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/30/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	5	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	3.4	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	5	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	1100	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/27/2012	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	4	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	10	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/30/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5
WG_CAPROLACTAM_105-60-2	2	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/30/2014	E625	T	SVOC	Caprolactam	105-60-2	UJ	5

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_CAPROLACTAM_105-60-2	5	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	2.3	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/18/2012	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	110	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/20/2012	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	5	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/19/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/10/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/17/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/23/2012	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	4.1	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2	J	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/29/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/15/2013	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/30/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/24/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5.2	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/30/2014	E625	T	SVOC	Caprolactam	105-60-2		5
WG_CAPROLACTAM_105-60-2	5	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/16/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_CAPROLACTAM_105-60-2	5	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	7/1/2014	E625	T	SVOC	Caprolactam	105-60-2	U	5
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/7/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	12/12/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.0097	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/3/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	11/10/2012	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	11/10/2012	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	11/10/2012	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.0002	1	CF-209D	CF209D-20170216	2/16/2017	2/21/2017	CPEST	T	PEST	BHC alpha	319-84-6	J	0.0025
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	11/10/2012	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.091	0	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	4/4/2017	CPEST	T	PEST	BHC alpha	319-84-6	U	0.091
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.024	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.00041	1	CF-209D	CF209D-20170227	2/27/2017	3/3/2017	CPEST	T	PEST	BHC alpha	319-84-6	J	0.0076
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/12/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.023	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.031	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.045	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	11/10/2012	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.073	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.02	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.02	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	BHC alpha	319-84-6	U	0.02
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.02	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	BHC alpha	319-84-6	U	0.02
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.0025	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/17/2017	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.0025
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.02	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	BHC alpha	319-84-6	U	0.02
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.022	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.02	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	BHC alpha	319-84-6	U	0.02
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.023	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.014	1	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	7/3/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/12/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/13/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	7/3/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/19/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/26/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.014	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	7/2/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/17/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.0092	1	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/3/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.018	1	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.051	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	7/3/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/12/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.016	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6	NJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/22/2013	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.0025	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.041	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/12/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/12/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/19/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	12/8/2014	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.011	1	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/3/2014	CPEST	T	PEST	BHC alpha	319-84-6	J	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.014	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	CPEST	T	PEST	BHC alpha	319-84-6		0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	11/10/2012	CPEST	T	PEST	BHC alpha	319-84-6	U	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/29/2014	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)_319-84-6	0.005	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/22/2012	CPEST	T	PEST	BHC alpha	319-84-6	UJ	0.005
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	12/12/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	11/10/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/7/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	11/10/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	11/10/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/3/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.02	0	CF-209D	CF209D-GW-R3-P2-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	Endrin Aldehyde	7421-93-4	U	0.02
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.02	0	CF-209D	CF209D-GW-R3-P1-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	Endrin Aldehyde	7421-93-4	U	0.02
WG_ENDRIN ALDEHYDE_7421-93-4	0.015	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.00028	1	CF-209D	CF209D-20170216	2/16/2017	2/21/2017	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.1
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.0091	0	CF-209D-R	CF-209D-20170324-BD710-N	3/24/2017	4/4/2017	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.0091
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.0016	1	CF-209D	CF209D-20170227	2/27/2017	3/3/2017	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.3
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	11/10/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.0097	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	11/10/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.005	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/17/2017	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.005
WG_ENDRIN ALDEHYDE_7421-93-4	0.02	0	CF-209D	CF209D-GW-R3-P4-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	Endrin Aldehyde	7421-93-4	U	0.02
WG_ENDRIN ALDEHYDE_7421-93-4	0.02	0	CF-209D	CF209D-GW-R3-P3-0-20170112	1/12/2017	1/17/2017	SW8081B	T	PEST	Endrin Aldehyde	7421-93-4	U	0.02
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/12/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

HDR

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/3/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	7/2/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.014	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.012	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/12/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/12/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/22/2013	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/12/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.02	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/17/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	7/3/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/26/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/12/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/3/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/13/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	11/10/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.0085	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	7/3/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	J	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/19/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	12/8/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/22/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	7/3/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/29/2014	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	UJ	0.01
WG_ENDRIN ALDEHYDE_7421-93-4	0.01	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/19/2012	CPEST	T	PEST	Endrin Aldehyde	7421-93-4	U	0.01
WG_ALUMINUM_7429-90-5	540	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	82.2	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	J	200
WG_ALUMINUM_7429-90-5	20	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	145	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	20	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	620	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	20	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	1920	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WG_ALUMINUM_7429-90-5	20	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	18400	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	47.2	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	17400	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WG_ALUMINUM_7429-90-5	20	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	81.1	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	2380	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WG_ALUMINUM_7429-90-5	20	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	190	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	20	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	30	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	200	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	65.2	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	200	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	40.3	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	20	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	42.3	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	200	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20.7	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5		20
WG_ALUMINUM_7429-90-5	20	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	200	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	27.5	1	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Aluminum	7429-90-5	J	200
WG_ALUMINUM_7429-90-5	20	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	200	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WG_ALUMINUM_7429-90-5	20	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ALUMINUM_7429-90-5	20	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Aluminum	7429-90-5	U	20
WG_ARSENIC_7440-38-2	10	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	2.3	1	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WG_ARSENIC_7440-38-2	3.8	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WG_ARSENIC_7440-38-2	10	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1.5	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	1	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	2.9	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	2.8	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WG_ARSENIC_7440-38-2	1	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	2.3	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	1	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1.1	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	10	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_ARSENIC_7440-38-2	10	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	6.4	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	0.47	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	J	1
WG_ARSENIC_7440-38-2	10	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	4.5	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WG_ARSENIC_7440-38-2	1	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	4.9	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	10	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	3.1	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	10	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	4.8	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	10	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	2.1	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	10	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	1	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	3.1	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Arsenic	7440-38-2		1
WG_ARSENIC_7440-38-2	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	3.8	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WG_ARSENIC_7440-38-2	10	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Arsenic	7440-38-2	U	1
WG_ARSENIC_7440-38-2	10	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_ARSENIC_7440-38-2	10	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WG_BARIUM_7440-39-3	22.9	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	4.3	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	8.4	1	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	4.3	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	4.6	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	11.4	1	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	200	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	14.5	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	200	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	16.7	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	7.2	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	200	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	3.2	1	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	12.3	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	200	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	6.9	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	5.3	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	5.9	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	7.1	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	200	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	42.7	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	200	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	200	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	12.3	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	32.8	1	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	6.5	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	5.3	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	30.6	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	200	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	9.9	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	44.2	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	14	1	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	12.7	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	22	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	3.6	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	4.6	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	5.6	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	6.1	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	18	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	27.7	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	1520	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3		200
WG_BARIUM_7440-39-3	19	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	15	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	7.5	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	2390	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3		200
WG_BARIUM_7440-39-3	29	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	4.5	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	10	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	200	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	6.1	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	34.9	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	8.1	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	24.6	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	26.5	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	7.5	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	13	1	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	38.4	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	19	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	2.9	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	7.5	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	9.6	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	3	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	12.8	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	5.4	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	12	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	6.5	1	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	3.6	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	200	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	5.4	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	200	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	200	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	200	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	17.5	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	12	1	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	8.9	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	18	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	200	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	18.4	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	43.4	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	10.9	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	200	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	18	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	8.8	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	14	1	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	200	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	92.2	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	2	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	62.3	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	2.6	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	20.6	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	51.3	1	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	52.9	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	87.7	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	107	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	34.4	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	46.3	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	17	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	24.2	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	7.4	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	38	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	23.6	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	11.1	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BARIUM_7440-39-3	21.7	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	9.9	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	2.1	1	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Barium	7440-39-3	J	10
WG_BARIUM_7440-39-3	53	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	200	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	94	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	13.2	1	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Barium	7440-39-3	J	200
WG_BARIUM_7440-39-3	200	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Barium	7440-39-3	U	200
WG_BARIUM_7440-39-3	63	1	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	84	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	12	1	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Barium	7440-39-3		1
WG_BARIUM_7440-39-3	28.5	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Barium	7440-39-3		10
WG_BERYLLIUM_7440-41-7	1	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	0.23	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	J	1

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_BERYLLIUM_7440-41-7	1	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	0.99	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	5	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	0.74	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	1	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	2.1	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	2.5	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	5	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	0.67	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	5	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	0.65	1	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	5	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	0.89	1	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Beryllium	7440-41-7	J	5
WG_BERYLLIUM_7440-41-7	1	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	5	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_BERYLLIUM_7440-41-7	5	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Beryllium	7440-41-7	U	5
WG_BERYLLIUM_7440-41-7	1	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Beryllium	7440-41-7	U	1
WG_CHROMIUM, TOTAL_7440-47-3	5	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3		2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	0.89	1	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	J	2
WG_CHROMIUM, TOTAL_7440-47-3	0.57	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	J	2
WG_CHROMIUM, TOTAL_7440-47-3	0.57	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	J	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	94.2	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	71.2	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	1
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	34.5	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	1
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	91.8	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	8.3	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	2.7	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3		2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	262	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	1.3	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	1
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2.5	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3		2
WG_CHROMIUM, TOTAL_7440-47-3	53.6	1	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	64.5	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	29	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	61.6	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	83.7	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	66	1	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	1	0	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	1
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	0.53	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	J	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	0.85	1	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	0.58	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	42	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	49.2	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	54.9	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	127	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3		2
WG_CHROMIUM, TOTAL_7440-47-3	7.4	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3		2
WG_CHROMIUM, TOTAL_7440-47-3	70.5	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	0.75	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	5.1	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	25.3	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3		10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	6.9	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	10	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	U	10
WG_CHROMIUM, TOTAL_7440-47-3	0.6	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	3.1	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Chromium (Total)	7440-47-3	J	10
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_CHROMIUM, TOTAL_7440-47-3	2	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Chromium (Total)	7440-47-3	U	2
WG_COBALT_7440-48-4	1	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1.1	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	50	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	2.8	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4		1
WG_COBALT_7440-48-4	1	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	2.4	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	50	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	9	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	50	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4		1
WG_COBALT_7440-48-4	10.8	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	50	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	4.9	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4		1
WG_COBALT_7440-48-4	1	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1.4	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	50	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	4.6	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4		1
WG_COBALT_7440-48-4	50	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1.3	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4		1
WG_COBALT_7440-48-4	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	5.6	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4		1
WG_COBALT_7440-48-4	50	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	5.5	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	50	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	50	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	0.96	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	1	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	1	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	3.4	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COBALT_7440-48-4	1	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	1	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Cobalt	7440-48-4	U	1
WG_COBALT_7440-48-4	50	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WG_COBALT_7440-48-4	2.2	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WG_COPPER_7440-50-8	2	0	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	1.2	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Copper	7440-50-8		2
WG_COPPER_7440-50-8	2	0	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	25	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	8.9	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	J	25
WG_COPPER_7440-50-8	1.6	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	4.3	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	J	25
WG_COPPER_7440-50-8	1170	1	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8		25
WG_COPPER_7440-50-8	43.5	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8		25
WG_COPPER_7440-50-8	4.8	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	J	25
WG_COPPER_7440-50-8	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	4	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8		2
WG_COPPER_7440-50-8	25	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	1	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	2	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	3.1	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8		2
WG_COPPER_7440-50-8	25	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	3.2	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	25	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1.3	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	25	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1.9	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	25	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	10.1	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Copper	7440-50-8		2
WG_COPPER_7440-50-8	1	0	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	1	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	40.5	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8		25
WG_COPPER_7440-50-8	2	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	16.5	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	J	25
WG_COPPER_7440-50-8	25	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	2.9	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	2	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	3.8	1	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	J	25
WG_COPPER_7440-50-8	1.4	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_COPPER_7440-50-8	25	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	25	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	3.6	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	25	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	4	1	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	J	25
WG_COPPER_7440-50-8	25	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	2.1	1	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	1.3	1	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	25	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	25	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	8.8	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Copper	7440-50-8		2
WG_COPPER_7440-50-8	2	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8	U	1
WG_COPPER_7440-50-8	25	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	2	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	1.9	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Copper	7440-50-8		1
WG_COPPER_7440-50-8	25	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	25	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_COPPER_7440-50-8	2	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Copper	7440-50-8	U	2
WG_COPPER_7440-50-8	25	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Copper	7440-50-8	U	25
WG_IRON_7439-89-6	551	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	570	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	701	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	7810	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	409	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	44700	1	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	12700	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	16000	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	586	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	558	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1240	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	480	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	7000	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Iron	7439-89-6		20
WG_IRON_7439-89-6	870	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	200	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	511	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	160	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	50	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	50
WG_IRON_7439-89-6	221	1	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	2710	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	137	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	69.4	1	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	21800	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	640	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Iron	7439-89-6		20
WG_IRON_7439-89-6	425	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	258	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	709	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	352	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	636	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	23500	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	247	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	3000	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	681	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	3000	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	6450	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1000	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	186	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	221	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	957	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	204	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	214	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	200	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Iron	7439-89-6	U	200
WG_IRON_7439-89-6	217	1	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	103	1	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1170	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	350	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	100	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	100	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	1080	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	6200	1	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Iron	7439-89-6		20
WG_IRON_7439-89-6	3840	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	403	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	19200	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	3530	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	100	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	1030	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	1150	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	5600	1	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Iron	7439-89-6		20
WG_IRON_7439-89-6	200	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Iron	7439-89-6	U	200
WG_IRON_7439-89-6	434	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	100	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	90.5	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	100	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	3470	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	145	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	75.6	1	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	113	1	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	266	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	1070	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	199	1	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1200	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	1680	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	69	1	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	909	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	287	1	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	84.4	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1690	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	50	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	50
WG_IRON_7439-89-6	180	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1740	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	130	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	1400	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	100	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	265	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	50	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	50
WG_IRON_7439-89-6	370	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	4500	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	338	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	3190	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	110	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	73.6	1	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	3980	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	1810	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	2390	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	660	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	324	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	270	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	1440	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	100	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	50	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	50
WG_IRON_7439-89-6	31.6	1	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	841	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Iron	7439-89-6		200
WG_IRON_7439-89-6	50	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	50
WG_IRON_7439-89-6	53.7	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WG_IRON_7439-89-6	2000	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	140	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	50	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	50
WG_IRON_7439-89-6	104	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	90.1	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Iron	7439-89-6	J	200
WG_IRON_7439-89-6	160	1	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		50
WG_IRON_7439-89-6	100	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6	U	100
WG_IRON_7439-89-6	965	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	992	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_IRON_7439-89-6	5370	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WG_LEAD_7439-92-1	10	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1.4	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1.1	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	2.3	1	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1.7	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1.7	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	2.9	1	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	2.8	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1.8	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	10	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	163	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WG_LEAD_7439-92-1	1	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1.4	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	10	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	20	1	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WG_LEAD_7439-92-1	1	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	2.1	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	8.7	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	2.4	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	8.7	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	13.9	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WG_LEAD_7439-92-1	10	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_LEAD_7439-92-1	8.7	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1.6	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	10	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	10	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	3.2	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	3.8	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	175	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WG_LEAD_7439-92-1	1.4	1	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	2	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1.5	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1.1	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	2.1	1	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	63.8	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1		10
WG_LEAD_7439-92-1	1	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1.9	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	10	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	10	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	3.5	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1.1	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	2.7	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	10	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	10	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	2.1	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	2	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	3.1	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1.9	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	10	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	10	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	2.3	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	3.5	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	10	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	3.7	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1.4	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1.3	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	5.2	1	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	3.8	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	6.1	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	5.9	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	3	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	3.2	1	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	10	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	4.6	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	10	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WG_LEAD_7439-92-1	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	4.3	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1.8	1	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1.2	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1		1
WG_LEAD_7439-92-1	1	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	3.1	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WG_LEAD_7439-92-1	1	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_LEAD_7439-92-1	1	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Lead	7439-92-1	U	1
WG_MANGANESE_7439-96-5	110	1	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	186	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	37.8	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	45	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	10.4	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	56.1	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	81.4	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	53.6	1	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	80	1	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	59.1	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	52	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	1810	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	76.5	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	24	1	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	4.2	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	89.4	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	111	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	3.4	1	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	43.2	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	240	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	80.9	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	35.9	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	67.7	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	61.2	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	7.5	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	745	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	23.7	1	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	6.1	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	281	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	150	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	99.1	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	43.2	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	41	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	47.2	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	609	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	32.8	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	19.8	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	78.8	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	270	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	61.1	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	710	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	760	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	15	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5	U	15
WG_MANGANESE_7439-96-5	230	1	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	180	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	35	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	98	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	149	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	490	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		10
WG_MANGANESE_7439-96-5	210	1	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	182	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	244	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	156	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	42	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	57.4	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	40.8	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	405	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	79.6	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	780	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		10
WG_MANGANESE_7439-96-5	48.8	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	156	1	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	50	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	84.7	1	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	101	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	36	1	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	2.1	1	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	27.8	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	568	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	203	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	13.1	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	3.8	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	79	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	397	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	10.2	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	25	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	3.2	1	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	42.7	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	1.7	1	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WG_MANGANESE_7439-96-5	150	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	7.1	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	306	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	18.6	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	280	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	52.9	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	16.2	1	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	193	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	3590	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	26	1	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	268	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	120	1	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	82.3	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	31	1	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	552	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	4960	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	150	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	420	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		10
WG_MANGANESE_7439-96-5	129	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	21.6	1	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	57.4	1	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	37	1	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	250	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	4560	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	3.3	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	4000	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		50
WG_MANGANESE_7439-96-5	29.9	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	2730	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	318	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	459	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	21.1	1	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	3960	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	16	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Manganese	7439-96-5		1
WG_MANGANESE_7439-96-5	86.7	1	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_MANGANESE_7439-96-5	15	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Manganese	7439-96-5	U	15
WG_MANGANESE_7439-96-5	711	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WG_NICKEL_7440-02-0	1	0	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	14.4	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	40	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	2.8	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	1	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	0.99	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	0.86	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	1	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	9.2	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_NICKEL_7440-02-0	1	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	0.48	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	1.4	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1.1	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	136	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1.8	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	59.4	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	40	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	44.2	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	22.6	1	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	3.2	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1	0	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	19	1	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	36.1	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	40	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	6.3	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	40	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	0.99	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	40	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1.1	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	149	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	44.3	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	0.44	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	0.86	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	94.4	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	40	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	3.2	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1.6	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	4.4	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	0.99	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	40	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	3.3	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	68.1	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	37.3	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	4.9	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	40	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	3.9	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	4.9	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	2.2	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	3.5	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	1.5	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1.5	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	0.57	1	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	1.6	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	40	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	3.1	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	2.3	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	1	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	40	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	17.5	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	6.6	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1.8	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	13.5	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1.5	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	1	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	3.5	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	2.3	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	1	0	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	54.3	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_NICKEL_7440-02-0	1.3	1	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	40	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	0.49	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0	J	1
WG_NICKEL_7440-02-0	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	40	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	40	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	1.6	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Nickel	7440-02-0	U	1
WG_NICKEL_7440-02-0	1.9	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	2.2	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Nickel	7440-02-0		1
WG_NICKEL_7440-02-0	40	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Nickel	7440-02-0	U	40
WG_NICKEL_7440-02-0	4.2	1	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Nickel	7440-02-0	J	40
WG_NICKEL_7440-02-0	78.8	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Nickel	7440-02-0		40
WG_SODIUM_7440-23-5	7480	1	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	4080	1	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	7920	1	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	3830	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	4700	1	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	14200	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	12000	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	7320	1	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	18600	1	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	5890	1	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	9800	1	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Sodium	7440-23-5		100
WG_SODIUM_7440-23-5	6100	1	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	5640	1	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	6600	1	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	8440	1	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	33900	1	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	7910	1	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	6690	1	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	24800	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6360	1	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	6450	1	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	5610	1	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	489000	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6750	1	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	13000	1	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	11600	1	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	8540	1	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6290	1	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	8550	1	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	8540	1	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	6290	1	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	4950	1	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	10100	1	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	5000	1	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	11400	1	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	4730	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	11800	1	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	19500	1	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	10000	1	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	16500	1	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	8300	1	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	15700	1	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	15000	1	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	12000	1	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	12000	1	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	13000	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Sodium	7440-23-5		100
WG_SODIUM_7440-23-5	12000	1	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Sodium	7440-23-5		100
WG_SODIUM_7440-23-5	9160	1	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	13000	1	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	15200	1	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	15100	1	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	7860	1	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	11400	1	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	5630	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	15600	1	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	10700	1	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	11600	1	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	13300	1	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	10000	1	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Sodium	7440-23-5		100
WG_SODIUM_7440-23-5	4640	1	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	7630	1	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	12900	1	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	59500	1	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	8070	1	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	16400	1	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6160	1	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	3200	1	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	5960	1	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	3100	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	8990	1	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	55200	1	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	50000	1	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	3340	1	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	5520	1	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	7600	1	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	77000	1	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	74900	1	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	8100	1	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	41000	1	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	9700	1	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	55700	1	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	7180	1	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	72800	1	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	3740	1	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	6730	1	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	3380	1	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	19100	1	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	3650	1	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Sodium	7440-23-5	J	5000
WG_SODIUM_7440-23-5	7820	1	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	7800	1	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	3100	1	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	5600	1	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	7000	1	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	6200	1	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	3100	1	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/17/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	62400	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	14500	1	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	5210	1	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	5530	1	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6710	1	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	36900	1	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	5420	1	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	49500	1	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	9820	1	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	8730	1	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WG_SODIUM_7440-23-5	5400	1	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/16/2014	E200.7	T	INORGAN	Sodium	7440-23-5		1000
WG_SODIUM_7440-23-5	8460	1	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6450	1	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	5030	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	7060	1	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	8640	1	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	6780	1	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_SODIUM_7440-23-5	7660	1	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Sodium	7440-23-5		5000
WG_SODIUM_7440-23-5	34700	1	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Sodium	7440-23-5		500
WG_VANADIUM_7440-62-2	50	0	CF-22S	CF22S-GW-RS-AEF-0	11/17/2014	11/21/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	0.32	1	CF-230D	CF230D-GW-R1-BCI-0	12/23/2013	1/13/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	J	5
WG_VANADIUM_7440-62-2	5	0	WRA-2-1	WRA2-1-GW-R2-CAJ-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	0.35	1	CF-22S	CF22S-GW-R2-AEF-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	J	5
WG_VANADIUM_7440-62-2	5	0	WRA-3-3	WRA3-3-GW-R2-AIA-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	WRA-3-2	WRA3-2-GW-R2-CAF-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	1.2	1	CF-230D	CF230D-GW-R2-BCI-0	6/12/2014	7/1/2014	E200.8	T	INORGAN	Vanadium	7440-62-2		1
WG_VANADIUM_7440-62-2	50	0	CF-229D	CF229D-GW-R2-BJA-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-206D	CF206D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-209D	CF209D-GW-R2-P3-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF209D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-206D	CF206D-GW-RS-P2-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-205D	CF205D-GW-RS-BFF-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-205D	CF205D-GW-R2-BFF-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF209D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	1	0	CF-211D	CF211D-GW-R1-P3-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	1	0	CF-211D	CF211D-GW-R1-P2-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	5	0	CF-10D	CF10D-GW-R2-BFI-0	10/15/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-209D	CF209D-GW-R2-P1-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-206D	CF206D-GW-RS-P1-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-206D	CF206D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF209D-GW-R1-P4-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	5	0	CF-206D	CF206D-GW-R2-P2-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	CF-201D	CF201D-GW-R2-P3-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-204D	CF204D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-201D	CF201D-GW-R2-P4-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	CF-206D	CF206D-GW-R2-P5-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	CF-206D	CF206D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	CF-201D	CF201D-GW-R2-P2-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-209D	CF209D-GW-R2-P2-0	9/12/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-201D	CF201D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF-209D-PT-R2-20170216-0	2/16/2017	2/27/2017	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-204D	CF204D-GW-R1-P2-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	3.7	1	CF-11D	CF11D-GW-RS-BFI-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	J	50
WG_VANADIUM_7440-62-2	29.3	1	CF-207D	CF207D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	J	50
WG_VANADIUM_7440-62-2	50	0	CF-204D	CF204D-GW-R1-P3-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-207D	CF207D-GW-R2-P3-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-204D	CF204D-GW-R1-P1-0	8/8/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF-209D-PT-R1-20170203-0	2/3/2017	2/7/2017	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-207D	CF207D-GW-RS-P3-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-207D	CF207D-GW-R2-P2-0	8/5/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF-209D-PT-R3-20170227-0	2/27/2017	3/20/2017	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-204D	CF204D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-211D	CF211D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-207D	CF207D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-206D	CF206D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-207D	CF207D-GW-R2-P1-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	14.9	1	CF-10D	CF10D-GW-RS-BFI-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	J	50
WG_VANADIUM_7440-62-2	50	0	CF-204D	CF204D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-206D	CF206D-GW-RS-P5-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	7	1	CF-209D	CF-209D-GW-20170324-0	3/24/2017	4/10/2017	E200.8	T	INORGAN	Vanadium	7440-62-2		1
WG_VANADIUM_7440-62-2	50	0	CF-201D	CF201D-GW-RS-P2-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-201D	CF201D-GW-R2-P1-0	10/18/2012	10/25/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-206D	CF206D-GW-RS-P4-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	32.2	1	CF-207D	CF207D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	J	50
WG_VANADIUM_7440-62-2	50	0	CF-209D	CF209D-GW-R2-P4-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-207D	CF207D-GW-R2-P4-0	10/10/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	1	0	CF-209D	CF209D-GW-R1-P1-0	6/9/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-201D	CF201D-GW-RS-P1-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-201D	CF201D-GW-RS-P4-0	12/3/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-228D	CF228D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-228D	CF228D-GW-R2-P3-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-216D	CF216D-GW-R2-P2-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-216D	CF216D-GW-R1-P2-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1.1	1	CF-226D	CF226D-GW-R1-BFF-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Vanadium	7440-62-2		1
WG_VANADIUM_7440-62-2	5	0	CF-223D	CF223D-GW-R2-BFD-0	10/16/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-212D	CF212D-GW-RS-P2-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-226D	CF226D-GW-R2-BFF-0	9/9/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-227D	CF227D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-225D	CF225D-GW-RS-P1-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-218D	CF218D-GW-R2-P1-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	CF-212D	CF212D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-218D	CF218D-GW-RS-P3-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-227D	CF227D-GW-R2-P3-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-229D	CF229D-GW-R1-BJA-0	6/13/2014	7/1/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-211D	CF211D-GW-R2-P1-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-216D	CF216D-GW-R1-P3-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-227D	CF227D-GW-R2-P1-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-225D	CF225D-GW-R2-P1-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	1	0	CF-227D	CF227D-GW-R1-P1-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-227D	CF227D-GW-R2-P4-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-222D	CF222D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-224D	CF224D-GW-RS-BFD-0	11/20/2014	12/1/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-216D	CF216D-GW-R2-P4-0	9/8/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-222D	CF222D-GW-RS-P3-0	12/4/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-222D	CF222D-GW-R2-P2-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-228D	CF228D-GW-R2-P2-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-216D	CF216D-GW-R1-P1-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	0.3	1	CF-212D	CF212D-GW-R2-P1-0	10/11/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	J	5
WG_VANADIUM_7440-62-2	2.7	1	CF-216D	CF216D-GW-R2-P1-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2		1
WG_VANADIUM_7440-62-2	1	0	CF-227D	CF227D-GW-R1-P4-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	5	0	CF-225D	CF225D-GW-R2-P3-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-225D	CF225D-GW-RS-P2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-225D	CF225D-GW-RS-P3-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-228D	CF228D-GW-R1-P2-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-218D	CF218D-GW-RS-P1-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-222D	CF222D-GW-RS-P1-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-223D	CF223D-GW-RS-BFD-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	6.2	1	CF-224D	CF224D-GW-R2-BFD-0	10/17/2012	10/25/2012	E200.8	T	INORGAN	Vanadium	7440-62-2		5
WG_VANADIUM_7440-62-2	50	0	CF-227D	CF227D-GW-R2-P2-0	9/10/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-211D	CF211D-GW-R2-P2-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-218D	CF218D-GW-R2-P2-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	1	0	CF-227D	CF227D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	50	0	CF-211D	CF211D-GW-R2-P3-0	9/12/2014	9/24/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-228D	CF228D-GW-R1-P3-0	6/10/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WG_VANADIUM_7440-62-2	5	0	CF-218D	CF218D-GW-R2-P3-0	10/12/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-222D	CF222D-GW-RS-P2-0	11/17/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-212D	CF212D-GW-RS-P1-0	12/2/2014	12/11/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-218D	CF218D-GW-RS-P2-0	11/19/2014	12/1/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	5	0	CF-225D	CF225D-GW-R2-P2-0	10/11/2012	10/21/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	5	0	CF-222D	CF222D-GW-R2-P3-0	10/9/2012	10/20/2012	E200.8	T	INORGAN	Vanadium	7440-62-2	U	5
WG_VANADIUM_7440-62-2	50	0	CF-228D	CF228D-GW-R2-P1-0	9/11/2014	9/15/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	50	0	CF-216D	CF216D-GW-R1-P4-0	8/7/2013	8/13/2013	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WG_VANADIUM_7440-62-2	1	0	CF-216D	CF216D-GW-R2-P3-0	6/11/2014	6/25/2014	E200.8	T	INORGAN	Vanadium	7440-62-2	U	1
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	4.2	1	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	9.6	1	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	4.5	1	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	12/11/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	3.1	1	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	35	1	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	12/12/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.63	1	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	12/10/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	4.2	1	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.57	1	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	12/10/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	12/11/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	4.3	1	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.48	1	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	12/10/2014	E625	T	VOC	1,4-Dioxane	123-91-1	J	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	0.5	0	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	12/10/2014	E625	T	VOC	1,4-Dioxane	123-91-1	U	0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	1.7	1	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/30/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_1,4-DIOXANE (P-DIOXANE)_123-91-1	8.1	1	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/22/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.22	1	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/22/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/24/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/24/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/22/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.4	1	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/22/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	J	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/24/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/24/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/22/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_TRICHLOROETHYLENE (TCE)_79-01-6	0.5	0	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/25/2014	E524.2	T	VOC	Trichloroethylene (TCE)	79-01-6	U	0.5
WS_ALUMINUM_7429-90-5	101	1	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	J	200
WS_ALUMINUM_7429-90-5	200	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WS_ALUMINUM_7429-90-5	337	1	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	134	1	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	J	200
WS_ALUMINUM_7429-90-5	206	1	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	J	200
WS_ALUMINUM_7429-90-5	2100	1	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	200	0	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WS_ALUMINUM_7429-90-5	77.8	1	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	J	200
WS_ALUMINUM_7429-90-5	984	1	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	372	1	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	307	1	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	237	1	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	200	0	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WS_ALUMINUM_7429-90-5	200	0	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WS_ALUMINUM_7429-90-5	200	0	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WS_ALUMINUM_7429-90-5	208	1	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ALUMINUM_7429-90-5	200	0	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Aluminum	7429-90-5	U	200
WS_ALUMINUM_7429-90-5	734	1	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Aluminum	7429-90-5		200
WS_ARSENIC_7440-38-2	10	0	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	2.8	1	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WS_ARSENIC_7440-38-2	10	0	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_ARSENIC_7440-38-2	10	0	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_COBALT_7440-48-4	50	0	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	1.3	1	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WS_COBALT_7440-48-4	50	0	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50

