

**SIXTH FIVE-YEAR REVIEW REPORT FOR
WADE (ABM) SUPERFUND SITE
CITY of CHESTER
DELAWARE COUNTY, PENNSYLVANIA**



Prepared by

**U.S. Environmental Protection Agency
Region 3
Philadelphia, Pennsylvania**

A handwritten signature in blue ink that reads "Karen Melvin".

**Karen Melvin, Director
Hazardous Site Cleanup Division
U.S. EPA, Region III**

DEC 11 2018

Date

Table of Contents

I. INTRODUCTION	2
Site Background.....	2
Five-Year Review Summary Form.....	3
II. RESPONSE ACTION SUMMARY	4
Basis for Taking Action.....	4
Response Actions.....	4
Status of Implementation	5
Systems Operations/Operation & Maintenance.....	6
III. PROGRESS SINCE THE LAST REVIEW	7
IV. FIVE-YEAR REVIEW PROCESS	7
Community Notification, Involvement & Site Interviews.....	7
Data Review.....	8
V. TECHNICAL ASSESSMENT	10
QUESTION A: Is the remedy functioning as intended by the decision documents?.....	10
QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?.....	10
QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?.....	11
VI. ISSUES/RECOMMENDATIONS	11
OTHER FINDINGS.....	11
VII. PROTECTIVNESS STATEMENT	11
VIII. NEXT REVIEW.....	11

LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
BTAG	Biological and Technical Assistance Group
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FYR	Five-Year Review
GPRA	Government Performance and Results Act
IC	Institutional Control
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
OU	Operable Unit
O&M	Operation and Maintenance
PADEP	Pennsylvania Department of Environmental Protection
PADER	Pennsylvania Department of Environmental Resources
PPA	Prospective Purchaser Agreement
RAO	Remedial Action Objective
RD	Remedial Design
ROD	Record of Decision
RPM	Remedial Project Manager
SDWA	Safe Drinking Water Act
SVOC	Semi-Volatile Organic Compound
SWRAU	Site Wide Ready for Anticipated Use
UU/UE	Unlimited Use and Unrestricted Exposure
VOC	Volatile Organic Compound

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this five-year review pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii), and considering EPA policy.

This is the sixth FYR for the Wade (ABM) Superfund Site (the Site). The triggering action for this policy review is the previous FYR dated September 14, 2014. This FYR has been conducted because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site is considered a single Operable Unit (OU) which encompasses all components of the Remedy and which will be addressed in this FYR. The Site consists of a capped waste disposal area and the contaminated soils and groundwater beneath.

The Wade (ABM) Superfund Site FYR was conducted by an EPA team including the Remedial Project Manager; Hydrogeologist; Toxicologist; Biologist and Community Involvement Coordinator. Support from the Pennsylvania Department of Environmental Protection (PADEP) included the Project Manager and Hydrogeologist. The review began on December 7, 2017, with a meeting of the project team, and the review of relevant documents.

Site Background

The Site is currently owned by the City of Chester and has been redeveloped for use as a public parking lot. Prior to Chester's ownership, the Site was an illegal waste disposal operation which was discovered by local officials in 1977. An estimated 20,000 drums and 20 tank trucks full of chemical waste were disposed of or left at the Site. The Site is a roughly three-acre property located on the western bank of the Delaware River in Chester, Pennsylvania immediately north of the Commodore Barry Bridge (Figure 1). The surrounding area was formerly industrial, and is now a mix of residential, public and utility properties.

The Health Director for the City of Chester became aware of the Site and inspected it along with representatives of Pennsylvania's Department of Environmental Resources (PADER, the predecessor of PADEP until July 1, 1995; hereafter in this document both iterations of the agency will be referred to as PADEP) in 1977. Later that year the owner and operators of the Site were ordered to cease operations and clean up the property. During legal appeals of that order the Site was inoperative and virtually abandoned.

In February 1978, the Site caught fire. The intense chemical-fueled fire was quenched after about twenty hours, but rekindled twice in ensuing days. After the fire was finally extinguished, the property was still covered with chemical wastes, fire-damaged drums and tank trucks.

Investigations of the records of the Site revealed that, along with waste storage, on-site operations included dumping of chemical wastes either directly on the ground or into trenches dug into the sandy soil. These actions severely contaminated on-site soil at several locations, as well as the underlying groundwater. The fire added to the hazard with the deposition of mixed and partially burned chemical wastes on the already compromised soils. This Site was finalized on the list of Superfund Sites (National Priorities List, or NPL) in September 1983. Additional Site background, history and dates are provided in Attachment 1.

Five-Year Review Summary Form

Site Name: Wade (ABM)		
EPA ID: PAD980539407		
Region: 3	State: PA	City/County: Chester, Delaware County
NPL Status: Final		
Multiple OUs? No	Has the site achieved construction completion? Yes: June 29, 1988	
Lead agency: United States Environmental Protection Agency		
Author name (Federal Remedial Project Manager): James J. Feeney		
Author affiliation: United States Environmental Protection Agency, Region 3		
Review period: December 2017 to December 2018		
Date of site inspection: May 31, 2018		
Type of review: Policy Review		
Review number: 6		
Triggering action date: September 15, 2014		
Due date: September 15, 2019		

GPRA MEASURE REVIEW

As part of this Five-year Review, the Governmental Performance and Review Act (GPRA) Measures have also been reviewed. The GPRA Measures and their status are provided as follows:

Environmental Indicators

Human Health: HEUC - Human Exposure Under Control

Groundwater Migration: GMUC - Groundwater Migration is Under Control

Sitewide Ready for Anticipated Use (SWRAU): Site was determined SWRAU on June 15, 2006

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

In the summer of 1983, a contractor was engaged by PADEP to investigate and characterize the hazardous and non-hazardous constituents of the Site, including the existing debris piles and contaminated soils. Under that contract 750 drums that contained chemicals were removed from the Site and 320 soil samples were obtained and analyzed. The soil samples indicated that contamination was widespread; over one hundred different organic and inorganic compounds and elements were identified, including the suspected human carcinogens benzene, chlorinated benzenes, chloroform, tetrachloroethylene, trichloroethylene and bis (2-ethylhexy phthalate). Based on the sampling results a Focused Feasibility Study (FFS) and an Endangerment Assessment were developed in 1984. The Endangerment Assessment concluded that the Site presented elevated lifetime cancer risks to persons with on-site exposures through inhalation/ingestion of contaminated soil.