TABLE B.4
PROUCL 5.1 RAW DATA INPUT
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ

Notes:
The data set provided here are for constituents of potential concern (COPCs) that were determined in the initial screening to calculate 95% upper confidence limits (UCLs) using USEPA ProUCL software for the risk assessment. This is not a complete data set.
The maximum of the field duplicate and parent sample results was applied.
The detection limit is the quantitation limit (QL). If the QL is not available, the method detection limit is applied; otherwise, the reporting limit is applied.

ProUCL Group	ProUCL Result (ug/L)	ProUCL Flag	Location	Sample ID	Sample Date	Analysis Date	Analytical Method	T or D	COPC Group	COPC	CASRN	Qualifier	Detection Limit (ug/L)
WS_COBALT_7440-48-4	50	0	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	50	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	U	50
WS_COBALT_7440-48-4	3.9	1	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WS_COBALT_7440-48-4	0.87	1	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Cobalt	7440-48-4	J	50
WS_IRON_7439-89-6	390	1	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	373	1	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	1180	1	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	445	1	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	480	1	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	3530	1	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	224	1	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	412	1	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	461	1	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	128	1	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	604	1	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	1030	1	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WS_IRON_7439-89-6	46.2	1	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6	J	100
WS_IRON_7439-89-6	5410	1	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	873	1	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	414	1	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	784	1	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_IRON_7439-89-6	391	1	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Iron	7439-89-6		100
WS_LEAD_7439-92-1	13.6	1	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WS_LEAD_7439-92-1	10	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	26.6	1	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WS_LEAD_7439-92-1	3.8	1	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	10	0	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	10	0	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	10	0	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	10	0	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	2	1	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	4.2	1	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	2.8	1	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	3.3	1	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	10	0	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	10	0	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	2.9	1	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	3.4	1	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Lead	7439-92-1	J	10
WS_LEAD_7439-92-1	10	0	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1	U	10
WS_LEAD_7439-92-1	10.5	1	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Lead	7439-92-1		10
WS_MANGANESE_7439-96-5	29.3	1	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	137	1	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	38.4	1	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	20	1	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	59.4	1	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	166	1	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	31.8	1	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	53.7	1	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	105	1	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	38	1	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	194	1	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	20.7	1	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	381	1	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	67.9	1	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	55.5	1	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	30.5	1	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_MANGANESE_7439-96-5	15	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5	U	15
WS_MANGANESE_7439-96-5	29.7	1	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_VANADIUM_7440-62-2	50	0	TUSW0003	TUSW0003-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TBSW0001	TBSW0001-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TBSW0001	TBSW0001-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	9.2	1	TUSW0003	TUSW0003-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	J	50
WS_VANADIUM_7440-62-2	50	0	LUSW0001	LUSW0001-SW-AF-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TBSW0002	TBSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TUSW0002	TUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TUSW0001	TUSW0001-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	LUSW0001	LUSW0001-SW-AF-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	LUSW0002	LUSW0002-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TUSW0002	TUSW0002-SW-AA-RS1-0	11/13/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TBSW0002	TBSW0002-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	LUSW0003	LUSW0003-SW-AD-RS1-0	11/13/2014	11/28/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TUSW0001	TUSW0001-SW-AA-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	TBSW0003	TBSW0003-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	50	0	LUSW0002	LUSW0002-SW-AA-RS1-0	11/12/2014	11/17/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_VANADIUM_7440-62-2	5	1	TBSW0003	TBSW0003-SW-AA-RS2-0	11/19/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	J	50
WS_VANADIUM_7440-62-2	50	0	LUSW0003	LUSW0003-SW-AD-RS2-0	11/18/2014	11/29/2014	E200.7	T	INORGAN	Vanadium	7440-62-2	U	50
WS_TRT_1,4-DIOXANE (P-DIOXANE)_123-91-1	21	1	ETSW0001	ETSW0001-SW-AA-RS2-0	11/18/2014	12/2/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRT_1,4-DIOXANE (P-DIOXANE)_123-91-1	61	1	ETSW0002	ETSW0002-SW-AA-RS1-0	11/11/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRT_1,4-DIOXANE (P-DIOXANE)_123-91-1	22	1	ETSW0002	ETSW0002-SW-AA-RS2-0	11/18/2014	12/2/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRT_1,4-DIOXANE (P-DIOXANE)_123-91-1	35	1	ETSW0003	ETSW0003-SW-AB-RS1-0	11/11/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRT_1,4-DIOXANE (P-DIOXANE)_123-91-1	35	1	ETSW0003	ETSW0003-SW-AB-RS2-0	11/18/2014	12/12/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRT_1,4-DIOXANE (P-DIOXANE)_123-91-1	40	1	ETSW0001	ETSW0001-SW-AA-RS1-0	11/11/2014	12/1/2014	E625	T	VOC	1,4-Dioxane	123-91-1		0.5
WS_TRT_ALPHA-CHLORDANE_5103-71-9	0.005	0	ETSW0002	ETSW0002-SW-AA-RS1-0	11/11/2014	12/3/2014	CPEST	T	PEST	Chlordane, alpha	5103-71-9	U	0.005
WS_TRT_ALPHA-CHLORDANE_5103-71-9	0.005	0	ETSW0002	ETSW0002-SW-AA-RS2-0	11/18/2014	12/8/2014	CPEST	T	PEST	Chlordane, alpha	5103-71-9	U	0.005
WS_TRT_ALPHA-CHLORDANE_5103-71-9	0.0021	1	ETSW0003	ETSW0003-SW-AB-RS1-0	11/11/2014	12/3/2014	CPEST	T	PEST	Chlordane, alpha	5103-71-9	J	0.005
WS_TRT_ALPHA-CHLORDANE_5103-71-9	0.005	0	ETSW0001	ETSW0001-SW-AA-RS1-0	11/11/2014	12/3/2014	CPEST	T	PEST	Chlordane, alpha	5103-71-9	U	0.005
WS_TRT_ALPHA-CHLORDANE_5103-71-9	0.005	0	ETSW0003	ETSW0003-SW-AB-RS2-0	11/18/2014	12/13/2014	CPEST	T	PEST	Chlordane, alpha	5103-71-9	U	0.005
WS_TRT_ALPHA-CHLORDANE_5103-71-9	0.0048	1	ETSW0001	ETSW0001-SW-AA-RS2-0	11/18/2014	12/8/2014	CPEST	T	PEST	Chlordane, alpha	5103-71-9	J	0.005
WS_TRT_ARSENIC_7440-38-2	10	0	ETSW0003	ETSW0003-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_TRT_ARSENIC_7440-38-2	10	0	ETSW0003	ETSW0003-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_TRT_ARSENIC_7440-38-2	10	0	ETSW0001	ETSW0001-SW-AA-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_TRT_ARSENIC_7440-38-2	3.6	1	ETSW0002	ETSW0002-SW-AA-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	J	10
WS_TRT_ARSENIC_7440-38-2	10	0	ETSW0002	ETSW0002-SW-AA-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_TRT_ARSENIC_7440-38-2	10	0	ETSW0001	ETSW0001-SW-AA-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Arsenic	7440-38-2	U	10
WS_TRT_MANGANESE_7439-96-5	27.1	1	ETSW0002	ETSW0002-SW-AA-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_TRT_MANGANESE_7439-96-5	7.6	1	ETSW0002	ETSW0002-SW-AA-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15
WS_TRT_MANGANESE_7439-96-5	34.5	1	ETSW0001	ETSW0001-SW-AA-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_TRT_MANGANESE_7439-96-5	70.5	1	ETSW0001	ETSW0001-SW-AA-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_TRT_MANGANESE_7439-96-5	15.7	1	ETSW0003	ETSW0003-SW-AB-RS1-0	11/11/2014	11/17/2014	E200.7	T	INORGAN	Manganese	7439-96-5		15
WS_TRT_MANGANESE_7439-96-5	6.8	1	ETSW0003	ETSW0003-SW-AB-RS2-0	11/18/2014	11/20/2014	E200.7	T	INORGAN	Manganese	7439-96-5	J	15

Attachment C

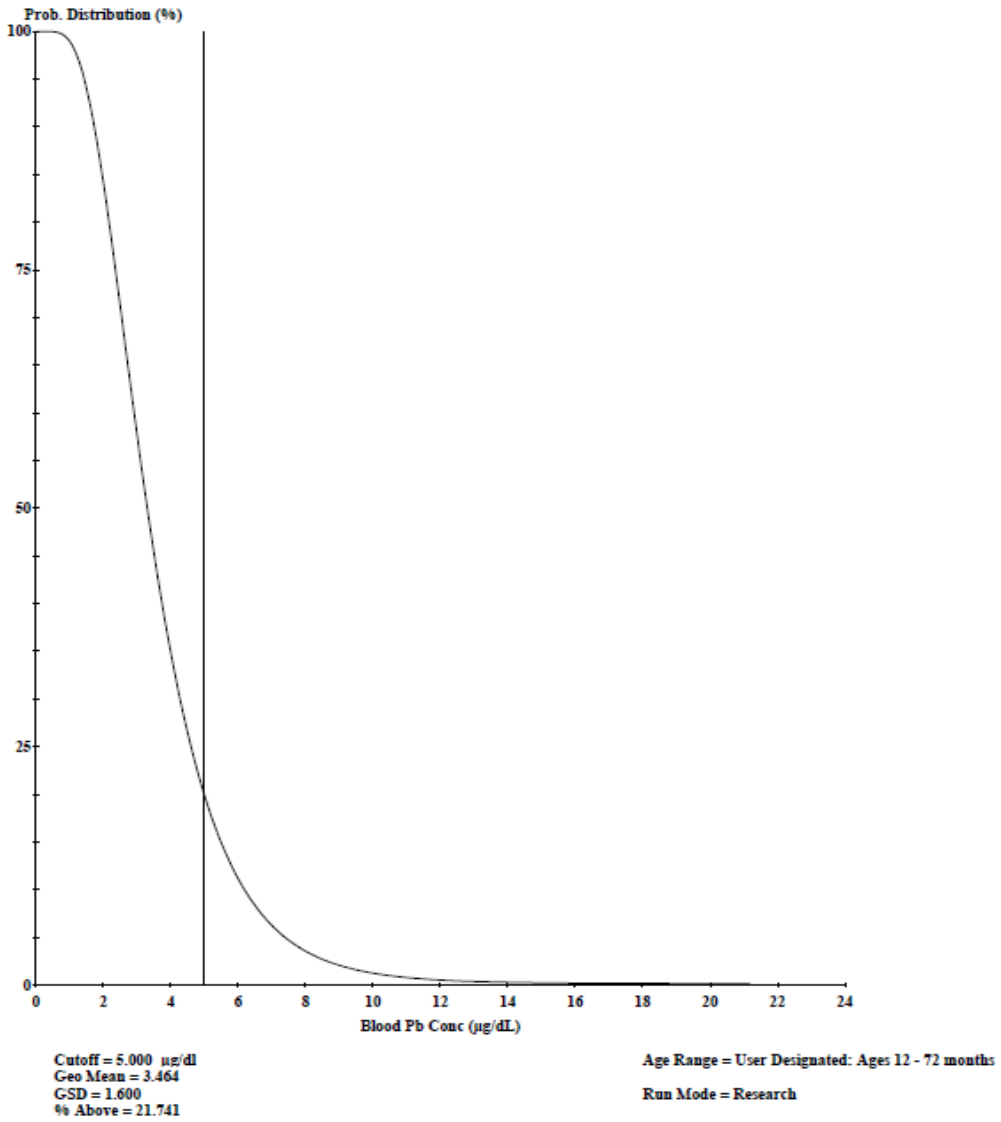
Contents:

Table C.1 IEUBK Blood Lead Model Output for Site-wide Groundwater

Table C.2 IEUBK Blood Lead Model Output for Groundwater Core of Plume

Table C.3 IEUBK Blood Lead Model Output for Surface Water

TABLE C.1
IEUBK BLOOD LEAD MODEL OUTPUT FOR SITE-WIDE GROUNDWATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ



Note:

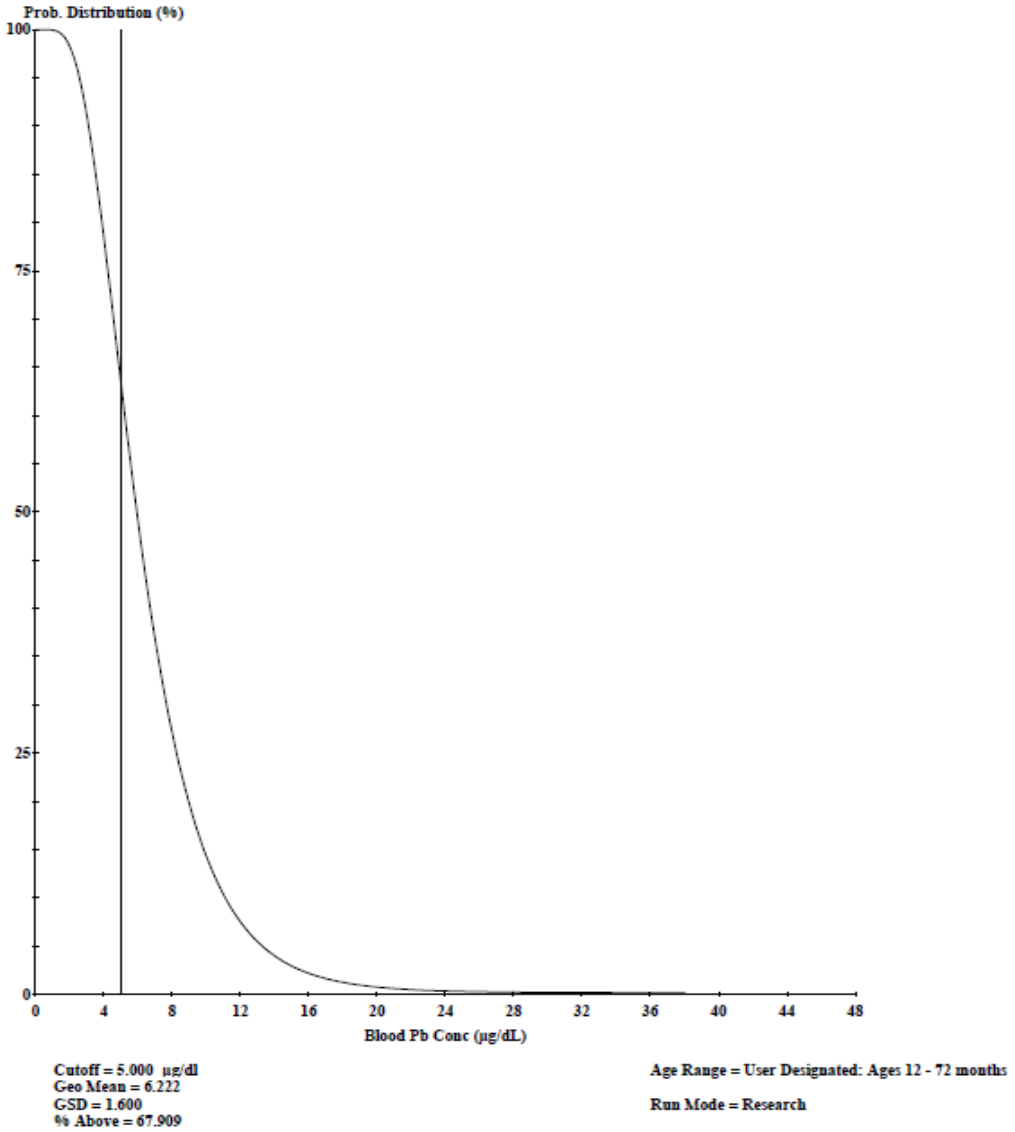
A site-specific mean detected groundwater concentration of 11.2 ug/L is input for site-wide groundwater. The maternal blood lead level was updated to 0.6 ug/dL and an age range of 12 to 72 months in accordance with the 2017 OLEM guidance. The remaining inputs are set to the model's default values.

References:

EPA. 1994. Guidance Manual for the IEUBK Model for Lead in Children. OSWER 9285.7-15-1. February.

EPA. 2010. Integrated Exposure Uptake Biokinetic Model for Lead in Children, Windows® version (IEUBKwin v1.1 build 11). February.

TABLE C.2
IEUBK BLOOD LEAD MODEL OUTPUT FOR GROUNDWATER CORE OF THE PLUME
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ



Note:

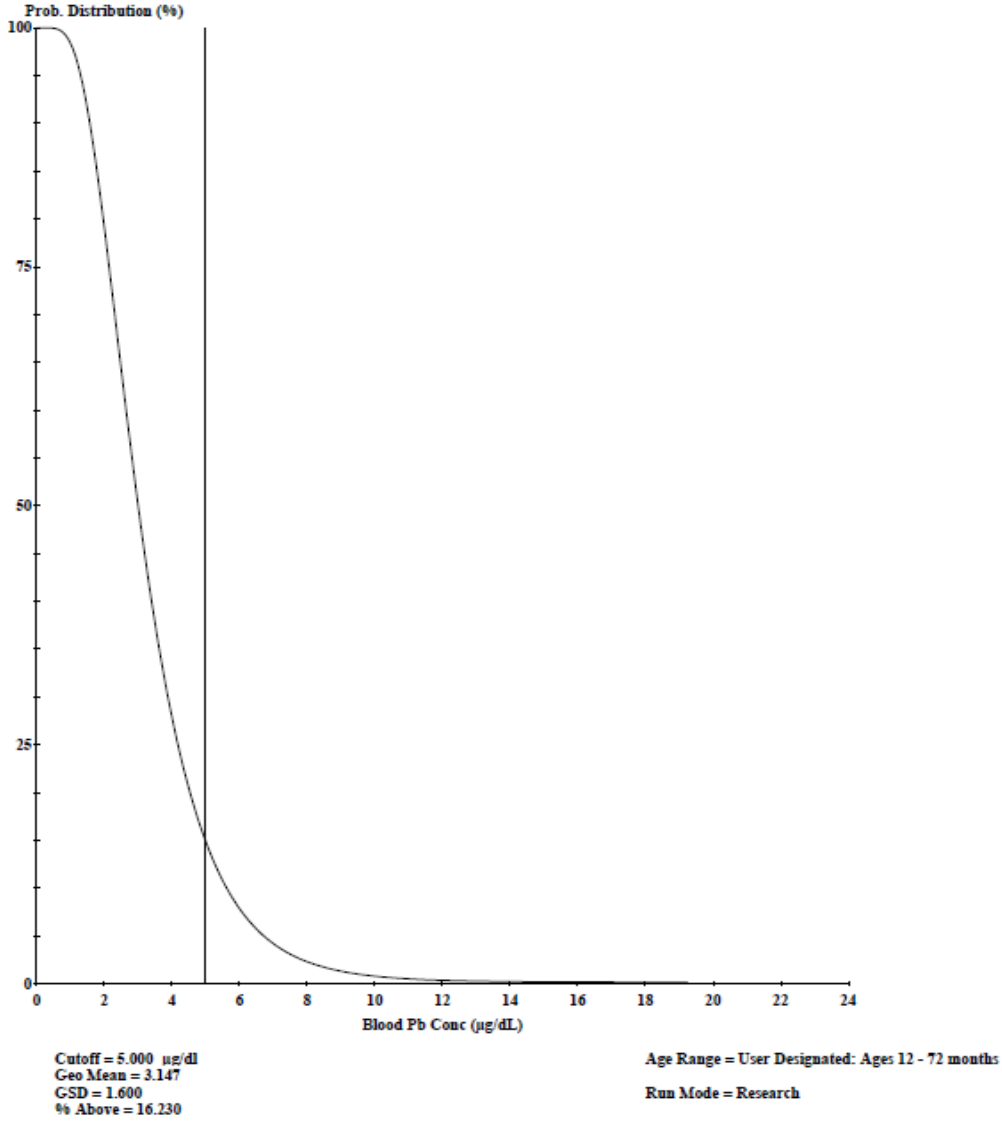
A site-specific mean detected groundwater concentration of 47.4 ug/L is input for groundwater Core of the Plume data set. The maternal blood lead level was updated to 0.6 ug/dL and an age range of 12 to 72 months in accordance with the 2017 OLEM guidance. The remaining inputs are set to the model's default values.

References:

EPA. 1994. Guidance Manual for the IEUBK Model for Lead in Children. OSWER 9285.7-15-1. February.

EPA. 2010. Integrated Exposure Uptake Biokinetic Model for Lead in Children, Windows® version (IEUBKwin v1.1 build 11). February.

TABLE C.3
IEUBK BLOOD LEAD MODEL OUTPUT FOR SURFACE WATER
COMBE FILL SOUTH LANDFILL SITE OPERABLE UNIT 2
CHESTER AND WASHINGTON TOWNSHIPS, NJ



Note:

A site-specific mean detected groundwater concentration of 7.31 ug/L is input for surface water. The maternal blood lead level was updated to 0.6 ug/dL and an age range of 12 to 72 months in accordance with the 2017 OLEM guidance. The remaining inputs are set to the model's default values.

References:

EPA. 1994. Guidance Manual for the IEUBK Model for Lead in Children. OSWER 9285.7-15-1. February.

EPA. 2010. Integrated Exposure Uptake Biokinetic Model for Lead in Children, Windows® version (IEUBKwin v1.1 build 11). February.

Attachment D

Contents:

Table D.1 Indoor Air Sampling Results 2010

Table D.2 Sub-Slab Soil Gas Sampling Results 2010

Table D.3 Outdoor Air Sampling Results 2010

VISLs USEPA Resident Vapor Intrusion Screening Levels Inputs & Outputs

Table D.1
Indoor Air Sampling Results 2010
Chester Township, NJ

					Sample:	#CFS-IAB-01		#CFS-IA1-01		#CFS-IAB-02		#CFS-IA1-02		#CFS-IAB-03		#CFS-IA1-03	
					Area:	Indoor Basement		First Floor		Indoor Basement		First Floor		Indoor Basement		First Floor	
Analyte	**CAS RN**	**EPA Indoor Air VISL (TR=1E-06, THQ=1) (1)(5)**	**NJ Generic Indoor Air VISL(2) (Residential)**	**NJ RAL Indoor Air(3) (Residential)**	**Unit**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	5,210	31,000	62,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-DICHLOROETHANE	75-34-3	1.75	2	200	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	0.108	2	9	ug/m^3	--	--	**0.61**	**0.28**	--	--	--	--	--	--	--	--
1,2-DICHLOROPROPANE	78-87-5	0.759	2	8	ug/m^3	--	--	0.43	0.32	--	--	--	--	--	--	--	--
1,1,1-TRICHLOROETHANE	71-55-6	5,210	5,200	10,000	ug/m^3	--	--	--	--	47	0.19	17	0.19	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	62.6	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	62.6	N/A	N/A	ug/m^3	--	--	--	--	4.8	0.34	1.3	0.34	--	--	--	--
1,4-DICHLOROBENZENE	106-46-7	0.255	3	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
4-ETHYLTOLUENE	622-96-8	N/A	N/A	N/A	ug/m^3	0.26	0.17	0.21	0.17	4.7	0.17	1.1	0.17	--	--	--	--
ACETONE	67-64-1	32,200	32,000	64,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	0.36	2	30	ug/m^3	**0.64**	0.11	**1.1**	0.11	**1.7**	0.11	**1.5**	0.11	**0.42**	0.11	**0.45**	0.11
CARBON DISULFIDE	75-15-0	730	730	1,500	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	0.468	3	40	ug/m^3	**0.51**	0.22	**0.69**	0.22	**2.3**	0.22	**2**	0.22	0.44	0.22	**0.57**	0.22
CHLOROETHANE	75-00-3	10,400	10,000	20,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CHLOROFORM	67-66-3	0.122	2	10	ug/m^3	**0.24**	**0.17**	**0.4**	**0.17**	**1.9**	**0.17**	**0.68**	**0.17**	--	--	--	--
CHLOROMETHANE	74-87-3	93.9	94	190	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHYLENE	156-59-2	N/A	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	75-71-8	104	100	200	ug/m^3	4.4	0.17	3.4	0.17	4.9	0.17	3.4	0.17	2.5	0.17	3.1	0.17
ETHYLBENZENE	100-41-4	1.12	2	100	ug/m^3	0.65	0.15	1.1	0.15	**2.7**	0.15	**1.6**	0.15	**1.3**	0.15	0.78	0.15
M,P-XYLENE	179601-23-1	104	100	200	ug/m^3	2.1	0.3	2.6	0.3	10	0.3	6.1	0.3	2.3	0.3	1.6	0.3
METHYL ETHYL KETONE	78-93-3	5,210	5,200	10,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYL ISOBUTYL KETONE	108-10-1	3,130	3,100	6,200	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYL METHACRYLATE	80-62-6	730	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	75-09-2	101	96	1,300	ug/m^3	--	--	2.8	2.4	--	--	--	--	--	--	--	--
N-HEPTANE	142-82-5	417	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
N-OCTANE	111-65-9	N/A	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	104	100	200	ug/m^3	0.78	0.15	0.91	0.15	3.7	0.15	2	0.15	0.78	0.15	0.61	0.15
STYRENE	100-42-5	1,040	1,000	2,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TERT-BUTYL METHYL ETHER	1634-04-4	10.8	9	900	ug/m^3	--	--	--	--	0.97	0.13	0.72	0.13	0.14	0.13	--	--
TETRACHLOROETHYLENE	127-18-4	10.8	9	84	ug/m^3	--	--	0.27	0.24	1.1	0.24	0.37	0.24	3.1	0.24	1.2	0.24
TRICHLOROETHYLENE	79-01-6	0.478	3	4	ug/m^3	--	--	--	--	**6.4**	0.19	**1.8**	0.19	--	--	--	--
TOLUENE	108-88-3	5,210	5,200	10,000	ug/m^3	4.9	0.13	20	0.26	35	0.13	19	0.13	7.9	0.13	4.5	0.13
TRICHLOROFLUOROMETHANE	75-69-4	N/A	730	1,500	ug/m^3	4	0.2	2.1	0.2	1.4	0.2	1.5	0.2	1.7	0.2	1.6	0.2
VINYL CHLORIDE	75-01-4	0.168	1	20	ug/m^3	--	--	--	--	**0.31**	**0.18**	--	--	--	--	--	--

Table D.1
Indoor Air Sampling Results 2010
Chester Township, NJ

					Sample:	#CFS-IAB-04		#CFS-IA1-04		#CFS-IAB-06		#CFS-IA1-06		#CFC-IAB07		# CFS-IA1-07	
					Area:	Indoor Basement		First Floor		Indoor Basement		First Floor		Indoor Basement		First Floor	
Analyte	**CAS RN**	**EPA Indoor Air VISL (TR=1E-06, THQ=1) (1)(5)**	**NJ Generic Indoor Air VISL(2) (Residential)**	**NJ RAL Indoor Air(3) (Residential)**	**Unit**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	5,210	31,000	62,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-DICHLOROETHANE	75-34-3	1.75	2	200	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	0.108	2	9	ug/m^3	--	--	--	--	--	--	--	--	**2.5**	**0.28**	**1.7**	**0.28**
1,2-DICHLOROPROPANE	78-87-5	0.759	2	8	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-TRICHLOROETHANE	71-55-6	5,210	5,200	10,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	62.6	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	62.6	N/A	N/A	ug/m^3	3.7	0.34	2.5	0.34	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	106-46-7	0.255	3	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
4-ETHYLTOLUENE	622-96-8	N/A	N/A	N/A	ug/m^3	3.8	0.17	2.9	0.17	--	--	--	--	0.22	0.17	0.18	0.17
ACETONE	67-64-1	32,200	32,000	64,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	0.36	2	30	ug/m^3	**9.6**	0.11	**6.4**	0.11	**0.38**	0.11	**0.51**	0.11	**1.1**	0.11	**0.73**	0.11
CARBON DISULFIDE	75-15-0	730	730	1,500	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	0.468	3	40	ug/m^3	0.43	0.22	0.33	0.22	**0.52**	0.22	**0.51**	0.22	**0.48**	0.22	**0.53**	0.22
CHLOROETHANE	75-00-3	10,400	10,000	20,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CHLOROFORM	67-66-3	0.122	2	10	ug/m^3	--	--	--	--	**1.1**	**0.17**	**0.49**	**0.17**	**0.25**	**0.17**	**0.68**	**0.17**
CHLOROMETHANE	74-87-3	93.9	94	190	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHYLENE	156-59-2	N/A	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	75-71-8	104	100	200	ug/m^3	2.4	0.17	2	0.17	2.1	0.17	2.2	0.17	2.8	0.17	2.9	0.17
ETHYLBENZENE	100-41-4	1.12	2	100	ug/m^3	**11**	0.15	**6.9**	0.15	0.3	0.15	0.3	0.15	1	0.15	0.96	0.15
M,P-XYLENE	179601-23-1	104	100	200	ug/m^3	37	0.3	27	0.3	0.69	0.3	0.69	0.3	2.6	0.3	3	0.3
METHYL ETHYL KETONE	78-93-3	5,210	5,200	10,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYL ISOBUTYL KETONE	108-10-1	3,130	3,100	6,200	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYL METHACRYLATE	80-62-6	730	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	75-09-2	101	96	1,300	ug/m^3	3.8	2.4	--	--	--	--	--	--	35	2.4	21	2.4
N-HEPTANE	142-82-5	417	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
N-OCTANE	111-65-9	N/A	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	104	100	200	ug/m^3	13	0.15	8.7	0.15	0.26	0.15	0.29	0.15	0.78	0.15	0.87	0.15
STYRENE	100-42-5	1,040	1,000	2,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TERT-BUTYL METHYL ETHER	1634-04-4	10.8	9	900	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	10.8	9	84	ug/m^3	--	--	0.24	0.24	--	--	--	--	--	--	--	--
TRICHLOROETHYLENE	79-01-6	0.478	3	4	ug/m^3	--	--	--	--	**0.52**	0.19	--	--	--	--	--	--
TOLUENE	108-88-3	5,210	5,200	10,000	ug/m^3	60	0.13	45	0.13	3	0.13	2.7	0.13	3.7	0.13	3.8	0.13
TRICHLOROFLUOROMETHANE	75-69-4	N/A	730	1,500	ug/m^3	1.4	0.2	2.9	0.2	1.2	0.2	1.2	0.2	1.3	0.2	1.5	0.2
VINYL CHLORIDE	75-01-4	0.168	1	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--