Response Actions

Initial Response

As noted above, this Site had been discovered by local officials and ordered shut down in 1977. Subsequently, PADEP recommended the Site as a candidate for a Section 7003 cleanup order under the federal Resource Conservation and Recovery Act (RCRA) of 1976. It was then discovered that the owner and operators of the Site were insolvent. In 1981 and 1982 contractors were engaged by PADEP and EPA to remove and dispose of the drums and tankers that remained on-site, and to conduct an investigation of soil, groundwater and air quality. This Site was finalized on the NPL in September 1983.

1984 Record of Decision

An Enforcement Decision Document (This name for EPA's decision document was replaced by the term Record of Decision, or ROD; hereafter this FYR will refer to the decision document as the ROD) was issued August 30, 1984 and the selected alternative required the following components:

- Remove, decontaminate and dispose off-site the remaining tankers, tires and debris;
- Remove on-site waste piles;
- Demolish and remove the on-site buildings;
- Remove the contaminated soil to a maximum depth of five feet;
- Backfill and regrade the property to a level surface and
- Cover with topsoil and a seeded cap.

The ROD also required the implementation of a long-term Operation and Maintenance (O&M) Plan to further monitor the Site for a period of thirty years after the remedial activities were completed. The Plan required annual groundwater monitoring and site inspections, along with maintenance to the cap and monitoring wells when necessary.

Status of Implementation

EPA issued the ROD for the Wade (ABM) Superfund Site in August 1984. PADEP concurred with the ROD and was given the status of lead agency to remediate the Site.

As the lead agency, PADEP implemented the remedial actions required in the ROD, including the removal of wastes and waste containers, demolition and removal of fire-damaged buildings, excavation and removal of contaminated soil, backfilling, regrading and contouring the Site with imported fill and covering the entire Site with a vegetated topsoil cap. Additionally, a security fence was installed to safeguard the Site.

After the remedial actions were determined to be complete, on December 20, 1987, PADEP also agreed to conduct the long-term O&M which consisted of annual groundwater monitoring and Site inspections along with maintenance to the wells, security fence and cap as necessary. The O&M phase of the project began in May 1989.

In 2004, after years of existence as a fenced, abandoned lot, the Site property was purchased by the Chester Parking Authority, as the agent of the City of Chester (“Chester”), and redeveloped into a parking facility with a public access fishing pier. This redevelopment was done to provide parking for the underutilized Barry Bridge Park, a public park on the property adjacent and immediately south of the Site, which was being expanded in a major improvement project.

Prior to purchasing the Site property, Chester entered into a March 28, 2003 Prospective Purchaser Agreement (PPA) with EPA to ensure that the Selected Remedy continues to be protective and that the Site remains safe for its intended use. Under the terms of the PPA, Chester accepted responsibility for the ongoing maintenance of the Site and agreed to certain environmental Institutional Controls (ICs) which restrict the use of the Site. Specifically, under the terms of the PPA, Chester shall not damage, disturb or interfere with the integrity or protectiveness of the cap, or any other aspect of the EPA’s Remedial Action. These restrictions effectively prohibit any disturbance of the cap, including the installation of drinking water wells or any other excavation, that could potentially expose the public to any residual contamination in soil or groundwater beneath the Cap. Conversely, there are provisions in the PPA that allow Chester to propose and implement redevelopment activities at the Site subject to EPA’s prior review and written approval of such activities.

During the approved redevelopment activities in 2004, significant improvements were incorporated into the original capping remedy: an engineered storm water management system was installed and parts of the Site were covered with additional fill and asphalt, forming the parking area. Additionally, in consideration of the physical improvements to the cap, the security fence, which had been maintained by PADEP, was deemed to be no longer necessary and was removed during construction.

In 2009, the adjacent property which had been the Barry Bridge Park was again redeveloped to become Chester's major league soccer stadium, currently named Talen Energy Stadium. As part of the redevelopment plans, minor upgrades were made to the Wade Site's driveways to accommodate large truck access to the stadium property, and a walking path was constructed along the river, connecting the adjacent properties. All construction plans for the Site were approved in advance by PADEP and EPA to assure no interference with the effectiveness of the remedy, and construction was completed June 2010.

The Site continues to be a part of Chester's riverfront development program. PADEP and the City of Chester have continued to conduct the necessary O&M activities at the Site.

Systems Operations/Operation & Maintenance

Operation and maintenance activities for this Site are conducted or overseen by PADEP under the requirements of the 1984 ROD and the approved Operation and Maintenance Plan (O&M Plan). The ROD required O&M to be conducted for a period of thirty years to determine the effectiveness of remedial activities, and included the following activities:

- Site Inspection: Visual inspection of surface conditions and monitoring wells.
- Installation of Upgradient Monitoring Wells: The ROD required additional upgradient monitoring well clusters in off-site locations for monitoring groundwater quality before it flows under the Site. (However, the O&M Plan concluded that two of the existing wells, MW-1S and MW-1D, would adequately provide this information.)
- Groundwater Sampling: Annually to monitor groundwater quality.
- Laboratory Analysis: Groundwater samples will be analyzed for contaminants, with a reevaluation of sampling protocol after five years.
- Replacement of Monitoring Wells: As necessary. Replacement wells are incorporated into O&M Plan activities. In 1994, eight monitoring wells were replaced, and in 2003 another five monitoring wells were replaced. The corresponding older wells were abandoned.
- Well Maintenance and Rehabilitation: Every five years.
- Topsoil Maintenance: Every two years.
- Mowing of Grass: Yearly, during the growing season, as needed.

The O&M tasks have proceeded without significant issues. The results of groundwater monitoring are sent to EPA in annual reports for evaluation. Additionally, the annual reports describe the physical condition of the Site. Since 2004, when the Site was redeveloped by the

City of Chester, the grassy areas and paved areas of the parking facility have been maintained by the City of Chester. The security fence which had also been maintained by PADEP was deemed to be no longer necessary and was removed in 2004 as part of the redevelopment.

In a letter dated January 30, 2018, EPA approved a request from PADEP to end groundwater monitoring before the end of the required thirty-year period. PADEP's request was embodied in a letter referencing nearly three decades of sampling data, which showed that groundwater beneath the Site has reached acceptable levels so that monitoring may be safely discontinued and the remaining wells decommissioned. Ongoing operation and maintenance activities will continue to include periodic site inspections and confirmation of effectiveness of institutional controls. PADEP's request letter, dated November 11, 2017 with the referenced information, is attached as Attachment 2.

EPA's letter approving the PADEP request is attached as Attachment 3. An attachment to that letter is EPA's Memo to the Wade Site File ("Memo to File") authorizing the "nonsignificant or minor change" to the Remedy at the Site. As a specific task of the O&M Plan, groundwater monitoring for 30 years was incorporated by reference as a requirement of the ROD and that 30-year period would expire in May 2019. EPA issued the Memo to File authorizing the minor change to the Remedy to allow the early completion of groundwater monitoring and avoid any potential conflict with the original requirements.