Table D.1
Indoor Air Sampling Results 2010
Chester Township, NJ

					Sample:	#CFS-IAB-08		#CFS-IA1-08		#CFS-IAB-9		#CFS-IA1-9		#CFS-IAB-10		# CFS-IA1-10	
					Area:	Indoor Basement		First Floor		Indoor Basement		First Floor		Indoor Basement		First Floor	
Analyte	CAS RN	EPA Indoor Air VISL (TR=1E-06, THQ=1) (1)(5)	NJ Generic Indoor Air VISL(2) (Residential)	NJ RAL Indoor Air(3) (Residential)	Unit	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	5,210	31,000	62,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-DICHLOROETHANE	75-34-3	1.75	2	200	ug/m^3	--	--	0.37	0.14	--	--	--	--	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	0.108	2	9	ug/m^3	**1.6**	**0.28**	--	--	**4.5**	**0.28**	**0.33**	**0.28**	--	--	**1.5**	**0.28**
1,2-DICHLOROPROPANE	78-87-5	0.759	2	8	ug/m^3	--	--	--	--	--	--	--	--	--	--	**0.83**	0.32
1,1,1-TRICHLOROETHANE	71-55-6	5,210	5,200	10,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	62.6	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	62.6	N/A	N/A	ug/m^3	0.4	0.34	--	--	--	--	0.38	0.34	--	--	--	--
1,4-DICHLOROBENZENE	106-46-7	0.255	3	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
4-ETHYLTOLUENE	622-96-8	N/A	N/A	N/A	ug/m^3	0.44	0.17	0.19	0.17	--	--	0.34	0.17	--	--	--	--
ACETONE	67-64-1	32,200	32,000	64,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	0.36	2	30	ug/m^3	**1.2**	0.11	**0.77**	0.11	**7.7**	0.11	**1.1**	0.11	**0.38**	0.11	**1.2**	0.11
CARBON DISULFIDE	75-15-0	730	730	1,500	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	0.468	3	40	ug/m^3	**0.49**	0.22	0.46	0.22	**0.56**	0.22	**0.53**	0.22	**0.59**	0.22	**0.6**	0.22
CHLOROETHANE	75-00-3	10,400	10,000	20,000	ug/m^3	--	--	--	--	--	--	0.29	0.18	--	--	--	--
CHLOROFORM	67-66-3	0.122	2	10	ug/m^3	**0.24**	**0.17**	**0.17**	**0.17**	--	--	--	--	**0.63**	**0.17**	**0.43**	**0.17**
CHLOROMETHANE	74-87-3	93.9	94	190	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHYLENE	156-59-2	N/A	N/A	N/A	ug/m^3	0.18	0.14	--	--	--	--	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	75-71-8	104	100	200	ug/m^3	2.9	0.17	2.8	0.17	3.3	0.17	1.9	0.17	3	0.17	3.1	0.17
ETHYLBENZENE	100-41-4	1.12	2	100	ug/m^3	**1.3**	0.15	0.87	0.15	1.1	0.15	1	0.15	0.31	0.15	**1.7**	0.15
M,P-XYLENE	179601-23-1	104	100	200	ug/m^3	4	0.3	2.8	0.3	2	0.3	3.4	0.3	0.74	0.3	2.7	0.3
METHYL ETHYL KETONE	78-93-3	5,210	5,200	10,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYL ISOBUTYL KETONE	108-10-1	3,130	3,100	6,200	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYL METHACRYLATE	80-62-6	730	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	75-09-2	101	96	1,300	ug/m^3	--	--	--	--	--	--	--	--	--	--	5.9	2.4
N-HEPTANE	142-82-5	417	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
N-OCTANE	111-65-9	N/A	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	104	100	200	ug/m^3	1.3	0.15	0.91	0.15	0.43	0.15	1.1	0.15	0.29	0.15	0.91	0.15
STYRENE	100-42-5	1,040	1,000	2,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TERT-BUTYL METHYL ETHER	1634-04-4	10.8	9	900	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	10.8	9	84	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.5	0.24
TRICHLOROETHYLENE	79-01-6	0.478	3	4	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	5,210	5,200	10,000	ug/m^3	13	0.13	14	0.19	19	0.38	8.7	0.13	2.1	0.13	38	0.57
TRICHLOROFLUOROMETHANE	75-69-4	N/A	730	1,500	ug/m^3	7.9	0.2	1.5	0.2	2.8	0.2	1.5	0.2	2.6	0.2	2.3	0.2
VINYL CHLORIDE	75-01-4	0.168	1	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--

Table D.1
Indoor Air Sampling Results 2010
Chester Township, NJ

					Sample:	#CFS-IAB-11		#CFS-IA1-11	
					Area:	Indoor Basement		First Floor	
Analyte	**CAS RN**	**EPA Indoor Air VISL (TR=1E-06, THQ=1) (1)(5)**	**NJ Generic Indoor Air VISL(2) (Residential)**	**NJ RAL Indoor Air(3) (Residential)**	**Unit**	**Result**	**RL**	**Result**	**RL**
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	5,210	31,000	62,000	ug/m^3	--	--	--	--
1,1-DICHLOROETHANE	75-34-3	1.75	2	200	ug/m^3	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	0.108	2	9	ug/m^3	--	--	--	--
1,2-DICHLOROPROPANE	78-87-5	0.759	2	8	ug/m^3	--	--	--	--
1,1,1-TRICHLOROETHANE	71-55-6	5,210	5,200	10,000	ug/m^3	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	62.6	N/A	N/A	ug/m^3	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	62.6	N/A	N/A	ug/m^3	--	--	--	--
1,4-DICHLOROBENZENE	106-46-7	0.255	3	20	ug/m^3	--	--	--	--
4-ETHYLTOLUENE	622-96-8	N/A	N/A	N/A	ug/m^3	--	--	--	--
ACETONE	67-64-1	32,200	32,000	64,000	ug/m^3	--	--	--	--
BENZENE	71-43-2	0.36	2	30	ug/m^3	**0.45**	0.11	**0.42**	0.11
CARBON DISULFIDE	75-15-0	730	730	1,500	ug/m^3	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	0.468	3	40	ug/m^3	**0.59**	0.22	**0.47**	0.22
CHLOROETHANE	75-00-3	10,400	10,000	20,000	ug/m^3	--	--	--	--
CHLOROFORM	67-66-3	0.122	2	10	ug/m^3	--	--	--	--
CHLOROMETHANE	74-87-3	93.9	94	190	ug/m^3	--	--	--	--
CIS-1,2-DICHLOROETHYLENE	156-59-2	N/A	N/A	N/A	ug/m^3	--	--	0.48	0.14
DICHLORODIFLUOROMETHANE	75-71-8	104	100	200	ug/m^3	3.9	0.17	3	0.17
ETHYLBENZENE	100-41-4	1.12	2	100	ug/m^3	0.56	0.15	0.26	0.15
M,P-XYLENE	179601-23-1	104	100	200	ug/m^3	0.87	0.3	0.61	0.3
METHYL ETHYL KETONE	78-93-3	5,210	5,200	10,000	ug/m^3	--	--	--	--
METHYL ISOBUTYL KETONE	108-10-1	3,130	3,100	6,200	ug/m^3	--	--	--	--
METHYL METHACRYLATE	80-62-6	730	N/A	N/A	ug/m^3	--	--	--	--
METHYLENE CHLORIDE	75-09-2	101	96	1,300	ug/m^3	--	--	--	--
N-HEPTANE	142-82-5	417	N/A	N/A	ug/m^3	--	--	--	--
N-OCTANE	111-65-9	N/A	N/A	N/A	ug/m^3	--	--	--	--
O-XYLENE	95-47-6	104	100	200	ug/m^3	0.3	0.15	0.23	0.15
STYRENE	100-42-5	1,040	1,000	2,000	ug/m^3	--	--	--	--
TERT-BUTYL METHYL ETHER	1634-04-4	10.8	9	900	ug/m^3	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	10.8	9	84	ug/m^3	0.39	0.24	--	--
TRICHLOROETHYLENE	79-01-6	0.478	3	4	ug/m^3	--	--	--	--
TOLUENE	108-88-3	5,210	5,200	10,000	ug/m^3	6	0.13	3.5	0.13
TRICHLOROFLUOROMETHANE	75-69-4	N/A	730	1,500	ug/m^3	1.9	0.2	1.9	0.2
VINYL CHLORIDE	75-01-4	0.168	1	20	ug/m^3	--	--	--	--

Table D.2
Sub-Slab Soil Gas Sampling Results 2010
Chester Township, NJ

				Sample:	#CFS-SS-01		# CFS-SS-02		#CFS-SS-03		#CFS-SS-04		#CFS-SS-05		#CFS-SS-06	
Analyte	**CAS RN**	**EPA Sub-Slab VISL (TR=1E-06, THQ=1) (1)(5)**	**NJ Generic Soil Gas VISL(2) (Residential)**	**Unit**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	174,000	1,600,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-DICHLOROETHANE	75-34-3	58.5	76	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	3.6	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2-DICHLOROPROPANE	78-87-5	25.3	23	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-TRICHLOROETHANE	71-55-6	174,000	260,000	ug/m^3	--	--	--	--	4	1.1	--	--	--	--	7.6	1.1
1,2,4-TRIMETHYLBENZENE	95-63-6	2,090	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	4.9	0.98
1,3,5-TRIMETHYLBENZENE	108-67-8	2,090	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.4	0.98
1,4-DICHLOROBENZENE	106-46-7	8.51	30	ug/m^3	--	--	--	--	--	--	--	--	3.2	1.2	--	--
4-ETHYLTOLUENE	622-96-8	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.7	0.98
ACETONE	67-64-1	1,070,000	1,600,000	ug/m^3	13	12	17	12	20	12	22	12	13	12	140	12
BENZENE	71-43-2	12	16	ug/m^3	0.64	0.64	0.83	0.64	0.77	0.64	--	--	--	--	**17**	0.64
CARBON DISULFIDE	75-15-0	24,300	36,000	ug/m^3	3.4	1.6	4.4	1.6	3.7	1.6	2.2	1.6	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	15.6	31	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CHLOROETHANE	75-00-3	348,000	520,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CHLOROFORM	67-66-3	4.07	24	ug/m^3	--	--	--	--	**27**	0.98	--	--	--	--	1.6	0.98
CHLOROMETHANE	74-87-3	3,130	4,700	ug/m^3	--	--	--	--	--	--	--	--	--	--	3.3	1
CIS-1,2-DICHLOROETHYLENE	156-59-2	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	75-71-8	3,480	5,200	ug/m^3	14	2.5	3.4	2.5	6.4	2.5	5.4	2.5	--	--	5.9	2.5
ETHYLBENZENE	100-41-4	37.4	49	ug/m^3	1.1	0.87	--	--	--	--	--	--	2.4	0.87	6.1	0.87
M,P-XYLENE	179601-23-1	3,480	5,200	ug/m^3	1.9	1.7	--	--	--	--	--	--	5.6	1.7	23	1.7
METHYL ETHYL KETONE	78-93-3	174,000	260,000	ug/m^3	8.6	1.5	2.2	1.5	3.5	1.5	4.1	1.5	3.8	1.5	12	1.5
METHYL ISOBUTYL KETONE	108-10-1	104,000	160,000	ug/m^3	--	--	--	--	--	--	--	--	8.6	2	--	--
METHYL METHACRYLATE	80-62-6	24,300	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	2.5	2
METHYLENE CHLORIDE	75-09-2	3,380	4,800	ug/m^3	2.7	1.7	1.9	1.7	--	--	--	--	3.3	1.7	--	--
N-HEPTANE	142-82-5	13,900	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	11	0.82
N-OCTANE	111-65-9	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	3,480	5,200	ug/m^3	--	--	--	--	--	--	--	--	2	0.87	6.9	0.87
STYRENE	100-42-5	34,800	52,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TERT-BUTYL METHYL ETHER	1634-04-4	360	470	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	360	470	ug/m^3	--	--	2.8	1.4	--	--	--	--	--	--	--	--
TRICHLOROETHYLENE	79-01-6	15.9	27	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	174,000	260,000	ug/m^3	24	0.75	3.3	0.75	3	0.75	1.7	0.75	3.8	0.75	53	0.75
TRICHLOROFLUOROMETHANE	75-69-4	N/A	36,000	ug/m^3	2.3	1.1	1.6	1.1	1.8	1.1	2.1	1.1	2.6	1.1	4	1.1
VINYL CHLORIDE	75-01-4	5.59	19	ug/m^3	--	--	--	--	4.1	0.51	--	--	**7.7**	0.51	--	--

Table D.2
Sub-Slab Soil Gas Sampling Results 2010
Chester Township, NJ

				Sample:	#CFS-SS-07		#CFS-SS-08		# CFS-SS-09		#CFS-SS-10		# CFS-SS-11		# CFS-SS-12	
Analyte	**CAS RN**	**EPA Sub-Slab VISL (TR=1E-06, THQ=1) (1)(5)**	**NJ Generic Soil Gas VISL(2) (Residential)**	**Unit**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	174,000	1,600,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.7	1.5
1,1-DICHLOROETHANE	75-34-3	58.5	76	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	3.6	20	ug/m^3	--	--	--	--	--	--	--	--	--	--	2.1	0.81
1,2-DICHLOROPROPANE	78-87-5	25.3	23	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.5	0.92
1,1,1-TRICHLOROETHANE	71-55-6	174,000	260,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	2,090	N/A	ug/m^3	--	--	1.4	0.98	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	2,090	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	106-46-7	8.51	30	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
4-ETHYLTOLUENE	622-96-8	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
ACETONE	67-64-1	1,070,000	1,600,000	ug/m^3	--	--	31	12	--	--	--	--	--	--	38	12
BENZENE	71-43-2	12	16	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.9	0.64
CARBON DISULFIDE	75-15-0	24,300	36,000	ug/m^3	--	--	--	--	4	1.6	--	--	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	15.6	31	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CHLOROETHANE	75-00-3	348,000	520,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CHLOROFORM	67-66-3	4.07	24	ug/m^3	--	--	1.7	0.98	--	--	--	--	--	--	--	--
CHLOROMETHANE	74-87-3	3,130	4,700	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHYLENE	156-59-2	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	75-71-8	3,480	5,200	ug/m^3	--	--	8.9	2.5	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	37.4	49	ug/m^3	--	--	1	0.87	--	--	--	--	--	--	3	0.87
M,P-XYLENE	179601-23-1	3,480	5,200	ug/m^3	--	--	2.3	1.7	--	--	--	--	--	--	5.2	1.7
METHYL ETHYL KETONE	78-93-3	174,000	260,000	ug/m^3	--	--	5	1.5	1.6	1.5	--	--	--	--	27	1.5
METHYL ISOBUTYL KETONE	108-10-1	104,000	160,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	2.4	2
METHYL METHACRYLATE	80-62-6	24,300	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	2.1	2
METHYLENE CHLORIDE	75-09-2	3,380	4,800	ug/m^3	--	--	28	1.7	1.9	1.7	--	--	--	--	10	1.7
N-HEPTANE	142-82-5	13,900	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	2	0.82
N-OCTANE	111-65-9	N/A	N/A	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.6	0.93
O-XYLENE	95-47-6	3,480	5,200	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.7	0.87
STYRENE	100-42-5	34,800	52,000	ug/m^3	--	--	--	--	--	--	--	--	--	--	1.1	0.85
TERT-BUTYL METHYL ETHER	1634-04-4	360	470	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	360	470	ug/m^3	--	--	11	1.4	--	--	--	--	--	--	3.3	1.4
TRICHLOROETHYLENE	79-01-6	15.9	27	ug/m^3	--	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	174,000	260,000	ug/m^3	41	38	7.5	0.75	0.83	0.75	1.2	0.75	31	14	72	0.75
TRICHLOROFLUOROMETHANE	75-69-4	N/A	36,000	ug/m^3	--	--	2.2	1.1	1.3	1.1	6.7	1.1	--	--	2.1	1.1
VINYL CHLORIDE	75-01-4	5.59	19	ug/m^3	--	--	--	--	--	--	--	--	--	--	4.3	0.51

Table D.3
Outdoor Air Sampling Results 2010
Chester Township, NJ

		Sample:	#CFS-AA-01		#CFS-AA-02		#CFS-AA-03	
Analyte	**CAS RN**	**Unit**	**Result**	**RL**	**Result**	**RL**	**Result**	**RL**
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/m^3	--	--	--	--	--	--
1,1-DICHLOROETHANE	75-34-3	ug/m^3	--	--	--	--	--	--
1,2-DICHLOROETHANE	107-06-2	ug/m^3	--	--	--	--	--	--
1,2-DICHLOROPROPANE	78-87-5	ug/m^3	--	--	--	--	--	--
1,1,1-TRICHLOROETHANE	71-55-6	ug/m^3	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	ug/m^3	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	ug/m^3	--	--	--	--	--	--
1,4-DICHLOROBENZENE	106-46-7	ug/m^3	--	--	--	--	--	--
4-ETHYLTOLUENE	622-96-8	ug/m^3	--	--	--	--	--	--
ACETONE	67-64-1	ug/m^3	--	--	--	--	--	--
BENZENE	71-43-2	ug/m^3	0.38	0.11	0.51	0.11	0.38	0.11
CARBON DISULFIDE	75-15-0	ug/m^3	--	--	--	--	--	--
CARBON TETRACHLORIDE	56-23-5	ug/m^3	0.46	0.22	0.45	0.22	0.57	0.22
CHLOROETHANE	75-00-3	ug/m^3	--	--	--	--	--	--
CHLOROFORM	67-66-3	ug/m^3	--	--	--	--	--	--
CHLOROMETHANE	74-87-3	ug/m^3	--	--	--	--	--	--
CIS-1,2-DICHLOROETHYLENE	156-59-2	ug/m^3	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	75-71-8	ug/m^3	2.8	0.17	2.7	0.17	3.1	0.17
ETHYLBENZENE	100-41-4	ug/m^3	0.39	0.15	0.33	0.15	0.43	0.15
M,P-XYLENE	179601-23-1	ug/m^3	0.87	0.3	0.91	0.3	0.65	0.3
METHYL ETHYL KETONE	78-93-3	ug/m^3	--	--	--	--	--	--
METHYL ISOBUTYL KETONE	108-10-1	ug/m^3	--	--	--	--	--	--
METHYL METHACRYLATE	80-62-6	ug/m^3	--	--	--	--	--	--
METHYLENE CHLORIDE	75-09-2	ug/m^3	--	--	--	--	--	--
N-HEPTANE	142-82-5	ug/m^3	--	--	--	--	--	--
N-OCTANE	111-65-9	ug/m^3	--	--	--	--	--	--
O-XYLENE	95-47-6	ug/m^3	0.36	0.15	0.31	0.15	0.25	0.15
STYRENE	100-42-5	ug/m^3	--	--	--	--	--	--
TERT-BUTYL METHYL ETHER	1634-04-4	ug/m^3	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	ug/m^3	--	--	--	--	--	--
TRICHLOROETHYLENE	79-01-6	ug/m^3	--	--	--	--	--	--
TOLUENE	108-88-3	ug/m^3	4.5	0.13	2.3	0.13	1.7	0.13
TRICHLOROFLUOROMETHANE	75-69-4	ug/m^3	1.3	0.2	1.5	0.2	1.6	0.2
VINYL CHLORIDE	75-01-4	ug/m^3	--	--	--	--	--	--

COMPARISON CRITERIA:

N/A	No Screening Level
10	Bold and shaded indicates exceedance of the applicable standard or criteria referenced below.
(1)	United States Environmental Protection Agency (EPA). 2018. Vapor Intrustion Screening Level (VISL) Calculator. February. Available online: https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator
(2)	New Jersey Department of Environmental Protection (NJDEP). 2013. Master Table Generic Vapor Intrusion Screening Level. Site Remediation Program. March. Last Updated January 2018. Available online: http://www.nj.gov/dep/srp/guidance/vaporintrusion/
(3)	NJDEP. 2013. Rapid Action Levels for Indoor Air. Site Remediation Program. March. Last Updated January 2018. Available online: http://www.nj.gov/dep/srp/guidance/vaporintrusion/
(4)	NJDEP. 2018. Vapor Intrusion Technical Guidance. January. Available online: http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_main.pdf

NOTES:

(5) EPA VISL calculated using a target cancer risk of 1E-06 and target hazard quotient of 1.

RAL - Rapid Action Level

RL - Reporting detection limit

Default VISL Results
Resident Equation Inputs

Output generated 24APR2018:14:44:37

Variable	Value
Exposure Scenario	Resident
Temperature for Groundwater Vapor Concentration C	25
ED_{res} (exposure duration) years	26
TR (target risk) unitless	0.000001
THQ (target hazard quotient) unitless	1
LT (lifetime) years	70
EF_{res} (exposure frequency) days/year	350
ED_{0-2} (mutagenic exposure duration first phase) years	2
ED_{2-6} (mutagenic exposure duration second phase) years	4
ED_{6-16} (mutagenic exposure duration third phase) years	10
ED_{16-26} (mutagenic exposure duration fourth phase) years	10
EF_{0-2} (mutagenic exposure frequency first phase) days/year	350
EF_{2-6} (mutagenic exposure frequency second phase) days/year	350
EF_{6-16} (mutagenic exposure frequency third phase) days/year	350
EF_{16-26} (mutagenic exposure frequency fourth phase) days/year	350
ET_{res} (exposure time) hours/day	24
ET_{0-2} (mutagenic exposure time first phase) hours/day	24
ET_{2-6} (mutagenic exposure time second phase) hours/day	24
ET_{6-16} (mutagenic exposure time third phase) hours/day	24
ET_{16-26} (mutagenic exposure time fourth phase) hours/day	24
AF_{gw} (Attenuation Factor Groundwater) unitless	0.001
AF_{ss} (Attenuation Factor Sub-Slab) unitless	0.03

Resident Vapor Intrusion Screening Levels (VISL)

Output generated 24APR2018:14:44:37

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? (C_{vp} > $C_{i,a}$,Target?)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? (C_{hc} > $C_{i,a}$,Target?)	Target Indoor Air Concentration (TCR=1E-06 or THQ=1) MIN($C_{ia,c}$,$C_{ia,nc}$) (µg/m^3)	Toxicity Basis	Target Sub-Slab and Exterior Soil Gas Concentration (TCR=1E-06 or THQ=1) C_{sg},Target (µg/m^3)	Target Groundwater Concentration (TCR=1E-06 or THQ=1) C_{gw},Target (µg/L)	Is Target Groundwater Concentration < MCL? (C_{gw} < MCL?)
Acetone	67-64-1	Yes	Yes	Yes	Yes	32200	NC	1070000	22500000	--
Benzene	71-43-2	Yes	Yes	Yes	Yes	0.36	CA	12	1.59	Yes (5)
Benzene, Ethylmethyl	25550-14-5	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-	
Carbon Disulfide	75-15-0	Yes	Yes	Yes	Yes	730	NC	24300	1240	--
Carbon Tetrachloride	56-23-5	Yes	Yes	Yes	Yes	0.468	CA	15.6	0.415	Yes (5)
Chloroform	67-66-3	Yes	Yes	Yes	Yes	0.122	CA	4.07	0.814	Yes (80)
Chloromethane	74-87-3	Yes	Yes	Yes	Yes	93.9	NC	3130	260	--
Dichlorobenzene, 1,4-	106-46-7	Yes	Yes	Yes	Yes	0.255	CA	8.51	2.59	Yes (75)
Dichlorodifluoromethane	75-71-8	Yes	Yes	Yes	Yes	104	NC	3480	7.44	--
Dichloroethane, 1,1-	75-34-3	Yes	Yes	Yes	Yes	1.75	CA	58.5	7.64	--
Dichloroethane, 1,2-	107-06-2	Yes	Yes	Yes	Yes	0.108	CA	3.6	2.24	Yes (5)
Dichloroethylene, 1,2-cis-	156-59-2	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-	
Dichloropropane, 1,2-	78-87-5	Yes	Yes	Yes	Yes	0.759	CA	25.3	6.58	No (5)
Ethyl Chloride	75-00-3	Yes	Yes	Yes	Yes	10400	NC	348000	23000	--
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	1.12	CA	37.4	3.49	Yes (700)
Heptane, N-	142-82-5	Yes	Yes	Yes	Yes	417	NC	13900	5.1	--
Methyl Ethyl Ketone (2-Butanone)	78-93-3	Yes	Yes	Yes	Yes	5210	NC	174000	2240000	--
pentanone)	108-10-1	Yes	Yes	Yes	Yes	3130	NC	104000	555000	--
Methyl Methacrylate	80-62-6	Yes	Yes	Yes	Yes	730	NC	24300	56000	--
Methyl tert-Butyl Ether (MTBE)	1634-04-4	Yes	Yes	Yes	Yes	10.8	CA	360	450	--
Methylene Chloride	75-09-2	Yes	Yes	Yes	Yes	101	CA	3380	763	No (5)
Styrene	100-42-5	Yes	Yes	Yes	Yes	1040	NC	34800	9280	No (100)
Tetrachloroethylene	127-18-4	Yes	Yes	Yes	Yes	10.8	CA	360	14.9	No (5)
Toluene	108-88-3	Yes	Yes	Yes	Yes	5210	NC	174000	19200	No (1000)
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	Yes	Yes	Yes	Yes	5210	NC	174000	242	--
Trichloroethane, 1,1,1-	71-55-6	Yes	Yes	Yes	Yes	5210	NC	174000	7420	No (200)
Trichloroethylene	79-01-6	Yes	Yes	Yes	Yes	0.478	CA	15.9	1.19	Yes (5)
Trichlorofluoromethane	75-69-4	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-	
Trimethylbenzene, 1,2,4-	95-63-6	Yes	Yes	Yes	Yes	62.6	NC	2090	248	--
Trimethylbenzene, 1,3,5-	108-67-8	Yes	Yes	Yes	Yes	62.6	NC	2090	175	--
Vinyl Chloride	75-01-4	Yes	Yes	Yes	Yes	0.168	CA	5.59	0.147	Yes (2)
Xylene, P-	106-42-3	Yes	Yes	Yes	Yes	104	NC	3480	370	--
Xylene, m-	108-38-3	Yes	Yes	Yes	Yes	104	NC	3480	355	--
Xylene, o-	95-47-6	Yes	Yes	Yes	Yes	104	NC	3480	492	--

Resident Vapor Intrusion Screening Levels (VISL)

Output generated 24APR2018:14:44:

Chemical	Pure Phase Vapor Concentration C_{vp} (25 °C) (µg/m^3)	Maximum Groundwater Vapor Concentration C_{hc} (µg/m^3)	Temperature for Maximum Groundwater Vapor Concentration (°C)	Lower Explosive Limit LEL (% by volume)	LEL Ref	Inhalation Unit Risk (ug/m^3)$^{-1}$	IUR Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	Mutagenic Indicator
Acetone	723000000	1430000000	25	2.5	CRC89	-		30.9	A	
Benzene	398000000	406000000	25	1.2	CRC89	0.0000078	I	0.03	I	
Benzene, Ethylmethyl	55900000	15300000	25	-		-		-		
Carbon Disulfide	1470000000	1270000000	25	1.3	CRC89	-		0.7	I	
Carbon Tetrachloride	951000000	895000000	25	-		0.000006	I	0.1	I	
Chloroform	1260000000	1190000000	25	-		0.000023	I	0.0977	A	
Chloromethane	11700000000	1920000000	25	8.1	CRC89	-		0.09	I	
Dichlorobenzene, 1,4-	13800000	8010000	25	1.8	YAWS	0.000011	C	0.8	I	
Dichlorodifluoromethane	31500000000	3930000000	25	-		-		0.1	S	
Dichloroethane, 1,1-	1210000000	1160000000	25	5.4	CRC89	0.0000016	C	-		
Dichloroethane, 1,2-	420000000	415000000	25	6.2	CRC89	0.000026	I	0.007	P	
Dichloroethylene, 1,2-cis-	1040000000	1070000000	25	3	CRC89	-		-		
Dichloropropane, 1,2-	324000000	323000000	25	3.4	YAWS	0.0000037	P	0.004	I	
Ethyl Chloride	3500000000	3050000000	25	3.8	CRC89	-		10	I	
Ethylbenzene	54800000	54400000	25	0.8	CRC89	0.0000025	C	1	I	
Heptane, N-	248000000	278000000	25	1.05	CRC89	-		0.4	P	
Methyl Ethyl Ketone (2-Butanone)	351000000	519000000	25	1.4	CRC89	-		5	I	
pentanone)	107000000	107000000	25	1.2	CRC89	-		3	I	
Methyl Methacrylate	207000000	196000000	25	1.7	CRC89	-		0.7	I	
Methyl tert-Butyl Ether (MTBE)	1190000000	1220000000	25	2	YAWS	0.00000026	C	3	I	
Methylene Chloride	1990000000	1730000000	25	13	CRC89	0.00000001	I	0.6	I	Mut
Styrene	35800000	34900000	25	0.9	CRC89	-		1	I	
Tetrachloroethylene	165000000	149000000	25	-		0.00000026	I	0.04	I	
Toluene	141000000	143000000	25	1.1	CRC89	-		5	I	
Trichloro-1,2,2-trifluoroethane, 1,1,2-	3650000000	3660000000	25	-		-		5	P	
Trichloroethane, 1,1,1-	890000000	907000000	25	8	CRC89	-		5	I	
Trichloroethylene	488000000	515000000	25	8	CRC89	0.0000041	I	0.002	I	Mut
Trichlorofluoromethane	5930000000	4360000000	25	-		-		-		
Trimethylbenzene, 1,2,4-	13600000	14400000	25	0.9	CRC89	-		0.06	I	
Trimethylbenzene, 1,3,5-	16000000	17300000	25	1	CRC89	-		0.06	I	
Vinyl Chloride	10000000000	10000000000	25	3.6	CRC89	0.0000044	I	0.1	I	Mut
Xylene, P-	50500000	45700000	25	1.1	CRC89	-		0.1	S	
Xylene, m-	47300000	47300000	25	1.1	CRC89	-		0.1	S	
Xylene, o-	37700000	37700000	25	0.9	CRC89	-		0.1	S	

Resident Vapor Intrusion Screening Levels (VISL)

Output generated 24APR2018:14:44:3

Chemical	Carcinogenic VISL TCR=1E-06 $C_{ia,c}$ (µg/m^3)	Noncarcinogenic VISL THQ=1 $C_{ia,nc}$ (µg/m^3)
Acetone	-	32200
Benzene	0.36	31.3
Benzene, Ethylmethyl	-	-
Carbon Disulfide	-	730
Carbon Tetrachloride	0.468	104
Chloroform	0.122	102
Chloromethane	-	93.9
Dichlorobenzene, 1,4-	0.255	834
Dichlorodifluoromethane	-	104
Dichloroethane, 1,1-	1.75	-
Dichloroethane, 1,2-	0.108	7.3
Dichloroethylene, 1,2-cis-	-	-
Dichloropropane, 1,2-	0.759	4.17
Ethyl Chloride	-	10400
Ethylbenzene	1.12	1040
Heptane, N-	-	417
Methyl Ethyl Ketone (2-Butanone)	-	5210
pentanone)	-	3130
Methyl Methacrylate	-	730
Methyl tert-Butyl Ether (MTBE)	10.8	3130
Methylene Chloride	101	626
Styrene	-	1040
Tetrachloroethylene	10.8	41.7
Toluene	-	5210
Trichloro-1,2,2-trifluoroethane, 1,1,2-	-	5210
Trichloroethane, 1,1,1-	-	5210
Trichloroethylene	0.478	2.09
Trichlorofluoromethane	-	-
Trimethylbenzene, 1,2,4-	-	62.6
Trimethylbenzene, 1,3,5-	-	62.6
Vinyl Chloride	0.168	104
Xylene, P-	-	104
Xylene, m-	-	104
Xylene, o-	-	104

Chemical Properties

Output generated 24APR2018:14:44:37

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	MW (g/mol)	MW Ref	Vapor Pressure VP (mm Hg)	VP Ref	Pure Component Water Solubility S (mg/L)	S Ref	MCL (ug/L)	Henry's Law Constant @25°C (atm-m^3/mole)	Henry's Law Constant (unitless)	H`& HLC Ref	Henry's Law Constant Used in Calcs (unitless)
Acetone	67-64-1	Yes	Yes	58.081	PHYSPROP	232	PHYSPROP	1000000	PHYSPROP	-	0.000035	0.00143	PHYSPROP	0.00143
Benzene	71-43-2	Yes	Yes	78.115	PHYSPROP	94.8	PHYSPROP	1790	PHYSPROP	5	0.00555	0.227	PHYSPROP	0.227
Benzene, Ethylmethyl	25550-14-5	Yes	No	360.59	PHYSPROP	2.88	PHYSPROP	74.5	PHYSPROP	-	0.00501	0.205	EPI	0.205
Carbon Disulfide	75-15-0	Yes	Yes	76.139	PHYSPROP	359	PHYSPROP	2160	PHYSPROP	-	0.0144	0.589	PHYSPROP	0.589
Carbon Tetrachloride	56-23-5	Yes	Yes	153.82	PHYSPROP	115	PHYSPROP	793	PHYSPROP	5	0.0276	1.13	PHYSPROP	1.13
Chloroform	67-66-3	Yes	Yes	119.38	PHYSPROP	197	PHYSPROP	7950	PHYSPROP	80	0.00367	0.15	PHYSPROP	0.15
Chloromethane	74-87-3	Yes	Yes	50.488	PHYSPROP	4300	PHYSPROP	5320	PHYSPROP	-	0.00882	0.361	PHYSPROP	0.361
Dichlorobenzene, 1,4-	106-46-7	Yes	Yes	147	PHYSPROP	1.74	PHYSPROP	81.3	PHYSPROP	75	0.00241	0.0985	PHYSPROP	0.0985
Dichlorodifluoromethane	75-71-8	Yes	Yes	120.91	PHYSPROP	4850	PHYSPROP	280	PHYSPROP	-	0.343	14	PHYSPROP	14
Dichloroethane, 1,1-	75-34-3	Yes	Yes	98.96	PHYSPROP	227	PHYSPROP	5040	PHYSPROP	-	0.00562	0.23	PHYSPROP	0.23
Dichloroethane, 1,2-	107-06-2	Yes	Yes	98.96	PHYSPROP	78.9	PHYSPROP	8600	PHYSPROP	5	0.00118	0.0482	PHYSPROP	0.0482
Dichloroethylene, 1,2-cis-	156-59-2	Yes	No	96.944	PHYSPROP	200	PHYSPROP	6410	PHYSPROP	70	0.00408	0.167	PHYSPROP	0.167
Dichloropropane, 1,2-	78-87-5	Yes	Yes	112.99	PHYSPROP	53.3	PHYSPROP	2800	PHYSPROP	5	0.00282	0.115	PHYSPROP	0.115
Ethyl Chloride	75-00-3	Yes	Yes	64.515	PHYSPROP	1010	PHYSPROP	6710	PHYSPROP	-	0.0111	0.454	PHYSPROP	0.454
Ethylbenzene	100-41-4	Yes	Yes	106.17	PHYSPROP	9.6	PHYSPROP	169	PHYSPROP	700	0.00788	0.322	PHYSPROP	0.322
Heptane, N-	142-82-5	Yes	Yes	100.21	PHYSPROP	46	PHYSPROP	3.4	PHYSPROP	-	2	81.8	EPI	81.8
Methyl Ethyl Ketone (2-Butanone)	78-93-3	Yes	Yes	72.108	PHYSPROP	90.6	PHYSPROP	223000	PHYSPROP	-	0.0000569	0.00233	PHYSPROP	0.00233
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	Yes	Yes	100.16	PHYSPROP	19.9	PHYSPROP	19000	PHYSPROP	-	0.000138	0.00564	EPI	0.00564
Methyl Methacrylate	80-62-6	Yes	Yes	100.12	PHYSPROP	38.5	PHYSPROP	15000	PHYSPROP	-	0.000319	0.013	EPI	0.013
Methyl tert-Butyl Ether (MTBE)	1634-04-4	Yes	Yes	88.151	PHYSPROP	250	PHYSPROP	51000	PHYSPROP	-	0.000587	0.024	PHYSPROP	0.024
Methylene Chloride	75-09-2	Yes	Yes	84.933	PHYSPROP	435	PHYSPROP	13000	PHYSPROP	5	0.00325	0.133	PHYSPROP	0.133
Styrene	100-42-5	Yes	Yes	104.15	PHYSPROP	6.4	PHYSPROP	310	PHYSPROP	100	0.00275	0.112	PHYSPROP	0.112
Tetrachloroethylene	127-18-4	Yes	Yes	165.83	PHYSPROP	18.5	PHYSPROP	206	PHYSPROP	5	0.0177	0.724	PHYSPROP	0.724
Toluene	108-88-3	Yes	Yes	92.142	PHYSPROP	28.4	PHYSPROP	526	PHYSPROP	1000	0.00664	0.271	PHYSPROP	0.271
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	Yes	Yes	187.38	PHYSPROP	363	PHYSPROP	170	PHYSPROP	-	0.526	21.5	EPI	21.5
Trichloroethane, 1,1,1-	71-55-6	Yes	Yes	133.41	PHYSPROP	124	PHYSPROP	1290	PHYSPROP	200	0.0172	0.703	PHYSPROP	0.703
Trichloroethylene	79-01-6	Yes	Yes	131.39	PHYSPROP	69	PHYSPROP	1280	PHYSPROP	5	0.00985	0.403	PHYSPROP	0.403
Trichlorofluoromethane	75-69-4	Yes	No	137.37	PHYSPROP	803	PHYSPROP	1100	PHYSPROP	-	0.097	3.97	PHYSPROP	3.97
Trimethylbenzene, 1,2,4-	95-63-6	Yes	Yes	120.2	PHYSPROP	2.1	PHYSPROP	57	PHYSPROP	-	0.00616	0.252	PHYSPROP	0.252
Trimethylbenzene, 1,3,5-	108-67-8	Yes	Yes	120.2	PHYSPROP	2.48	PHYSPROP	48.2	PHYSPROP	-	0.00877	0.359	PHYSPROP	0.359
Vinyl Chloride	75-01-4	Yes	Yes	62.499	PHYSPROP	2980	EPI	8800	PHYSPROP	2	0.0278	1.14	PHYSPROP	1.14
Xylene, P-	106-42-3	Yes	Yes	106.17	PHYSPROP	8.84	PHYSPROP	162	PHYSPROP	-	0.0069	0.282	PHYSPROP	0.282
Xylene, m-	108-38-3	Yes	Yes	106.17	PHYSPROP	8.29	PHYSPROP	161	PHYSPROP	-	0.00718	0.294	PHYSPROP	0.294
Xylene, o-	95-47-6	Yes	Yes	106.17	PHYSPROP	6.61	PHYSPROP	178	PHYSPROP	-	0.00518	0.212	PHYSPROP	0.212