III. PROGRESS SINCE THE LAST REVIEW

The protectiveness statement from the fifth Five-Year Review of the Wade Site, signed September 15, 2014, is reproduced below:

The remedial actions implemented at this Site are protective of human health and the environment because exposure pathways that could result in unacceptable human and/or ecological health risks are being controlled. Wastes, debris and contaminated soils were removed in the original response, and soils with residual contamination were capped in place with a vegetated soil cover, which was later upgraded with an asphalt parking facility and additional soil and landscaping. There are no human or environmental receptors exposed to unacceptable levels of Site contaminants. Based on current Site ownership and use, the Site is expected to remain protective of human health and the environment.

There were no Issues or Recommendations identified in the fifth Five-Year Review. Since then Operation and Maintenance activities continued at the Site, and the requirement for groundwater monitoring was completed.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

The EPA placed an advertisement in the Delaware County Daily Times on Friday, August 24, 2018 (Attachment 4) to inform the community of the purpose of the Five-Year Review, the location of the Site and the upcoming availability of the final report. The ad also invited the public to ask questions or provide comments or Site information to EPA. No response to this

notice was received. The results of the review and the report will be made available online at <https://www.epa.gov/superfund/wade>.

During the construction of the soccer stadium on the adjacent property there was a low level of public awareness of the Wade Site, primarily as a side issue to the stadium. However, with the soccer stadium in successful operation since 2010, the last five years have seen virtually no indication of general public interest in the Wade Site.

Interviews

Telephone interviews with representatives of the City of Chester have confirmed that there has been no recent or continuing public interest in the Wade Site.

On May 30, 2018 EPA's RPM spoke by phone with a representative of the Chester Economic Development Authority (CEDA). CEDA works closely with the Chester Parking Authority and in recent years has handled the management responsibilities for the Site. CEDA indicated that there had been no inquiries from the public concerning the Site since the adjacent soccer stadium was completed in 2010. CEDA also informed EPA that management responsibilities for the Site had been transferred to Chester's Department of Accounts and Finance in 2016.

EPA then contacted the Department of Accounts and Finances on May 30, 2018 and spoke to the Administrative Assistant to the Department Director, who also reported that department had not received any inquiries concerning the Site. EPA also discussed the Institutional Controls imposed by the March 28, 2003 PPA, emphasizing the requirement for preapproval for any activity that would potentially affect the performance of the remedy. The Department acknowledged awareness of the requirements and further indicated that there were no plans to change the physical characteristics or intended use of the property. The City Engineer for Chester, who is aware of and involved in the management of the Site, was also available for interview and confirmed that there have been no concerns or public interest in the Site, and no current plans for further development.

Data Review

The annual sampling of the groundwater monitoring wells has been conducted as required by the ROD. The groundwater wells were installed to monitor the quality of groundwater and the effectiveness of the Remedial Action at the Site, but no groundwater cleanup goals were specified in the ROD. However, throughout the O&M period groundwater sampling results have been compared to the Maximum Contaminant Levels (MCLs) specified by the federal Safe Drinking Water Act. MCLs are considered to be levels safe for drinking water.

There are eight separate monitoring well locations spread across the Wade Site as shown in Figure 2. Some of the locations have paired shallow and deep wells giving a total of thirteen individual monitoring wells. PADEP has sampled these wells for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). EPA reviewed the collective progress reports, submitted by PADEP, describing the sampling and maintenance activities performed since the last Five-Year Review conducted in 2014. As in previous years, the results of the on-site monitoring well sampling show that the contaminants remaining in the groundwater are at very low levels and still declining.

Since 2014, monitoring results have demonstrated predominantly non-detect levels for most contaminants. Some volatile organic compounds remain detectable but are at very low levels and continue to exhibit declining trends. Monitoring results showing the contaminants that remain higher than their associated MCL levels since 2012 are presented in the attached table (Table 1).

Results of the most recent monitoring round conducted in May 2017 (See Attachment 2 - results are part of PADEP's November 2017 letter) showed that 9 out of the 13 wells were at non-detect levels for all compounds. Two of the 13 wells indicated a few remaining compounds below MCLs. And only 2 of the 13 wells indicated a single contaminant slightly exceeding its associated MCL: Well MW-2 had a detection of benzene at 7.9 micrograms per liter (ug/l), slightly above its MCL of 5 ug/l, and well MW-7D had a detection of 1, 2-dichloroethane at 6.3 ug/l micrograms per liter, slightly above its MCL of 5 ug/l.

Statistical evaluations showing the overall low levels and declining trends for these two above-MCL contaminants are provided in Attachment 5. The evaluations show graphically that as of 2017 the remaining two contaminants were close to reaching MCL levels, with trend lines predicting further decline. With other groundwater contaminants at non-detectable or very low levels at the Site, and the environmental ICs embodied in the 2003 PPA which would prohibit installation of drinking water wells, EPA has determined that the Site is protective and authorized PADEP to discontinue the groundwater monitoring program.

Site Inspection

The Site inspection for this Five-Year Review was conducted on May 31, 2018. In attendance from EPA were the Remedial Project Manager, Hydrogeologist and Acting Branch Chief for the Site. Representing PADEP were the Project Manager and Hydrogeologist. The purpose of the inspection was to assess the conditions of the Site and the integrity of the remedy. The May 31 inspection focused on the general condition of the cap which includes the paved parking areas with associated stormwater drainage, and the green areas. The paved areas that comprise the parking lot and entrance driveway were intact and even; the grassy areas were well vegetated, recently mowed and showed no signs of notable wear or erosion.

The eastern border of the Site is the bank of the Delaware River, and is reinforced with riprap (large, angular stone) to protect the bank from the scouring action of the river. The site inspection was held at low tide to facilitate inspection of the reinforced riverbank. The stone was in good condition, showing no signs of scouring, movement or settling. The inlets and outfall of the stormwater drainage system were inspected and found to be in excellent condition. The storm drains were clear and unobstructed, and the outfall, which discharges to the riprap reinforced riverbank, was clear, with no debris or obstructions and only minimal sediment. Overall indications are that stormwater is being collected and directed away from the Site efficiently with no signs of stoppages, backups or debris.

The monitoring wells were also inspected and were found to be in a state of disrepair as had previously been reported by PADEP. Although the flush-mount well covers remain bolted in place and provide some protection, age and exposure to vehicular traffic and the harsh weather conditions at the river bank have caused the wells and well caps to deteriorate to the point where,

if not addressed, they could provide a conduit for surface contamination to enter the groundwater. PADEP has plans to properly abandon the monitoring wells in their current fiscal year which began July 1, 2018.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Yes. Review of the 1984 ROD, Operation and Maintenance documents and the physical observations of the Site, indicate that the remedy is operating as intended by the ROD, and functioning at, or better than, the performance standards anticipated by the ROD. The original soil cap has remained intact and was improved during the 2004 redevelopment work with additional soils, paved parking surfaces, and engineered stormwater drainage. Because of the redevelopment activities, there is now even less potential for exposure to subsurface residual soil contamination and less potential for erosion of the cap.