Chemical Properties

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Chemical	Air Diffusivity D_{ia} (cm^2/s)	D_{ia} Ref	Water Diffusivity D_{iw} (cm^2/s)	D_{iw} Ref	Normal Boiling Point T_{boil} (K)	BP Ref	Critical Temperature T_{crit} (K)	T_{crit} Ref	Enthalpy of vaporization at the normal boiling point $\Delta H_{v,b}$ (cal/mol)	$\Delta H_{v,b}$ Ref	Organic Carbon Partition Coefficient K_{oc} (cm3/g)	K_{oc} Ref	Lower Explosive Limit LEL (% by volume)	LEL Ref
Acetone	0.106	WATER9 (U.S. EPA, 2001)	0.0000115	WATER9 (U.S. EPA, 2001)	329.15	PHYSPROP	508	CRC89	6960	CRC89	2.364	EPI	2.5	CRC89
Benzene	0.0895	WATER9 (U.S. EPA, 2001)	0.0000103	WATER9 (U.S. EPA, 2001)	353.15	PHYSPROP	562	CRC89	7340	CRC89	145.8	EPI	1.2	CRC89
Benzene, Ethylmethyl	0.017	WATER9 (U.S. EPA, 2001)	0.00000407	WATER9 (U.S. EPA, 2001)	435.15	EPI	-		-		715.8	EPI	-	
Carbon Disulfide	0.106	WATER9 (U.S. EPA, 2001)	0.000013	WATER9 (U.S. EPA, 2001)	319.15	PHYSPROP	552	CRC89	6390	CRC89	21.73	EPI	1.3	CRC89
Carbon Tetrachloride	0.0571	WATER9 (U.S. EPA, 2001)	0.00000978	WATER9 (U.S. EPA, 2001)	349.95	PHYSPROP	557	CRC89	7130	Weast	43.89	EPI	-	
Chloroform	0.0769	WATER9 (U.S. EPA, 2001)	0.0000109	WATER9 (U.S. EPA, 2001)	334.25	PHYSPROP	536	CRC89	6990	Weast	31.82	EPI	-	
Chloromethane	0.124	WATER9 (U.S. EPA, 2001)	0.0000136	WATER9 (U.S. EPA, 2001)	249.15	PHYSPROP	416	CRC89	5110	CRC89	13.22	EPI	8.1	CRC89
Dichlorobenzene, 1,4-	0.055	WATER9 (U.S. EPA, 2001)	0.00000868	WATER9 (U.S. EPA, 2001)	447.15	PHYSPROP	669	CRC89	9270	CRC89	375.3	EPI	1.8	YAWS
Dichlorodifluoromethane	0.076	WATER9 (U.S. EPA, 2001)	0.0000108	WATER9 (U.S. EPA, 2001)	243.35	PHYSPROP	385	CRC89	4800	CRC89	43.89	EPI	-	
Dichloroethane, 1,1-	0.0836	WATER9 (U.S. EPA, 2001)	0.0000106	WATER9 (U.S. EPA, 2001)	330.55	PHYSPROP	523	CRC89	6900	CRC89	31.82	EPI	5.4	CRC89
Dichloroethane, 1,2-	0.0857	WATER9 (U.S. EPA, 2001)	0.000011	WATER9 (U.S. EPA, 2001)	356.65	PHYSPROP	562	CRC89	7640	CRC89	39.6	EPI	6.2	CRC89
Dichloroethylene, 1,2-cis-	0.0884	WATER9 (U.S. EPA, 2001)	0.0000113	WATER9 (U.S. EPA, 2001)	333.25	PHYSPROP	536	CRC89	7220	CRC89	39.6	EPI	3	CRC89
Dichloropropane, 1,2-	0.0571	WATER9 (U.S. EPA, 2001)	0.00000978	WATER9 (U.S. EPA, 2001)	349.95	PHYSPROP	557	CRC89	7130	Weast	43.89	EPI	-	
Ethyl Chloride	0.0769	WATER9 (U.S. EPA, 2001)	0.0000109	WATER9 (U.S. EPA, 2001)	334.25	PHYSPROP	536	CRC89	6990	Weast	31.82	EPI	-	
Ethylbenzene	0.124	WATER9 (U.S. EPA, 2001)	0.0000136	WATER9 (U.S. EPA, 2001)	249.15	PHYSPROP	416	CRC89	5110	CRC89	13.22	EPI	8.1	CRC89
Heptane, N-	0.055	WATER9 (U.S. EPA, 2001)	0.00000868	WATER9 (U.S. EPA, 2001)	447.15	PHYSPROP	669	CRC89	9270	CRC89	375.3	EPI	1.8	YAWS
Methyl Ethyl Ketone (2-Butanone)	0.076	WATER9 (U.S. EPA, 2001)	0.0000108	WATER9 (U.S. EPA, 2001)	243.35	PHYSPROP	385	CRC89	4800	CRC89	43.89	EPI	-	
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	0.0836	WATER9 (U.S. EPA, 2001)	0.0000106	WATER9 (U.S. EPA, 2001)	330.55	PHYSPROP	523	CRC89	6900	CRC89	31.82	EPI	5.4	CRC89
Methyl Methacrylate	0.0857	WATER9 (U.S. EPA, 2001)	0.000011	WATER9 (U.S. EPA, 2001)	356.65	PHYSPROP	562	CRC89	7640	CRC89	39.6	EPI	6.2	CRC89
Methyl tert-Butyl Ether (MTBE)	0.0884	WATER9 (U.S. EPA, 2001)	0.0000113	WATER9 (U.S. EPA, 2001)	333.25	PHYSPROP	536	CRC89	7220	CRC89	39.6	EPI	3	CRC89
Methylene Chloride	0.0733	WATER9 (U.S. EPA, 2001)	0.00000973	WATER9 (U.S. EPA, 2001)	368.65	PHYSPROP	572	YAWS	7590	Weast	60.7	EPI	3.4	YAWS
Styrene	0.104	WATER9 (U.S. EPA, 2001)	0.0000116	WATER9 (U.S. EPA, 2001)	285.45	PHYSPROP	460	CRC89	5890	CRC89	21.73	EPI	3.8	CRC89
Tetrachloroethylene	0.0685	WATER9 (U.S. EPA, 2001)	0.00000846	WATER9 (U.S. EPA, 2001)	409.25	PHYSPROP	617	CRC89	8500	CRC89	446.1	EPI	0.8	CRC89
Toluene	0.0649	WATER9 (U.S. EPA, 2001)	0.00000759	WATER9 (U.S. EPA, 2001)	371.65	PHYSPROP	540	CRC89	7590	CRC89	239.7	EPI	1.05	CRC89
Trichloro-1,2,2-trifluoroethane, 1,1,2-	0.0914	WATER9 (U.S. EPA, 2001)	0.0000102	WATER9 (U.S. EPA, 2001)	352.65	PHYSPROP	537	CRC89	7480	CRC89	4.51	EPI	1.4	CRC89
Trichloroethane, 1,1,1-	0.0698	WATER9 (U.S. EPA, 2001)	0.00000835	WATER9 (U.S. EPA, 2001)	389.65	PHYSPROP	575	CRC89	8240	CRC	12.6	EPI	1.2	CRC89
Trichloroethylene	0.075	WATER9 (U.S. EPA, 2001)	0.00000921	WATER9 (U.S. EPA, 2001)	373.65	PHYSPROP	540	CRC89	8970	TOXNET	9.14	EPI	1.7	CRC89
Trichlorofluoromethane	0.0753	WATER9 (U.S. EPA, 2001)	0.00000859	WATER9 (U.S. EPA, 2001)	328.15	PHYSPROP	497	CRC89	6680	CRC89	11.56	EPI	2	YAWS
Trimethylbenzene, 1,2,4-	0.0999	WATER9 (U.S. EPA, 2001)	0.0000125	WATER9 (U.S. EPA, 2001)	313.15	PHYSPROP	508	CRC89	6710	CRC89	21.73	EPI	13	CRC89
Trimethylbenzene, 1,3,5-	0.0711	WATER9 (U.S. EPA, 2001)	0.00000878	WATER9 (U.S. EPA, 2001)	418.15	PHYSPROP	635	CRC89	8740	Weast	446.1	EPI	0.9	CRC89
Vinyl Chloride	0.0505	WATER9 (U.S. EPA, 2001)	0.00000946	WATER9 (U.S. EPA, 2001)	394.45	PHYSPROP	620	YAWS	8290	Weast	94.94	EPI	-	
Xylene, P-	0.0778	WATER9 (U.S. EPA, 2001)	0.0000092	WATER9 (U.S. EPA, 2001)	383.75	PHYSPROP	592	CRC89	7930	Weast	233.9	EPI	1.1	CRC89
Xylene, m-	0.0376	WATER9 (U.S. EPA, 2001)	0.00000859	WATER9 (U.S. EPA, 2001)	320.85	PHYSPROP	487	CRC89	6460	CRC	196.8	EPI	-	
Xylene, o-	0.0648	WATER9 (U.S. EPA, 2001)	0.0000096	WATER9 (U.S. EPA, 2001)	347.15	PHYSPROP	545	YAWS	7140	Weast	43.89	EPI	8	CRC89

Attachment E

Contents:

Figure E.1 PPCP Concentrations in Groundwater & Surface Water

Figure E.2 Estimated Extent of 1,4-Dioxane in the Bedrock Aquifer

Table E.1 Summary of TICs from OU2 Study Area Identified as PPCPs

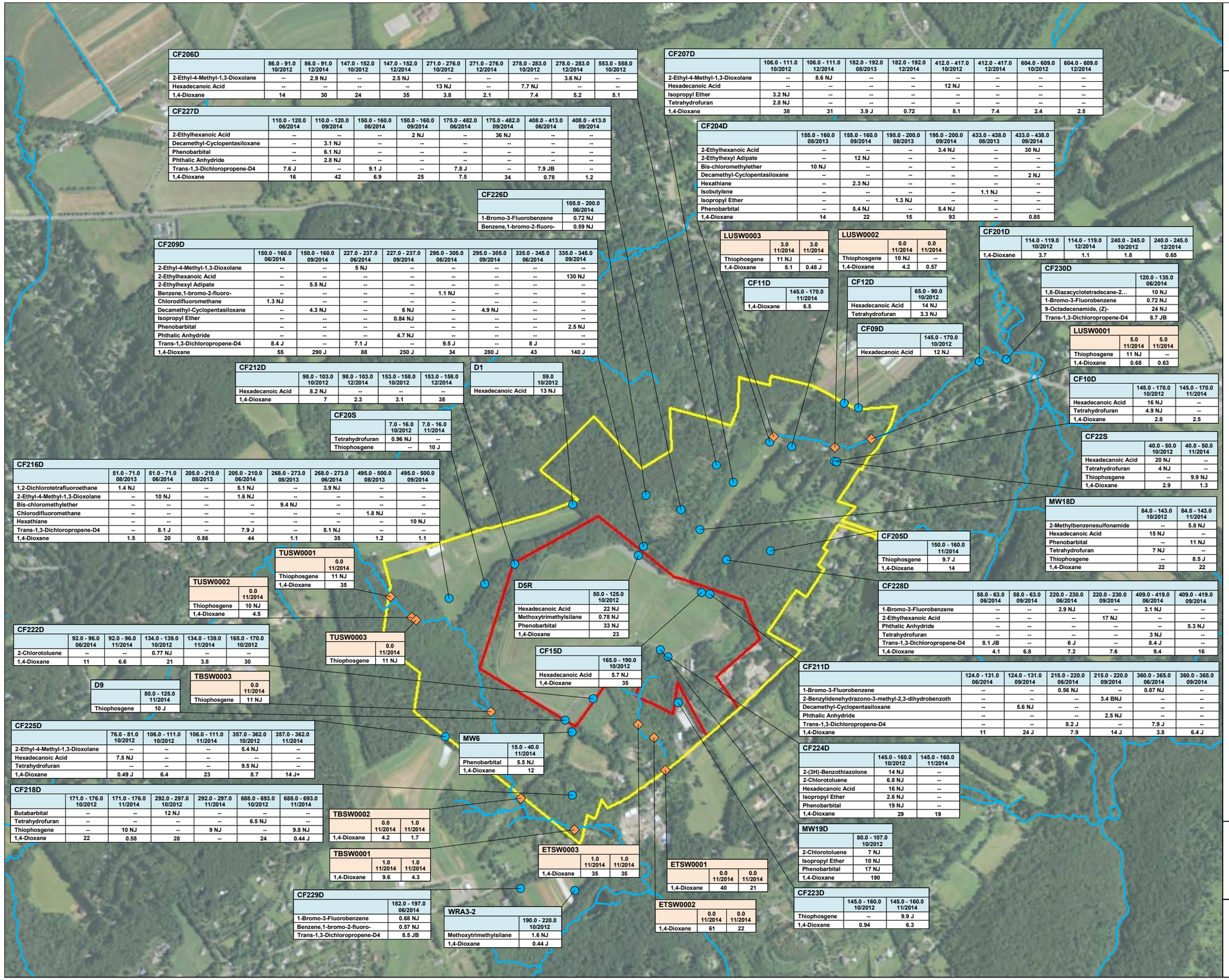
Table E.2 Results of Superfund Technical Support Center Toxicity Value Request

Table E.3 NJ Interim Generic GWQS for Synthetic Organic Chemicals Reported as Tentatively Identified Compounds

Combe Fill South Landfill Superfund Site OU2 RI/FS

Aerial Background Credit(s):
Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Coordinate System: New Jersey State Plane (NAD83, US Survey Foot)



CF206D

	86.0 - 91.0 10/2012	86.0 - 91.0 12/2014	147.0 - 152.0 10/2012	147.0 - 152.0 12/2014	271.0 - 276.0 10/2012	271.0 - 276.0 12/2014	278.0 - 283.0 10/2012	278.0 - 283.0 12/2014	553.0 - 558.0 10/2012
2-Ethyl-4-Methyl-1,3-Dioxolane	--	2.9 NJ	--	2.5 NJ	--	--	--	3.6 NJ	--
Hexadecanoic Acid	--	--	--	--	13 NJ	--	7.7 NJ	--	--
1,4-Dioxane	14	30	24	35	3.8	2.1	7.4	5.2	5.1

CF227D

	110.0 - 120.0 06/2014	110.0 - 120.0 09/2014	150.0 - 160.0 06/2014	150.0 - 160.0 09/2014	175.0 - 482.0 06/2014	175.0 - 482.0 09/2014	408.0 - 413.0 06/2014	408.0 - 413.0 09/2014
2-Ethylhexanoic Acid	--	--	--	2 NJ	--	36 NJ	--	--
Decamethyl-Cyclopentasiloxane	--	3.1 NJ	--	--	--	--	--	--
Phenobarbital	--	6.1 NJ	--	--	--	--	--	--
Phthalic Anhydride	--	2.8 NJ	--	--	--	--	--	--
Trans-1,3-Dichloropropene-D4	7.6 J	--	9.1 J	--	7.8 J	--	7.9 JB	--
1,4-Dioxane	16	42	6.9	25	7.5	34	0.78	1.2

CF226D

	105.0 - 200.0 06/2014
1-Bromo-3-Fluorobenzene	0.72 NJ
Benzene,1-bromo-2-fluoro-	0.59 NJ

CF209D

	150.0 - 160.0 06/2014	150.0 - 160.0 09/2014	227.0 - 237.0 06/2014	227.0 - 237.0 09/2014	295.0 - 305.0 06/2014	295.0 - 305.0 09/2014	335.0 - 345.0 06/2014	335.0 - 345.0 09/2014
2-Ethyl-4-Methyl-1,3-Dioxolane	--	--	5 NJ	--	--	--	--	--
2-Ethylhexanoic Acid	--	--	--	--	--	--	--	130 NJ
2-Ethylhexyl Adipate	--	5.5 NJ	--	--	--	--	--	--
Benzene,1-bromo-2-fluoro-	--	--	--	--	1.1 NJ	--	--	--
Chlorodifluoromethane	1.3 NJ	--	--	--	--	--	--	--
Decamethyl-Cyclopentasiloxane	--	4.3 NJ	--	6 NJ	--	4.9 NJ	--	--
Isopropyl Ether	--	--	--	0.84 NJ	--	--	--	--
Phenobarbital	--	--	--	--	--	--	--	2.5 NJ
Phthalic Anhydride	--	--	--	4.7 NJ	--	--	--	--
Trans-1,3-Dichloropropene-D4	8.4 J	--	7.1 J	--	9.5 J	--	8 J	--
1,4-Dioxane	55	290 J	88	250 J	34	280 J	43	140 J

CF212D

	98.0 - 103.0 10/2012	98.0 - 103.0 12/2014	153.0 - 158.0 10/2012	153.0 - 158.0 12/2014
Hexadecanoic Acid	8.2 NJ	--	--	--
1,4-Dioxane	7	2.3	3.1	38

D1

	59.0 10/2012
Hexadecanoic Acid	13 NJ

CF20S

	7.0 - 16.0 10/2012	7.0 - 16.0 11/2014
Tetrahydrofuran	0.96 NJ	--
Thiophosgene	--	10 J

CF216D

	51.0 - 71.0 08/2013	51.0 - 71.0 06/2014	205.0 - 210.0 08/2013	205.0 - 210.0 06/2014	268.0 - 273.0 08/2013	268.0 - 273.0 06/2014	495.0 - 500.0 08/2013	495.0 - 500.0 09/2014
1,2-Dichlorotetrafluoroethane	1.4 NJ	--	--	5.1 NJ	--	3.9 NJ	--	--
2-Ethyl-4-Methyl-1,3-Dioxolane	--	10 NJ	--	1.6 NJ	--	--	--	--
Bis-chloromethylether	--	--	--	--	9.4 NJ	--	--	--
Chlorodifluoromethane	--	--	--	--	--	--	1.8 NJ	--
Hexathiane	--	--	--	--	--	--	--	10 NJ
Trans-1,3-Dichloropropene-D4	--	8.1 J	--	7.9 J	--	8.1 NJ	--	--
1,4-Dioxane	1.5	20	0.86	44	1.1	35	1.2	1.1

CF207D

	106.0 - 111.0 10/2012	106.0 - 111.0 12/2014	182.0 - 192.0 08/2013	182.0 - 192.0 12/2014	412.0 - 417.0 10/2012	412.0 - 417.0 12/2014	604.0 - 609.0 10/2012	604.0 - 609.0 12/2014
2-Ethyl-4-Methyl-1,3-Dioxolane	--	8.6 NJ	--	--	--	--	--	--
Hexadecanoic Acid	--	--	--	--	12 NJ	--	--	--
Isopropyl Ether	3.2 NJ	--	--	--	--	--	--	--
Tetrahydrofuran	2.8 NJ	--	--	--	--	--	--	--
1,4-Dioxane	38	31	3.9 J	0.72	8.1	7.4	2.4	2.5

CF204D

	155.0 - 160.0 08/2013	155.0 - 160.0 09/2014	195.0 - 200.0 08/2013	195.0 - 200.0 09/2014	433.0 - 438.0 08/2013	433.0 - 438.0 09/2014
2-Ethylhexanoic Acid	--	--	--	3.4 NJ	--	30 NJ
2-Ethylhexyl Adipate	--	12 NJ	--	--	--	--
Bis-chloromethylether	10 NJ	--	--	--	--	--
Decamethyl-Cyclopentasiloxane	--	--	--	--	--	2 NJ
Hexathiane	--	2.3 NJ	--	--	--	--
Isobutylene	--	--	--	--	1.1 NJ	--
Isopropyl Ether	--	--	1.3 NJ	--	--	--
Phenobarbital	--	5.4 NJ	--	5.4 NJ	--	--
1,4-Dioxane	14	22	15	93	--	0.85

LUSW0003

	3.0 11/2014	3.0 11/2014
Thiophosgene	11 NJ	--
1,4-Dioxane	8.1	0.48 J

LUSW0002

	0.0 11/2014	0.0 11/2014
Thiophosgene	10 NJ	--
1,4-Dioxane	4.2	0.57

CF201D

	114.0 - 119.0 10/2012	114.0 - 119.0 12/2014	240.0 - 245.0 10/2012	240.0 - 245.0 12/2014
1,4-Dioxane	3.7	1.1	1.8	0.65

CF11D

	145.0 - 170.0 11/2014
1,4-Dioxane	6.5

CF12D

	65.0 - 90.0 10/2012
Hexadecanoic Acid	14 NJ
Tetrahydrofuran	3.3 NJ

CF230D

	120.0 - 135.0 06/2014
1,8-Diazacyclotetradecane-2...	10 NJ
1-Bromo-3-Fluorobenzene	0.72 NJ
9-Octadecenamide, (Z)-	24 NJ
Trans-1,3-Dichloropropene-D4	8.7 JB

CF09D

	145.0 - 170.0 10/2012
Hexadecanoic Acid	12 NJ

LUSW0001

	5.0 11/2014	5.0 11/2014
Thiophosgene	11 NJ	--
1,4-Dioxane	0.68	0.63

CF10D

	145.0 - 170.0 10/2012	145.0 - 170.0 11/2014
Hexadecanoic Acid	16 NJ	--
Tetrahydrofuran	4.9 NJ	--
1,4-Dioxane	2.8	2.5

CF22S

	40.0 - 50.0 10/2012	40.0 - 50.0 11/2014
Hexadecanoic Acid	20 NJ	--
Tetrahydrofuran	4 NJ	--
Thiophosgene	--	9.9 NJ
1,4-Dioxane	2.9	1.3

MW18D

	84.0 - 143.0 10/2012	84.0 - 143.0 11/2014
2-Methylbenzenesulfonamide	--	5.8 NJ
Hexadecanoic Acid	15 NJ	--
Phenobarbital	--	11 NJ
Tetrahydrofuran	7 NJ	--
Thiophosgene	--	8.5 J
1,4-Dioxane	22	22

CF205D

	150.0 - 160.0 11/2014
Thiophosgene	9.7 J
1,4-Dioxane	14

TUSW0001

	0.0 11/2014
Thiophosgene	11 NJ
1,4-Dioxane	35

TUSW0002

	0.0 11/2014
Thiophosgene	10 NJ
1,4-Dioxane	4.5

D5R

	50.0 - 125.0 10/2012
Hexadecanoic Acid	22 NJ
Methoxytrimethylsilane	0.78 NJ
Phenobarbital	33 NJ
1,4-Dioxane	23

CF228D

	58.0 - 63.0 06/2014	58.0 - 63.0 09/2014	220.0 - 230.0 06/2014	220.0 - 230.0 09/2014	409.0 - 419.0 06/2014	409.0 - 419.0 09/2014
1-Bromo-3-Fluorobenzene	--	--	2.9 NJ	--	3.1 NJ	--
2-Ethylhexanoic Acid	--	--	--	17 NJ	--	--
Phthalic Anhydride	--	--	--	--	--	5.3 NJ
Tetrahydrofuran	--	--	--	--	3 NJ	--
Trans-1,3-Dichloropropene-D4	8.1 JB	--	6 J	--	8.4 J	--
1,4-Dioxane	4.1	6.8	7.2	7.6	9.4	16