Sampling results of the monitoring wells have demonstrated that the long-declining contamination in the underlying groundwater has reached very low levels. In conjunction with the ICs preventing the installation of drinking water wells, the contamination has been determined to be at such low levels that the sampling program may safely be discontinued.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Yes. Although contaminant toxicity values are often updated with new information, the remedy as selected in the 1984 ROD for this Site was determined to be protective of human health and the environment due to the clean soil cap minimizing the potential for direct contact with residually contaminated subsurface soils, and the negligible impact of the contaminants on water quality of the Delaware River. The cover system originally envisioned by the ROD as a soil cap was upgraded with the supplemental soils and paved parking surfaces of the 2004 redevelopment activities, such that there is even less potential for exposure to subsurface residual soil contamination. The long-term sampling of the monitoring wells has shown declines in all groundwater contaminants to levels which are now several orders of magnitude lower than those identified in the 1984 ROD.

Today, ecological risk assessment is an integral part of the investigations leading to the selection of a Superfund remedy, however, in 1984, remedy selection was typically driven by the identified risk to human health. Consequently, at this Site, the remedy to address Site contamination was selected primarily to prevent direct human contact; ecological risk was not considered. However, the contaminated containers, buildings and soils were removed, the clean soil cap was installed (and upgraded by the 2004 redevelopment) providing a protective barrier, and the residual contamination levels in the groundwater have declined to minimal levels. Given these conditions, the current ecological risk from the Site is expected to be negligible, and no further investigation is warranted.

The exposure pathways identified in the 1984 ROD were potential direct contact exposure to wastes, contaminated soils and debris. Following the removal of the on-site buildings and

debris, and the excavation and removal of the highly contaminated surface soil, only the potential for exposure to subsurface soil remained. Backfilling, grading and capping the Site minimized the potential for this exposure pathway. The cover system originally envisioned by the ROD has since been improved with the supplemental soils and paved parking surfaces of the 2004 redevelopment activities, such that there is even less potential for exposure to subsurface residual soil contamination.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No. No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

No issues that would affect current or future protectiveness at this site were identified.

OTHER FINDINGS

With groundwater monitoring discontinued at the Site, the deteriorating monitoring wells could provide a pathway for surface contamination to enter the groundwater, and could present a physical hazard to the public using the parking facility. PADEP has plans to decommission and properly abandon the monitoring wells in their current fiscal year which began July 1, 2018.

VII. PROTECTIVENESS STATEMENT

<i>Operable Unit:</i> 1 - Sitewide	<i>Protectiveness Determination:</i> Protective
Protectiveness Statement: The remedial actions implemented at this Site are protective of human health and the environment because exposure pathways that could result in unacceptable human and/or ecological health risks are being controlled. Wastes, debris and contaminated soils were removed in the original response, and soils with potential residual contamination were capped in place with a vegetated soil cover, which was later upgraded with the construction of an asphalt parking facility and additional soil and landscaping. Nearly three decades of sampling data has shown that groundwater contamination beneath the Site has declined to very low or non-detect levels. There are no human or environmental receptors exposed to unacceptable levels of Site contaminants. Based on current Site ownership and use, in conjunction with the intact cap and ICs minimizing the potential for exposure to any residual contamination, the Site is expected to remain protective of human health and the environment.	

VIII. NEXT REVIEW

The next five-year review for the Wade (ABM) Superfund Site is required five years from the date of this review.

APPENDICES

Figure 1 Site Location Map

Figure 2 Well Location Figure

Attachment 1 Additional Site Background and Dates

Attachment 2 Nov 13, 2017 PADEP Letter - Requesting Cessation of Monitoring Program

Attachment 3 January 30, 2018 EPA Letter Approving PADEP Request
Includes copy of Memo to Wade Site File documenting "Minor Change" to
Remedy

Attachment 4 Paid Advertisement in Delaware County Times (Published August 24, 2018)

Attachment 5 Statistical Evaluations for Above-MCL Contaminants

Attachment 1 Additional Site Background and Dates

Table - Historic Chronology of Site Events

Event	Date
Site began operating as a tire recycling facility	1920's
Site Purchased by Melvin Wade	1971
Site began operating as an illegal chemical dump	1970's
Pennsylvania DER ordered cease of operations	1977
Site caught fire. Chemicals burned for days	February 2, 1978
Removal actions to excavate and remove drums and tankers	1981 and 1982
Proposed to NPL List	December 30, 1982
Finalized on NPL List	September 8, 1983
Record of Decision (ROD) signed State authorized to conduct cleanup	August 30, 1984
Construction Completion	June 29, 1988
Deletion from NPL	March 23, 1989
State takes over Operations and Maintenance Program	May 15, 1989
First Five-Year Review completed	February 3, 1993
Second Five-Year Review completed	April 9, 1999
Prospective Purchaser Agreement issued with Chester Parking Authority	March 13, 2003
Site renovated into Parking facility	Fall 2004
Third Five-Year Review completed	Sept. 25, 2004
Fourth Five-Year Review completed	Sept. 25, 2009
Minor modifications to driveways to accommodate larger vehicle traffic as part of adjacent soccer stadium construction	September, 2009
Soccer stadium construction completed on adjacent property	2010
Fifth Five-Year Review completed	Sept. 15, 2014
Non-Significant Change to Remedy - Memo to Site File	January 30, 2018
Groundwater Monitoring Program Completed	January 30, 2018
Sixth Five-Year Review Completed	

Site Background

Physical Characteristics

The Wade (ABM) Superfund Site is a roughly three-acre parcel located on the west bank of the Delaware River in Chester, Pennsylvania, just nine miles south of the City of Philadelphia (see Figure 1, Site Location Map). From 1989 to 2004 the surface of the Site was a vegetated soil cap constructed and maintained as part of the Superfund Remedy. But in 2004 the parcel was converted primarily into a tree-lined asphalt parking facility with about one third of the property remaining grass covered (see Figure 2, Monitoring Well Locations). The Site is bounded by the Commodore Barry Bridge, the Delaware River, a railroad right of way and property owned by the Philadelphia Electric Company. The water table is shallow, from zero to approximately 12 feet in the unconsolidated deposits and soil. The water table is riparian, closely associated with the level of the immediately adjacent Delaware River, and tidal. Hydrogeological studies conducted during the Remedial Investigation showed that contaminated groundwater originating from the Site discharges into the Delaware River. These studies further indicated that, even before the Site was cleaned up, the immense volume of the river water diluted the site contaminants to non-detectable levels.