CF222D

	92.0 - 96.0 06/2014	92.0 - 96.0 11/2014	134.0 - 139.0 10/2012	134.0 - 139.0 11/2014	165.0 - 170.0 10/2012
2-Chlorotoluene	--	--	0.77 NJ	--	--
1,4-Dioxane	11	6.6	21	3.8	30

TUSW0003

	0.0 11/2014
Thiophosgene	11 NJ

CF15D

	165.0 - 190.0 10/2012
Hexadecanoic Acid	5.7 NJ
1,4-Dioxane	35

D9

	80.0 - 125.0 11/2014
Thiophosgene	10 J

TBSW0003

	0.0 11/2014
Thiophosgene	11 NJ

CF211D

	124.0 - 131.0 06/2014	124.0 - 131.0 09/2014	215.0 - 220.0 06/2014	215.0 - 220.0 09/2014	360.0 - 365.0 06/2014	360.0 - 365.0 09/2014
1-Bromo-3-Fluorobenzene	--	--	0.56 NJ	--	0.87 NJ	--
2-Benzylidenehydrazono-3-methyl-2,3-dihydrobenzoth	--	--	--	3.4 BNJ	--	--
Decamethyl-Cyclopentasiloxane	--	5.6 NJ	--	--	--	--
Phthalic Anhydride	--	--	--	2.5 NJ	--	--
Trans-1,3-Dichloropropene-D4	--	--	8.2 J	--	7.9 J	--
1,4-Dioxane	11	24 J	7.9	14 J	3.8	6.4 J

CF225D

	76.0 - 81.0 10/2012	106.0 - 111.0 10/2012	106.0 - 111.0 11/2014	357.0 - 362.0 10/2012	357.0 - 362.0 11/2014
2-Ethyl-4-Methyl-1,3-Dioxolane	--	--	--	5.4 NJ	--
Hexadecanoic Acid	7.5 NJ	--	--	--	--
Tetrahydrofuran	--	--	--	9.5 NJ	--
1,4-Dioxane	0.49 J	6.4	23	8.7	14 J+

MW6

	15.0 - 40.0 11/2014
Phenobarbital	5.5 NJ
1,4-Dioxane	12

CF224D

	145.0 - 160.0 10/2012	145.0 - 160.0 11/2014
2-(3H)-Benzothiazolone	14 NJ	--
2-Chlorotoluene	6.8 NJ	--
Hexadecanoic Acid	16 NJ	--
Isopropyl Ether	2.6 NJ	--
Phenobarbital	19 NJ	--
1,4-Dioxane	29	19

CF218D

	171.0 - 176.0 10/2012	171.0 - 176.0 11/2014	292.0 - 297.0 10/2012	292.0 - 297.0 11/2014	688.0 - 693.0 10/2012	688.0 - 693.0 11/2014
Butabarbital	--	--	12 NJ	--	--	--
Tetrahydrofuran	--	--	--	--	6.5 NJ	--
Thiophosgene	--	10 NJ	--	9 NJ	--	9.8 NJ
1,4-Dioxane	22	0.58	28	--	24	0.44 J

TBSW0002

	0.0 11/2014	1.0 11/2014
1,4-Dioxane	4.2	1.7

MW19D

	80.0 - 107.0 10/2012
2-Chlorotoluene	7 NJ
Isopropyl Ether	10 NJ
Phenobarbital	17 NJ
1,4-Dioxane	190

TBSW0001

	1.0 11/2014	1.0 11/2014
1,4-Dioxane	9.6	4.3

ETSW0003

	1.0 11/2014	1.0 11/2014
1,4-Dioxane	35	35

ETSW0001

	0.0 11/2014	0.0 11/2014
1,4-Dioxane	40	21

CF223D

	145.0 - 160.0 10/2012	145.0 - 160.0 11/2014
Thiophosgene	--	9.9 J
1,4-Dioxane	0.94	6.3

CF229D

	182.0 - 197.0 06/2014
1-Bromo-3-Fluorobenzene	0.68 NJ
Benzene,1-bromo-2-fluoro-	0.57 NJ
Trans-1,3-Dichloropropene-D4	8.5 JB

WRA3-2

	190.0 - 220.0 10/2012
Methoxytrimethylsilane	1.6 NJ
1,4-Dioxane	0.44 J

ETSW0002

	0.0 11/2014	0.0 11/2014
1,4-Dioxane	61	22

Legend

- Landfill Boundary
- Operable Unit (OU) 2 Boundary
- Monitoring Well Location
- Surface Water Location
- Stream / Waterbody

PPCP - Pharmaceuticals & Personal Care Products

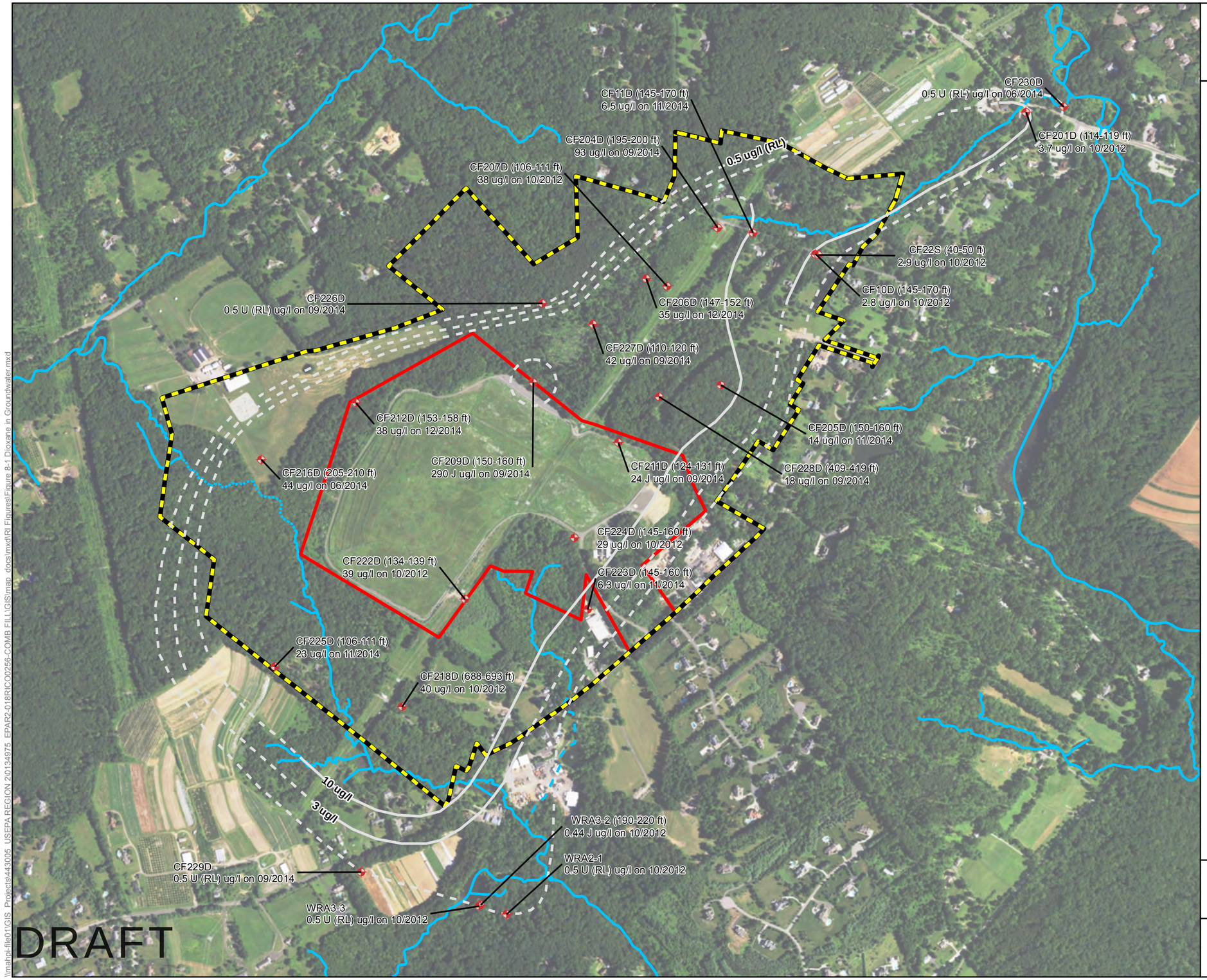
Dataset limited to groundwater collected using low-flow sampling techniques and surface water.
Only reportable, detected compounds are shown.
-- indicates analyte not present or not detected.

0 500 1000 1500 2000 feet

PPCP Concentrations in Groundwater & Surface Water

Figure E-1

March, 2016



Combe Fill South Landfill Superfund Site OU2 RI/FS

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

Legend

- Monitoring Well

1,4-Dioxane Concentrations

- Isoconcentration Line
- Interpreted Where Dashed
- OU2 Boundary
- Landfill Boundary
- Surface Water
- Undefined Surface Water
- East Trout Brook culvert

For contouring, the maximum concentration of the constituent being mapped was used regardless of depth or sampling date in order to conceptualize the approximate extent of detections of the mapped constituent.

For 1,4-Dioxane, the reporting limit of 0.5 ug/l was also contoured as the Interim Ground Water Quality Criteria of 0.4 ug/l was adopted by NJDEP on November 25, 2015.

0 400 800 Feet

ESTIMATED EXTENT OF 1,4-DIOXANE IN THE BEDROCK AQUIFER

Figure E-2
February 2016

\\mahpi-file01\GIS_Projects\443005_USEPA REGION 2\0134975_EPAR2-018RICO0256-COMB FILL\GIS\map_docs\mxd\RI Figures\Figure 8-1 Dioxane in Groundwater.mxd

Table E.1 Summary of TICs from OU2 Study Area Identified as PPCPs

CASRN	Chemical	Count	Synonyms, Use	EPA Method 1694 Analyte ?	PPCP or PPCP-related ?
75-43-4	Dichlorofluoromethane	45	Freon 12; aerosol propellant	N	N
93951-86-1	Trans-1,3-Dichloropropene-D4	34	Priority pollutant, found in wastewater from pharmaceutical manufacture	N	Related
463-71-8	Carbonothioic Dichloride	28	Thiophosgene; major intermediate used in manufacturing of drugs (e.g., Tolnaftate) and organic sulfur compounds (e.g., thioureas)	N	Related
109-99-9	Tetrahydrofuran	25	THF Pharma; organic solvent, belongs to class of cyclic ethers	N	Related
E966796	Total Alkane TICs	23	Compound class, no individual compound results	N	N
3622-84-2	Benzenesulfonamide, N-butyl-	20	N-BBSA; plasticizer	N	N
57-10-3	Hexadecanoic Acid	20	Palmitic Acid; raw material in pharmaceutical production	N	Related
50-06-6	Phenobarbital	16	5-Ethyl -5-phenylbarbituric acid; barbiturate, sedative hypnotic and anticonvulsant	N	PPCP
82304-66-3	7,9-Di-Tert-Butyl-1-Oxaspiro(4,5)DECA-6	16	Used in pharmaceutical packaging materials	N	Related
1073-06-9	1-Bromo-3-Fluorobenzene	13	3-Bromoflurobenzene; pharmaceutical intermediate	N	PPCP
4359-46-0	2-Ethyl-4-Methyl-1,3-Dioxolane	9	Used in antiobiotic formulations (e.g., tetracycline)	N	Related
84-69-5	Diisobutyl Phthalate	9	DIBP; plasticizer, paint, ink and adhesive manufacture	N	N
541-02-6	Decamethyl-Cyclopentasiloxane	8	D5; in personal care products used as base fluid/solvent in antiperspirants, deodorants, hair sprays, hair conditioners, cleansing creams, skin creams, lotions, bath oils, suntan and shaving products, make-up and nail polishes.	N	Related
25136-55-4	1,4-Dioxane, 2,5-dimethyl-	8	Stabilizer for 1,1,1-TCA, solvent in inks and adhesives	N	N
149-57-5	2-Ethylhexanoic Acid	7	Used in antibiotic formulation (e.g., Clavulanate)	N	Related
95-49-8	2-Chlorotoluene	6	Solvent used in manufacturing pharmaceuticals	N	Related
301-02-0	9-Octadecenamide, (Z)-	5	Oleamide; endogenous substance studied as a treatment for mood and sleep disorders, cannabinoid-regulated depression	N	PPCP

CASRN	Chemical	Count	Synonyms, Use	EPA Method 1694 Analyte ?	PPCP or PPCP-related ?
541-05-9	Hexamethylcyclotrisiloxane	5	D3; pharmaceutical intermediate	N	PPCP
108-20-3	Isopropyl Ether	5	Pharmaceutical intermediate	N	PPCP
125-40-6	Butabarbital	4	Butisol; barbiturate sleep aid		PPCP
68783-15-3	1-Hexene	4	High density polyethylene (HDPE) component used in containers for PPCP	N	Related
1072-85-1	Benzene,1-bromo-2-fluoro-	4	Pharmaceutical intermediate	N	PPCP
109-21-7	Butanoic Acid, Butyl Ester	4	Pharmaceutical intermediate	N	PPCP
85-44-9	Phthalic Anhydride	4	Component/degradation product of cellulose acetate phthalate (CAP), common enteric coating.	N	Related
542-88-1	Bis-chloromethylether	4	Carcinogen; production ended in U.S. in 1982. Was used in synthesis of nerve agent antidotes.	N	Related
1000146-59-1	2-Benzylidenehydrazono-3-methyl-2,3-dihydrobenzothiazole	3	Thiazoles as a class have antiobiotic and other medicinal properties. No specific info found on this chemical.	N	PPCP
1825-61-2	Methoxytrimethylsilane	3	Silicon containing pharmaceutical intermediate	N	PPCP
934-34-9	2-(3H)-Benzothiazolone	3	Anticonvulsant	N	PPCP
B2MP12BZDA	1,2-Benzene Dicarboxylic Acid, Butyl 2-Methyl Pro	3	Natural bioactive metabolites used as cytotoxins/anti-cancer drugs, as a class. No specific information found on this chemical.	N	PPCP
76-14-2	1,2-Dichlorotetrafluoroethane	3	Propellant	N	Related
13798-23-7	Hexathiane	2	Hexasulfur; sulfur compounds are keratolytic, antiseptic, antifungal, parasiticides	N	PPCP
556-67-2	Octamethylcyclotetrasiloxane	2	D4; used in manufacture of personal care products, (e.g., antiperspirants) and pharmaceuticals.	N	PPCP
56403-09-9	1,8-Diazacyclotetradecane-2	2	Pharmaceutical intermediate, antibiotic	N	PPCP
115-11-7	Isobutylene	2	MTBE, other gasoljne additive and butyl rubber intermediate. Component of transdermal	N	Related

CASRN	Chemical	Count	Synonyms, Use	EPA Method 1694 Analyte ?	PPCP or PPCP-related ?
			drug therapy systems.		
112-84-5	(Z)-13-Docasenamide	2	Erucylamide; hypnotic/sedative	N	PPCP
4337-65-9	2-Ethylhexyl Adipate	2	Di(2-ethylhexyl) adipate; used as solvent, plasticizer in bath oils, eye shadow, cologne, foundations, rouge, blusher, nail polish remover, moisturizers.	N	PPCP
108-41-8	3-Chlorotoluene	2	Pharmaceutical intermediate	N	PPCP
75-45-6	Chlorodifluoromethane	2	HCFC aerosol propellant used in topical pharmaceutical formulations.	N	Related
7683-64-9	Squalene	2	Used in cosmetics, enhances antigen-specific immune responses in vaccines	N	PPCP
88-19-7	2-Methylbenzenesulfonamide	2	Sulfonic acid; synthetic intermediate for pharmaceuticals (e.g., sulfa drugs)	N	PPCP
67860-04-2	Oxirane, Heptadecyl-	2	Oxirane compounds as a class are used as pharmaceutical intermediate, no specific information found on this chemical.	N	PPCP

Note:

EPA Method 1694 is an analytical method that analyzes PPCPs in water, soil sediment and biosolids using HPCL/MS/MS. The method is available online: http://water.epa.gov/scitech/methods/cwa/bioindicators/upload/2008_01_03_methods_method_1694.pdf. None of the TICs identified in the Combe OU2 study area are identified in this method.

Abbreviations:

OU2 – Combe Operable Unit 2
PPCP – Pharmaceutical and personal care product
TIC – Tentatively identified compound

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Table E.2 Superfund Technical Support Center - Requestor: Lora Smith-Staines

Chemical	CASRN	RfD	sRFD	RfC	sRfC	OSF	IUR	WOE	RfD	sRFD	RfC	sRfC	OSF	IUR	WOE
	Heirarchy of Values	1							2*						
	Source	IRIS							PPRTV						
1,4-Dioxane	123-91-1	Y		Y		Y	Y	Y							
Trans-1,3-Dichlorpropene-D4	93951-86-1														
Phenobarbital; 5-Ethyl -Phenylbarbituric Acid	50-06-6														
Hexadecanoic Acid; Palmitic Acid	57-10-3								N	N					
Tetrahydrofuran; THF Pharma	109-99-9	Y		Y				Y							
Carbonothioic Dichloride; Thiophosgene	463-71-8														
2-Ethyl-4-Methyl-1,3-Dioxolane	4359-46-0														
1-Bromo-3-Fluorobenzene; 3-Bromofluorobenzene	1073-06-9														N
Decamethyl-Cyclopentasiloxane	541-02-6														
2-Ethylhexanoic Acid; Butylethylacetic Acid	149-57-5														
Isopropyl Ether; Diisopropyl Ether	108-20-3								N	N	Y	Y			N
2-Chlorotoluene	95-49-8	Y								Y	N	A	N	N	N
1-Hexene	68783-15-3														
Phthalic Anhydride	85-44-9	Y													
1,2-Dichlorotetrafluoroethane; Frigiderm; Freon 114	76-14-2														
Butabarbital; Butisol	125-40-6														
2-(3H)-Benzothiazolone	934-34-9														
Benzene,1-bromo-2-fluoro	1072-85-1														
3-Chlorotoluene	108-41-8														
Hexathiane; Hexasulfur; Sulfur Hexamer	13798-23-7														
2-Ethylhexyl Adipate; Di(2-ethylhexyl) adipate	4337-65-9														
Hexamethylcyclotrisiloxane	541-05-9														
Bis-chloromethylether	542-88-1			N		Y	Y	Y							
2-Methylbenzenesulfonamide; o-Toluenesulfonamide	88-19-7														
Chlorodifluoromethane	75-45-6			Y											
Methoxytrimethylsilane	1825-61-2														
Hexachlorophene	70-30-4	Y													

Chemical	Acute REL	8-hour Inhalation REL	Chr. Inh. REL	Cal. PHG	Child-Specific Reference Dose	Cal. MCL	OSF	IUR	ISF	NSRL Inhalation	NSRL Oral	MADL Inh (reproductive toxicity)	MADL Oral (reproductive toxicity)	Soil Screening	Oral Acute	Oral Int.	Oral Chr.	Inh. Acute	Inh. Int.	Inh. Chr.
Heirarchy of Values	4														3					
Source	Cal EPA														ATSDR					
1,4-Dioxane	Y		Y	Y			Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y
Trans-1,3-Dichlorpropene-D4																				
Phenobarbital; 5-Ethyl -Phenylbarbituric Acid							Y	Y	Y	Y	Y									
Hexadecanoic Acid; Palmitic Acid																				
Tetrahydrofuran; THF Pharma																				
Carbonothioic Dichloride; Thiophosgene																				
2-Ethyl-4-Methyl-1,3-Dioxolane																				
1-Bromo-3-Fluorobenzene; 3-Bromofluorobenzene																				
Decamethyl-Cyclopentasiloxane																				
2-Ethylhexanoic Acid; Butylethylacetic Acid																				
Isopropyl Ether; Diisopropyl Ether																				
2-Chlorotoluene																				
1-Hexene																				
Phthalic Anhydride			Y																	
1,2-Dichlorotetrafluoroethane; Frigiderm; Freon 114																				
Butabarbital; Butisol																				
2-(3H)-Benzothiazolone																				
Benzene,1-bromo-2-fluoro																				
3-Chlorotoluene																				
Hexathiane; Hexasulfur; Sulfur Hexamer																				
2-Ethylhexyl Adipate; Di(2-ethylhexyl) adipate																				
Hexamethylcyclotrisiloxane																				
Bis-chloromethylether							Y	Y	Y	Y	Y								Y	
2-Methylbenzenesulfonamide; o-Toluenesulfonamide																				
Chlorodifluoromethane																				
Methoxytrimethylsilane																				
Hexachlorophene																				