Land and Resource Use

The Site is located in a formerly industrial portion of Chester, but only two blocks from a residential area. From the 1920's the Site property was used as a rubber recycling facility. In the 1970's, as the recycling business was floundering, the property began operating as a chemical dumping ground. Dumping ended with a catastrophic fire in February 1978 (see History of Contamination section below). After the fire, the Site was investigated and cleaned up under EPA's Superfund authority – burned structures and containers, and contaminated soils were removed, the property was capped with a soil cover and vegetated, and protected with a gated security fence. The surrounding area has been a mix of residential, public and utility properties including the Commodore Barry Bridge and the Chester waterfront park, which included a public access fishing pier and boat ramp. The Site is also bounded by the Delaware River.

In 2003, EPA signed an Agreement and Covenant Not to Sue Chester Parking Authority (hereafter identified as the “Prospective Purchaser Agreement” or PPA) with the Chester Parking Authority to allow redevelopment of the property while maintaining, and in fact improving, the original remedy selected in the 1984 Record of Decision (ROD). As part of Chester's Barry Bridge Park redevelopment, most of the property was resurfaced with asphalt for parking, with the remaining areas supplemented with clean soil and planted with trees and grassy areas. At the same time the eastern end of the property, at the edge of the river, was provided with a new public access fishing pier and paved riverwalk area. The original natural storm drainage was also improved to accommodate the runoff from the impermeable areas; the site was regraded for improved drainage to newly installed storm sewers. The riverfront property immediately south of the Site was also renovated as the main park area with a “Great Lawn”, continued riverwalk area and a public access boat ramp. These renovations were completed in the fall of 2004.

The Site continues to be a part of Chester's riverfront development program. Currently, however, the property immediately south of the Site has again been transformed. Starting in

2008, most of the Barry Bridge Park area was demolished to prepare for the construction of Chester's new professional soccer stadium, PPL Park. The construction was completed in 2010 and the stadium is now operating on that property. The former Wade Site property remains a paved parking facility, but with additional improvements to better serve the Soccer stadium. Portions of the asphalt driveway on the property were widened and the existing corners were rounded to allow delivery vehicles easy access to the stadium. In accordance with the terms of the 2003 PPA, EPA and the Pennsylvania Department of Environmental Protection (PADEP) reviewed and approved the planned improvements prior to construction.

History of Contamination

The Wade Site is an old site that was active in the news before Superfund legislation was enacted. It was an illegal waste disposal operation that was discovered by local officials in 1977. An estimated 20,000 barrels and 20 tank trucks full of chemical waste were disposed of or left at the Site.

The Health Director for the City of Chester became aware of the site and had inspected it along with representatives of Pennsylvania's Department of Environmental Resources (PADEP, the predecessor of PADEP) in 1977. Later that year the owner and operators of the site were ordered to cease operation and clean up the mess. During legal appeals of that order the site was inoperative and virtually abandoned.

In February 1978 the site caught fire. It was a catastrophic fire, fueled by volatile mixed wastes, made even more hazardous by exploding drums. Firefighters and police attending the fire were mired in the mixed wastes covering the ground and toxic smoke from the fire. The fire was quenched after about twenty hours, but rekindled twice in ensuing days. After the fire was finally extinguished, the property was still covered with oozing chemicals, drums and tank trucks.

Later investigations revealed that, along with waste drum and tank truck storage, on-site operations included dumping of chemical wastes either directly on the ground or into trenches dug into the sandy soil. These actions severely contaminated on-site soil at several locations, as well as the underlying groundwater. The fire added to the hazard with the deposition of mixed and partially burned chemical wastes on the already compromised soils.

Initial Response

As noted above, this Site had been discovered by local officials and ordered shut down. PADEP, which had unsuccessfully ordered the site cleaned up in 1977, recommended the Site as a candidate for a Section 7003 cleanup order under the federal Resource Conservation and Recovery Act (RCRA) of 1976. It was then discovered that the owner and operators of the Site were insolvent. In 1981 and 1982 contractors were engaged by PADEP and EPA to remove and dispose of the drums and tankers that remained on-site, and to conduct an investigation of soil, groundwater and air quality. This Site was finalized on the list of Superfund Sites (National Priorities List, or NPL) in September 1983.



November 13, 2017

Mr. James Feeney
Remedial Project Manager
U.S. EPA Region III (3HS21)
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Wade (ABM) Site

Dear Mr. Feeney,

This letter is in response to your most recent letter dated May 12, 2017 regarding long-term Operations and Maintenance (O&M) and a subsequent groundwater monitoring program required of the Pennsylvania Department of Environmental Protection (DEP) at the Wade (ABM) Site (Site). Enclosed, please find the most recent round of results for groundwater sampling conducted in May, 2017. Based on the data, DEP will no longer sample groundwater monitoring wells. DEP plans to properly decommission all of the groundwater monitoring wells.

In your letter dated October 21, 2015 denying our request to cease groundwater monitoring and the subsequent abandonment of all monitoring wells at the Site, you state that US EPA's policy is that target cleanup goals must be achieved prior to approving the cessation of groundwater monitoring at a Site, and that the cleanup goals for the Site are Maximum Contaminant Levels (MCLs). The Record of Decision (ROD) for the Site, does not define the cleanup goals for groundwater nor is there any mention of meeting drinking water MCLs. The ROD does state *"Therefore, due to the negligible impact of ground water on the off-site environment and public health, groundwater interception and withdraw remedial actions were eliminated from further consideration."*

Groundwater sampling, conducted from 2006 to 2017 by DEP, has shown a steady decline in the concentrations of Volatile Organic Compounds (VOCs), which are currently well below their highest levels: Benzene concentrations in MW-2 decreased by approximately 93% since 2006, from a high of 120µg/L to 7.9µg/L, just above the drinking water MCL of 5µg/L.

DEP believes groundwater concentrations will continue to decrease by natural attenuation, and that continued sampling and monitoring of groundwater at the Site is no longer needed. DEP also believes that Institutional Controls should be implemented which would prevent future groundwater use.

As we have discussed before, a majority of the wells are in a state of disrepair due to heavy vehicle traffic, and exposure to harsh riverbank weather conditions for more than 12 years. As

Southeast Regional Office

a result, well covers are no longer secure and, as such, provide a direct point of contamination if a release were to occur at this location. The unsecured well covers also pose a direct hazard to the public that visit this recreational area and sports arena. With DEP's O&M obligations expiring in less than 2 years, DEP does not believe that it is in the best interest of the Commonwealth to expend taxpayer money to repair and modernize these wells for continued sampling.

DEP appreciates the opportunity to discuss the cessation of groundwater sampling and subsequent decommissioning of the Wade (ABM) Site wells, and would look forward to meeting about this request. If you have any questions regarding this matter, please feel free to contact me by email at bmcclennen@pa.gov or by telephone at 484.250.5965.

Sincerely,



Bonnie McClennen
Solid Waste Supervisor
Environmental Cleanup and Brownfields

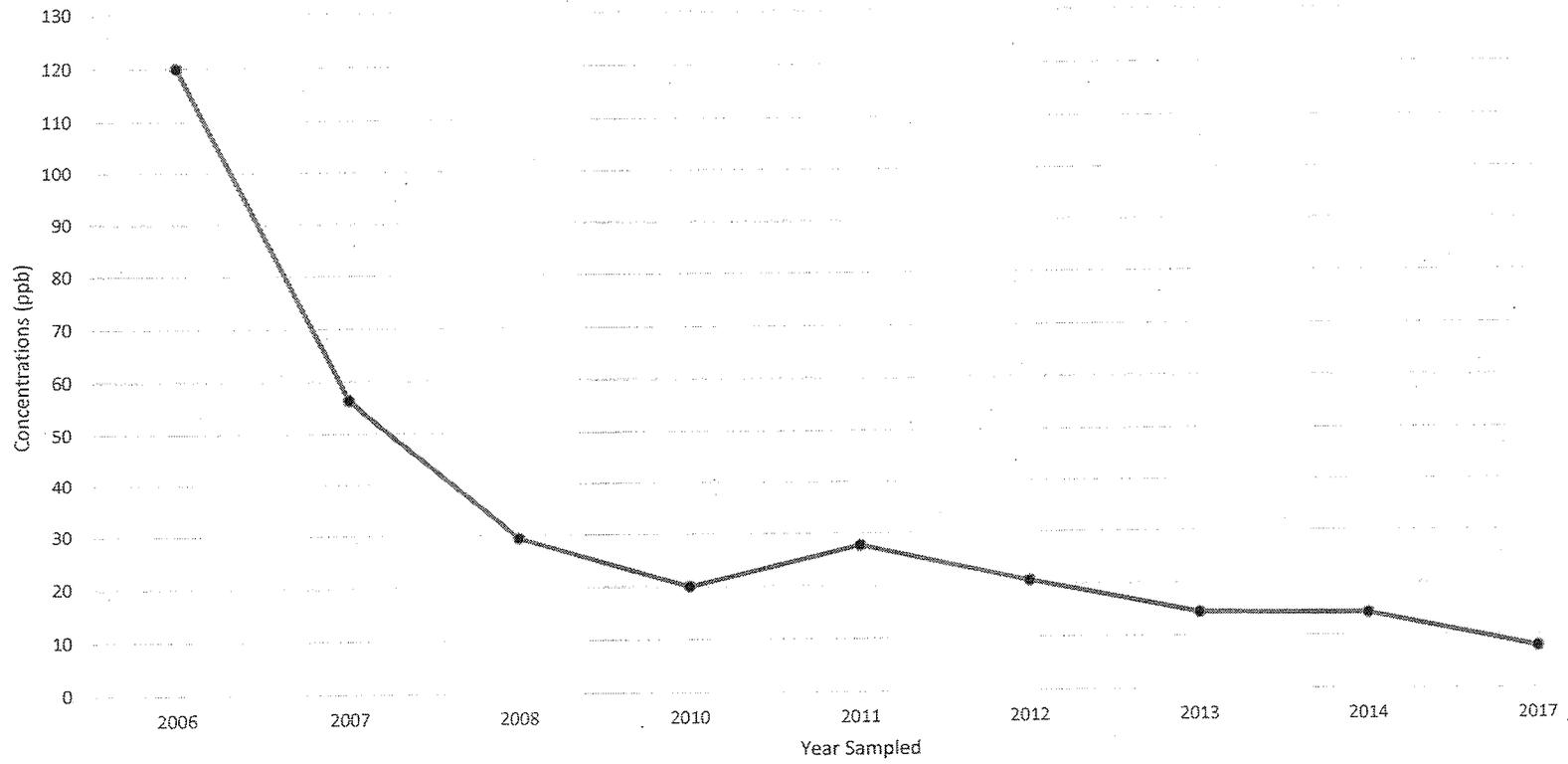
Enclosures

cc Ms. Matzko- US EPA
Ms. Dietz - US EPA
Mr. R. Patel - w/o enclosure
Mr. Crooks - w/o enclosure
Ms. Pantelidou, PG - w/o enclosure
Ms. Wagner - w/o enclosure
Ms. McMullen - w/o enclosure
File
Re 30 (rc17ecb) 313.2