Chemical	RfD	sRfD	RfC	sRfC	OSF	IUR	ISF	OUR
Heirarchy of Values	5							
Source	HEAST							
1,4-Dioxane								
Trans-1,3-Dichlorpropene-D4								
Phenobarbital; 5-Ethyl -Phenylbarbituric Acid								
Hexadecanoic Acid; Palmitic Acid								
Tetrahydrofuran; THF Pharma								
Carbonothioic Dichloride; Thiophosgene								
2-Ethyl-4-Methyl-1,3-Dioxolane								
1-Bromo-3-Fluorobenzene; 3-Bromofluorobenzene								
Decamethyl-Cyclopentasiloxane								
2-Ethylhexanoic Acid; Butylethylacetic Acid								
Isopropyl Ether; Diisopropyl Ether								
2-Chlorotoluene								
1-Hexene								
Phthalic Anhydride		Y	Y	Y				
1,2-Dichlorotetrafluoroethane; Frigiderm; Freon 114								
Butabarbital; Butisol								
2-(3H)-Benzothiazolone								
Benzene,1-bromo-2-fluoro								
3-Chlorotoluene								
Hexathiane; Hexasulfur; Sulfur Hexamer								
2-Ethylhexyl Adipate; Di(2-ethylhexyl) adipate								
Hexamethylcyclotrisiloxane								
Bis-chloromethylether								
2-Methylbenzenesulfonamide; o-Toluenesulfonamide								
Chlorodifluoromethane								
Methoxytrimethylsilane								
Hexachlorophene		Y						

Chemical	Health Canada non-cancer oral	Health Canada cancer oral	Health Canada non-cancer inhalatio	Health Canada cancer inhalation	IARC Intl non-cancer oral	IARC Intl cancer oral	IARC Intl non-cancer Inhalation	IARC Intl cancer Inhalation	IPCS non-cancer oral	IPCS cancer oral	IPCS non-cancer inhalation	IPCS cancer inhalation	IPRV non-cancer oral	IPRV cancer oral	IPRV non-cancer Inhalation	IPRV cancer Inhalation
Source	ITER															
1,4-Dioxane																
Trans-1,3-Dichlorpropene-D4																
Phenobarbital; 5-Ethyl -Phenylbarbituric Acid																
Hexadecanoic Acid; Palmitic Acid																
Tetrahydrofuran; THF Pharma																
Carbonothioic Dichloride; Thiophosgene																
2-Ethyl-4-Methyl-1,3-Dioxolane																
1-Bromo-3-Fluorobenzene; 3-Bromofluorobenzene																
Decamethyl-Cyclopentasiloxane																
2-Ethylhexanoic Acid; Butylethylacetic Acid																
Isopropyl Ether; Diisopropyl Ether																
2-Chlorotoluene																
1-Hexene																
Phthalic Anhydride										N		N				
1,2-Dichlorotetrafluoroethane; Frigiderm; Freon 114																
Butabarbital; Butisol																
2-(3H)-Benzothiazolone																
Benzene,1-bromo-2-fluoro																
3-Chlorotoluene																
Hexathiane; Hexasulfur; Sulfur Hexamer																
2-Ethylhexyl Adipate; Di(2-ethylhexyl) adipate																
Hexamethylcyclotrisiloxane																
Bis-chloromethylether	N															
2-Methylbenzenesulfonamide; o-Toluenesulfonamide																
Chlorodifluoromethane						Y		Y								
Methoxytrimethylsilane																
Hexachlorophene																

Chemical	ITER PR non-cancer oral	ITER PR cancer oral	ITER PR non-cancer Inhalation	ITER PR cancer Inhalation	NSF Intl non-cancer oral	NSF Intl cancer oral	NSF Intl non-cancer Inhalation	NSF Intl cancer Inhalation	RIVM non-cancer oral	RIVM cancer oral	RIVM non-cancer Inhalation	RIVM cancer Inhalation	TCEQ non cancer oral	TCEQ cancer oral	TCEQ non cancer inhalation	TCEQ cancer inhalation
Source	ITER															
1,4-Dioxane																
Trans-1,3-Dichlorpropene-D4																
Phenobarbital; 5-Ethyl -Phenylbarbituric Acid																
Hexadecanoic Acid; Palmitic Acid																
Tetrahydrofuran; THF Pharma																
Carbonothioic Dichloride; Thiophosgene																
2-Ethyl-4-Methyl-1,3-Dioxolane																
1-Bromo-3-Fluorobenzene; 3-Bromofluorobenzene																
Decamethyl-Cyclopentasiloxane																
2-Ethylhexanoic Acid; Butylethylacetic Acid					Y	N										
Isopropyl Ether; Diisopropyl Ether																
2-Chlorotoluene																
1-Hexene																
Phthalic Anhydride																
1,2-Dichlorotetrafluoroethane; Frigiderm; Freon 114																
Butabarbital; Butisol																
2-(3H)-Benzothiazolone																
Benzene,1-bromo-2-fluoro																
3-Chlorotoluene																
Hexathiane; Hexasulfur; Sulfur Hexamer																
2-Ethylhexyl Adipate; Di(2-ethylhexyl) adipate																
Hexamethylcyclotrisiloxane																
Bis-chloromethylether																
2-Methylbenzenesulfonamide; o-Toluenesulfonamide																
Chlorodifluoromethane																
Methoxytrimethylsilane																
Hexachlorophene																

Table E.2 Superfund Technical Support Center - Requestor: Lora Smith-Staines

Tier	Hierarchy	Site	Site Terminology	STSC Terminology						
				RfD	sRfD	RfC	sRfC	OSF	IUR	WOE
1	1	IRIS	RfD	X						
			sRfD		X					
			RfC			X				
			sRfC				X			
			OSF					X		
			IUR						X	
			WOE							X
2	2*	PPRTV	p-RfD	X						
			p-sRfD		X					
			p-RfC			X				
			p-sRfC				X			
			p-OSF					X		
			p-IUR						X	
			WOE							X
3	3	ATSDR	Oral Acute							
			Oral Int.							
			Oral Chr.	X						
			Inh. Acute							
			Inh. Int.							
			Inh. Chr.			X				
	4	Cal EPA	Acute Oral REL	X						
			Chr. Inh. REL			X				
			Cal. PHG							
			Cal. MCL							
			OSF							
			IUR							
			ISF							
			NSRL							
			MADL							
	5	HEAST	RfD	X						
			sRfD		X					
			RfC			X				
			sRfC				X			
			OSF					X		
			IUR						X	
			ISF							
			OUR							X

*PPRTV appendix value (i.e., screening value), in hierarchy, is a Tier 3. Subplacement is after CalEPA but above HEAST.

Acronyms & Abbreviations	
ATSDR	Agency for Toxic Substances and Disease Registry
Cal.	CalEPA
CalEPA	California Environmental Protection Agency
Chr.	Chronic
HEAST	Health Effects Assessment Summary Tables
Inh.	Inhalation
Int.	Intermediate
IRIS	Integrated Risk Information System
ISF	Inhalation Slope Factor
IUR	Inhalation Unit Risk
MADL	Maximum Allowable Daily Level
MCL	Maximum Contaminant Level
NSRL	No Significant Risk Level
OSF	Oral Slope Factor
OUR	Oral Unit Risk
PHG	Public Health Goal
p-IUR	Provisional Inhalation Unit Risk
p-OSF	Provisional Oral Slope Factor
PPRTV	Provisional Peer-Reviewed Toxicity Value
p-RfC	Provisional Chronic Inhalation Reference Dose
p-RfD	Provisional Chronic Oral Reference Dose
p-sRfC	Provisional Subchronic Inhalation Reference Dose
p-sRfD	Provisional Subchronic Oral Reference Dose
REL	Reference Exposure Levels
RfC	Chronic Inhalation Reference Dose
RfD	Chronic Oral Reference Dose
sRfC	Subchronic Inhalation Reference Dose
sRfD	Chronic Oral Reference Dose
WOE	Weight of Evidence

Legend

-	=	No value or discussion
*	=	See "A" appendix values
A	=	Appendix value; in hierarchy, only above HEAST
N	=	No value, discussion
Red font	=	No available information
Y	=	Available value

Table E.3 NJ Interim Generic GWQS for Synthetic Organic Chemicals Reported as Tentatively Identified Compounds

CASRN	Chemical Name	IARC Group	TIC Type	Cancer or Noncancer	NJ GWQS Generic Criteria	Criteria Type	Total Detect Count	Min Detect Count	Max Detect Count	Total Sample Count	Exceed Count	FOD Exceeds
76-14-2	1,2-DICHLOROTETRAFLUOROETHANE	Not Listed	Known TIC	NC	100	NC SOC Applied	3	1.4	5.1	142	0	0.0%
25136-55-4	1,4-DIOXANE, 2,5-DIMETHYL	Not Listed	Known TIC	NC	100	NC SOC Applied	10	0.77	16	142	0	0.0%
56403-09-9	1,8-DIAZACYCLOTETRADECANE-2...	Not Listed	Known TIC	NC	100	NC SOC Applied	2	7.9	10	142	0	0.0%
563-78-0	1-BUTENE, 2,3-DIMETHYL-	Not Listed	Known TIC	NC	100	NC SOC Applied	1	7.9	7.9	142	0	0.0%
934-34-9	2-(3H)-BENZOTHIAZOLONE	Not Listed	Known TIC	NC	100	NC SOC Applied	1	14	14	142	0	0.0%
111-02-4	2,6,10,14,18,22-TETRACOSAHEXAENE, 2,6,10	Not Listed	Known TIC	NC	100	NC SOC Applied	1	6	6	142	0	0.0%
1000146-59-1	2-BENZYLIDENEHYDRAZONO-3-METHYL-2,3-DIHYDROBENZOTHIAZOLE	Not Listed	Known TIC	NC	100	NC SOC Applied	1	3.4	3.4	142	0	0.0%
95-49-8	2-CHLOROTOLUENE	Not Listed	Known TIC	NC	100	NC SOC Applied	2	0.77	6.8	142	0	0.0%
104-76-7	2-ETHYL-1-HEXANOL	Not Listed	Known TIC	NC	200	GWQS	1	88	88	142	0	0.0%
4359-46-0	2-ETHYL-4-METHYL-1,3-DIOXOLANE	Not Listed	Known TIC	NC	100	NC SOC Applied	9	1.6	10	142	0	0.0%
149-57-5	**2-ETHYLHEXANOIC ACID**	Not Listed	Known TIC	NC	100	NC SOC Applied	7	2	130	142	1	0.7%
4337-65-9	2-ETHYLHEXYL ADIPATE	Not Listed	Known TIC	NC	100	NC SOC Applied	2	5.5	12	142	0	0.0%
51667-26-6	2-OXAZOLIDONE	Not Listed	Known TIC	NC	100	NC SOC Applied	1	3	3	142	0	0.0%
90804-34-5	3,5-DI-TERT-BUTYL-4-HYDROXYPHENYLP	Not Listed	Known TIC	NC	100	NC SOC Applied	1	11	11	142	0	0.0%
301-02-0	301-02-0	Not Listed	Known TIC	NC	100	NC SOC Applied	1	24	24	142	0	0.0%
2728-05-4	BENZAMIDE, N,N-DIETHYL-4-METHYL-	Not Listed	Known TIC	NC	100	NC SOC Applied	1	7	7	142	0	0.0%
1072-85-1	BENZENE, 1-BROMO-2-FLUORO-	Not Listed	Known TIC	NC	100	NC SOC Applied	3	0.57	1.1	142	0	0.0%
1073-06-9	BENZENE, 1-BROMO-3-FLUORO-	Not Listed	Known TIC	NC	100	NC SOC Applied	8	0.56	3.1	142	0	0.0%
3622-84-2	**BENZENESULFONAMIDE, N-BUTYL-**	Not Listed	Known TIC	NC	100	NC SOC Applied	14	14	320	142	6	4.2%
542-88-1	**BIS-CHLOROMETHYLETHER**	1	Known TIC	C	5	SOC Based on IARC	2	9.4	10	142	2	1.4%
125-40-6	BUTABARBITAL	Not Listed	Known TIC	NC	100	NC SOC Applied	1	12	12	142	0	0.0%
79-11-8	CHLOROACETIC ACID	Not Listed	Known TIC	NC	100	NC SOC Applied	1	2.2	2.2	142	0	0.0%
75-45-6	CHLORODIFLUOROMETHANE	3	Known TIC	NC	100	SOC Based on IARC	2	1.3	1.8	142	0	0.0%
463-71-8	CIS-1,3-DICHOLOROPROPENE-D4	Not Listed	Known TIC	NC	100	NC SOC Applied	6	9	10	142	0	0.0%
541-02-6	DECAMETHYL-CYCLOPENTASILOXANE	Not Listed	Known TIC	NC	100	NC SOC Applied	7	2	6	142	0	0.0%
75-43-4	DICHLOROFLUOROMETHANE	Not Listed	Known TIC	NC	100	NC SOC Applied	37	0.71	10	142	0	0.0%
84-69-5	DIISOBUTYL PHTHALATE	Not Listed	Known TIC	NC	100	NC SOC Applied	2	9.5	12	142	0	0.0%
5989-27-5	D-LIMONENE	3	Known TIC	NC	100	SOC Based on IARC	1	6.5	6.5	142	0	0.0%
57-10-3	HEXADECANOIC ACID	Not Listed	Known TIC	NC	100	NC SOC Applied	8	7.5	20	142	0	0.0%
13798-23-7	HEXATHIANE	Not Listed	Known TIC	NC	100	NC SOC Applied	2	2.3	10	142	0	0.0%
115-11-7	ISOBUTYLENE	Not Listed	Known TIC	NC	100	NC SOC Applied	1	1.1	1.1	142	0	0.0%
108-20-3	ISOPROPYL ETHER	Not Listed	Known TIC	NC	20000	GWQS	4	0.84	3.2	142	0	0.0%
1825-61-2	METHOXYTRIMETHYLSILANE	Not Listed	Known TIC	NC	100	NC SOC Applied	1	1.6	1.6	142	0	0.0%
1072-47-5	METHYL-1,3-DIOXOLANE; 4-	Not Listed	Known TIC	NC	100	NC SOC Applied	1	1.6	1.6	142	0	0.0%
1454-84-8	NONADECANOL	Not Listed	Known TIC	NC	100	NC SOC Applied	1	6.1	6.1	142	0	0.0%
50-06-6	**PHENOBARBITAL**	2B	Known TIC	C	5	SOC Based on IARC	5	2.5	19	142	4	2.8%
85-44-9	PHTHALIC ANHYDRIDE	Not Listed	Known TIC	NC	100	NC SOC Applied	4	2.5	5.3	142	0	0.0%
63705-05-5	SULFUR	Not Listed	Known TIC	NC	100	NC SOC Applied	1	13	13	142	0	0.0%
10544-50-0	SULFUR, MOD (S8)	Not Listed	Known TIC	NC	100	NC SOC Applied	1	12	12	142	0	0.0%
109-99-9	TETRAHYDROFURAN	2B	Known TIC	C	10	GWQS	8	0.94	9.5	142	0	0.0%
TICUNKN	TIC UNKNOWN	Not Listed	Unknown TIC	U	-	SOC Not Applicable	32	7.2	11	142	0	0.0%
93951-86-1	TRANS-1,3-DICHLOROPROPENE-D4	Not Listed	Known TIC	NC	100	NC SOC Applied	17	6	9.1	142	0	0.0%
52078-56-5	TRICOSENE; 11-	Not Listed	Known TIC	NC	100	NC SOC Applied	1	7.7	7.7	142	0	0.0%
UNKNOWN2	UNKNOWN WITH 2ND HIGHEST CONC.	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	7.9	200	142	0	0.0%
UNKNOWN3	UNKNOWN WITH 3RD HIGHEST CONC.	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	4.8	130	142	0	0.0%
UNKNOWN1	UNKNOWN WITH HIGHEST CONC.	Not Listed	Unknown TIC	U	-	SOC Not Applicable	6	5.4	140	142	0	0.0%
UNKNOWN-1	UNKNOWN-1	Not Listed	Unknown TIC	U	-	SOC Not Applicable	194	0.5	420	142	0	0.0%
UNKNOWN-10	UNKNOWN-10 (6 18.255)	Not Listed	Unknown TIC	U	-	SOC Not Applicable	10	2.6	38	142	0	0.0%
UNKNOWN11	UNKNOWN-11	Not Listed	Unknown TIC	U	-	SOC Not Applicable	9	2	62	142	0	0.0%
UNKNOWN12	UNKNOWN-12	Not Listed	Unknown TIC	U	-	SOC Not Applicable	8	2	40	142	0	0.0%
UNKNOWN13	UNKNOWN-13	Not Listed	Unknown TIC	U	-	SOC Not Applicable	7	2.3	59	142	0	0.0%
UNKNOWN14	UNKNOWN-14	Not Listed	Unknown TIC	U	-	SOC Not Applicable	6	3.3	98	142	0	0.0%
UNKNOWN15	UNKNOWN-15	Not Listed	Unknown TIC	U	-	SOC Not Applicable	6	2.3	72	142	0	0.0%
UNKNOWN16	UNKNOWN-16	Not Listed	Unknown TIC	U	-	SOC Not Applicable	6	2.1	27	142	0	0.0%
UNKNOWN17	UNKNOWN-17	Not Listed	Unknown TIC	U	-	SOC Not Applicable	6	5.7	61	142	0	0.0%
UNKNOWN18	UNKNOWN-18	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	3.3	48	142	0	0.0%
UNKNOWN19	UNKNOWN-19	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	2.7	17	142	0	0.0%
UNKNOWN-2	UNKNOWN-2	Not Listed	Unknown TIC	U	-	SOC Not Applicable	156	0.5	1000	142	0	0.0%
UNKNOWN20	UNKNOWN-20	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	2.5	11	142	0	0.0%
UNKNOWN21	UNKNOWN-21	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	2.1	43	142	0	0.0%
UNKNOWN22	UNKNOWN-22	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	5.9	15	142	0	0.0%
UNKNOWN23	UNKNOWN-23	Not Listed	Unknown TIC	U	-	SOC Not Applicable	4	2.6	13	142	0	0.0%
UNKNOWN24	UNKNOWN-24	Not Listed	Unknown TIC	U	-	SOC Not Applicable	3	4.6	17	142	0	0.0%
UNKNOWN25	UNKNOWN-25	Not Listed	Unknown TIC	U	-	SOC Not Applicable	3	7.6	10	142	0	0.0%
UNKNOWN26	UNKNOWN-26	Not Listed	Unknown TIC	U	-	SOC Not Applicable	2	2	48	142	0	0.0%
UNKNOWN27	UNKNOWN-27	Not Listed	Unknown TIC	U	-	SOC Not Applicable	2	7.6	29	142	0	0.0%
UNKNOWN-3	UNKNOWN-3	Not Listed	Unknown TIC	U	-	SOC Not Applicable	101	0.59	410	142	0	0.0%
UNKNOWN-4	UNKNOWN-4	Not Listed	Unknown TIC	U	-	SOC Not Applicable	23	0.57	82	142	0	0.0%
UNKNOWN-5	UNKNOWN-5	Not Listed	Unknown TIC	U	-	SOC Not Applicable	20	1.5	33	142	0	0.0%
UNKNOWN-6	UNKNOWN-6	Not Listed	Unknown TIC	U	-	SOC Not Applicable	16	2.3	46	142	0	0.0%
UNKNOWN-7	UNKNOWN-7	Not Listed	Unknown TIC	U	-	SOC Not Applicable	13	2.3	25	142	0	0.0%
UNKNOWN-8	UNKNOWN-8	Not Listed	Unknown TIC	U	-	SOC Not Applicable	13	2	23	142	0	0.0%
UNKNOWN-9	UNKNOWN-9	Not Listed	Unknown TIC	U	-	SOC Not Applicable	10	2.4	30	142	0	0.0%

Notes:

The Tentatively Identified Compound (TIC) list has been refined to the groundwater data set incorporated in the Baseline Human Health Risk Assessment (BHHRA).

IARC. 2018. Agents Classified by the IARC Monographs, Volumes 1-120. Last Updated March 2018. Available online: http://monographs.iarc.fr/ENG/Classification/

NJDEP. 2018. Ground Water Quality Standards. N.J.A.C. 7:9C. January 16. Available online: http://www.nj.gov/dep/rules/rules/njac7_9c.pdf

Abbreviations:

C -- Cancer
FOD -- Frequency of detection
GWQS -- Groundwater Quality Standard
IARC -- International Agency for Research on Cancer
NC -- Noncancer
NJDEP -- New Jersey Department of Environmental Protection
SOC -- Synthetic organic chemical
U -- Unknown