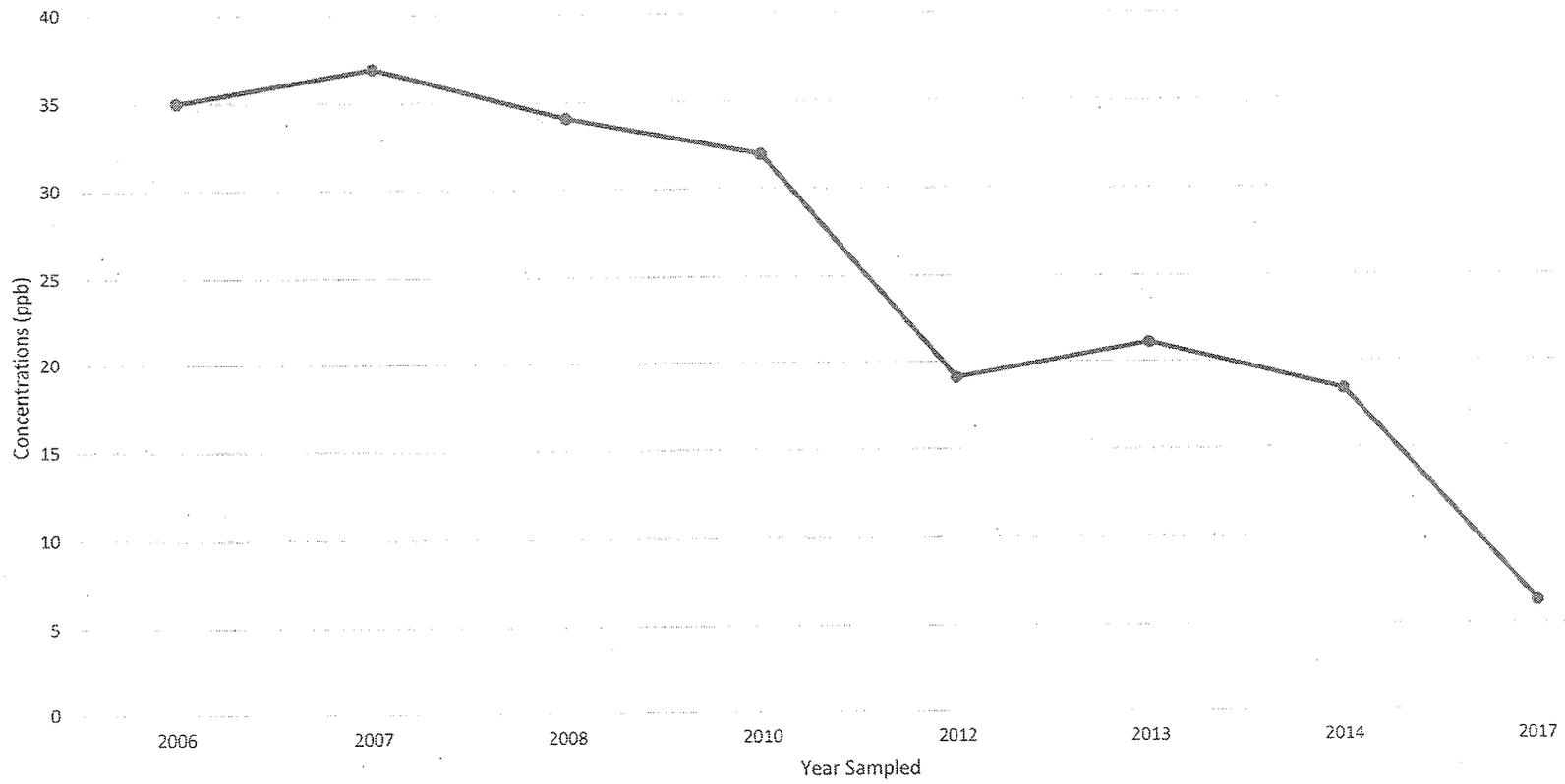
Wade - Summary of VOCs Remaining over the MSCs

MW-1D	MSC	2006	2007	2008	2010	2011	2012	2013	2014	2017
1,2-Dichloroethane	5	11	8.7	7.6	7.2					
1,2-Dichloropropane	5	28	21.6	10.2	7.8					
MW-2										
1,2-Dichloropropane	5		7.3							
Benzene	5	120	56.4	29.3	20	27.6	20.7	14.4	14.2	7.9
MW-3										
Benzene	5	9	7.4			7.2				
MW-5S										
Benzene	5	5		5.7						
Chlorobenzene	100			146						
MW-7D										
1,2-Dichloroethane	5	35	36.9	34.1	32	0	19.1	21.1	18.4	6.3
MW-8										
Benzene	5	34	18.3	14.1	15					

Wade ABM
MW-2 Benzene Concentrations 2006-2017



Wade ABM
MW-7D 1,2-Dichloroethane Concentrations 2006-2017





Date of Issue: 06/02/2017 04:10:45

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 010

Date Collected: 05/25/2017 11:55:00 AM

Lab Sample ID: O2017003885

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW1S

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 010

Date Collected: 05/25/2017 11:55:00 AM

Lab Sample ID: O2017003885

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 010

Date Collected: 05/25/2017 11:55:00 AM

Lab Sample ID: O2017003885

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 010

Date Collected: 05/25/2017 11:55:00 AM

Lab Sample ID: O2017003885

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:01:07

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 009

Date Collected: 05/25/2017 11:50:00 AM

Lab Sample ID: O2017003884

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-1D

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 009

Date Collected: 05/25/2017 11:50:00 AM

Lab Sample ID: O2017003884

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 009

Date Collected: 05/25/2017 11:50:00 AM

Lab Sample ID: O2017003884

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 009

Date Collected: 05/25/2017 11:50:00 AM

Lab Sample ID: O2017003884

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:12:02

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 012

Date Collected: 05/25/2017 12:10:00 PM

Lab Sample ID: O2017003887

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-2S

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 012

Date Collected: 05/25/2017 12:10:00 PM

Lab Sample ID: O2017003887

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 012

Date Collected: 05/25/2017 12:10:00 PM

Lab Sample ID: O2017003887

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/31/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/31/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 012

Date Collected: 05/25/2017 12:10:00 PM

Lab Sample ID: O2017003887

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:10:41

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 013

Date Collected: 05/25/2017 12:15:00 PM

Lab Sample ID: O2017003888

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-2D

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 013

Date Collected: 05/25/2017 12:15:00 PM

Lab Sample ID: O2017003888

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 013

Date Collected: 05/25/2017 12:15:00 PM

Lab Sample ID: O2017003888

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/31/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/31/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/31/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 013

Date Collected: 05/25/2017 12:15:00 PM

Lab Sample ID: O2017003888

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:01:15

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 011

Date Collected: 05/25/2017 12:05:00 PM

Lab Sample ID: O2017003886

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-3

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 011

Date Collected: 05/25/2017 12:05:00 PM

Lab Sample ID: O2017003886

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	1.1 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	1.0 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	20.8 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 011

Date Collected: 05/25/2017 12:05:00 PM

Lab Sample ID: O2017003886

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 011

Date Collected: 05/25/2017 12:05:00 PM

Lab Sample ID: O2017003886

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:04:19

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 007

Date Collected: 05/25/2017 11:40:00 AM

Lab Sample ID: O2017003882

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-4S

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.59 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 007

Date Collected: 05/25/2017 11:40:00 AM

Lab Sample ID: O2017003882

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 007

Date Collected: 05/25/2017 11:40:00 AM

Lab Sample ID: O2017003882

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 007

Date Collected: 05/25/2017 11:40:00 AM

Lab Sample ID: O2017003882

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:08:48

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 006

Date Collected: 05/25/2017 11:35:00 AM

Lab Sample ID: O2017003881

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-4D

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 006

Date Collected: 05/25/2017 11:35:00 AM

Lab Sample ID: O2017003881

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 006

Date Collected: 05/25/2017 11:35:00 AM

Lab Sample ID: O2017003881

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.22 UG/L (J)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 006

Date Collected: 05/25/2017 11:35:00 AM

Lab Sample ID: O2017003881

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:04:19

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 008

Date Collected: 05/25/2017 11:45:00 AM

Lab Sample ID: O2017003883

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-~~X~~5

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.95 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 008

Date Collected: 05/25/2017 11:45:00 AM

Lab Sample ID: O2017003883

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	7.9 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 008

Date Collected: 05/25/2017 11:45:00 AM

Lab Sample ID: O2017003883

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 008

Date Collected: 05/25/2017 11:45:00 AM

Lab Sample ID: O2017003883

Status: Completed

ORGANICS LABORATORY QUALIFIERS

- U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.
- J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.
- N - Indicates presumptive evidence of a compound.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)
- Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.
- X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:10:09

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 004

Date Collected: 05/25/2017 11:15:00 AM

Lab Sample ID: O2017003879

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-6S

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 004

Date Collected: 05/25/2017 11:15:00 AM

Lab Sample ID: O2017003879

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 004

Date Collected: 05/25/2017 11:15:00 AM

Lab Sample ID: Q2017003879

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 004

Date Collected: 05/25/2017 11:15:00 AM

Lab Sample ID: O2017003879

Status: Completed

ORGANICS LABORATORY QUALIFIERS

- U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.
- J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.
- N - Indicates presumptive evidence of a compound.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)
- Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.
- X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:04:22

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 005

Date Collected: 05/25/2017 11:20:00 AM

Lab Sample ID: O2017003880

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-6D

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 005

Date Collected: 05/25/2017 11:20:00 AM

Lab Sample ID: O2017003880

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 005

Date Collected: 05/25/2017 11:20:00 AM

Lab Sample ID: O2017003880

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 005

Date Collected: 05/25/2017 11:20:00 AM

Lab Sample ID: O2017003880

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:01:08

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 001

Date Collected: 05/25/2017 10:55:00 AM

Lab Sample ID: O2017003876

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-7S

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 001

Date Collected: 05/25/2017 10:55:00 AM

Lab Sample ID: O2017003876

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 001

Date Collected: 05/25/2017 10:55:00 AM

Lab Sample ID: O2017003876

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 001

Date Collected: 05/25/2017 10:55:00 AM

Lab Sample ID: O2017003876

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:07:18

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 002

Date Collected: 05/25/2017 11:00:00 AM

Lab Sample ID: O2017003877

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-7D

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	1.0 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 002

Date Collected: 05/25/2017 11:00:00 AM

Lab Sample ID: O2017003877

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	6.3 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	1.6 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	1.8 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

**Analytical Report For
Environmental Cleanup**

Sample ID: 0194 002

Date Collected: 05/25/2017 11:00:00 AM

Lab Sample ID: O2017003877

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	1.1 UG/L	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 002

Date Collected: 05/25/2017 11:00:00 AM

Lab Sample ID: O2017003877

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



Date of Issue: 06/02/2017 04:02:46

DEP Bureau of Laboratories - Harrisburg
P.O. Box 1467
2575 Interstate Drive
Harrisburg, PA 17105-1467

Contact Phone Number: (717) 346-7200

NELAP - accredited by

NJ DEP - Laboratory Number: PA059
PA DEP LAP - DEP Lab ID: 22-00223

Analytical Report For
Environmental Cleanup

Sample ID: 0194 003

Date Collected: 05/25/2017 11:05:00 AM

Lab Sample ID: O2017003878

Status: Completed

Name of Sample Collector: Joshua Crooks

Date Received: 05/26/2017

County: Delaware

State:

Municipality: Chester Twp

Sample Medium: Ground Water

Sample Medium Type: Water

Location: MW-8

Reason: Routine Sampling

Project: NOT INDICATED

Suite: VOASW

Matrix: Water

Stream Condition:

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
630206 1,1,1,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71556 1,1,1-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79345 1,1,2,2-Tetrachloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79005 1,1,2-Trichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75343 1,1-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 003

Date Collected: 05/25/2017 11:05:00 AM

Lab Sample ID: O2017003878

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
75354 1,1-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
563586 1,1-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
87616 1,2,3-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96184 1,2,3-Trichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
120821 1,2,4-Trichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95636 1,2,4-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
96128 1,2-Dibromo-3-chloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106934 1,2-Dibromoethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95501 1,2-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
107062 1,2-Dichloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78875 1,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108678 1,3,5-Trimethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
541731 1,3-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
142289 1,3-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106467 1,4-Dichlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
594207 2,2-Dichloropropane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
591786 2-Hexanone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
99876 4-Isopropyltoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67641 Acetone	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
71432 Benzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108861 Bromobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75274 Bromodichloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75252 Bromoform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74839 Bromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75150 Carbon Disulfide	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
56235 Carbon Tetrachloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108907 Chlorobenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75003 Chloroethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75014 Chloroethene (vinyl chloride)	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
67663 Chloroform	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74873 Chloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156592 cis-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061015 cis-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
124481 Dibromochloromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
74953 Dibromomethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75718 Dichlorodifluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

Analytical Report For
Environmental Cleanup

Sample ID: 0194 003

Date Collected: 05/25/2017 11:05:00 AM

Lab Sample ID: O2017003878

Status: Completed

Test Codes / CAS # - Description	Reported Results	Date And Time Analyzed	Approved by	Test Method
100414 Ethylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED DATE		05/30/2017 02:00 AM	CLIAO	EPA 8260C
EXTRACTED TIME		05/30/2017 02:00 AM	CLIAO	EPA 8260C
87683 Hexachlorobutadiene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98828 Isopropylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108383 m/p-Xylene	1.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
78933 MEK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
1634044 Methyl Tert-Butyl Ether	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75092 Methylene Chloride	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108101 MIBK	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
91203 Naphthalene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
104518 n-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
103651 n-Propylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95498 o-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
95476 o-Xylene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
106434 p-Chlorotoluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98566 PCTFB	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
135988 Sec-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
100425 Styrene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75650 t-Butyl alcohol	5.0 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
540885 tert-Butyl Acetate	2.5 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
98066 Tert-Butylbenzene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
127184 Tetrachloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
109999 Tetrahydrofuran	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108883 Toluene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
156605 trans-1,2-Dichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
10061026 trans-1,3-Dichloropropene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
79016 Trichloroethene	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
75694 Trichlorofluoromethane	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C
108054 Vinyl Acetate	0.50 UG/L (U)	05/30/2017 02:00 AM	CLIAO	EPA 8260C

The results of the analyses provided in this laboratory report relate only to the sample(s) identified therein. Unless otherwise noted, the results presented on this laboratory report meet all requirements of the 2009 TNI standard. Sample was in acceptable condition when received by the Laboratory. Any exceptions are noted in the report.

* denotes tests that the laboratory is not accredited for

Taru Upadhyay, Technical Director, Bureau of Laboratories

Analytical Report For
Environmental Cleanup

Sample ID: 0194 003

Date Collected: 05/25/2017 11:05:00 AM

Lab Sample ID: O2017003878

Status: Completed

ORGANICS LABORATORY QUALIFIERS

U - Indicates analysis was performed for the compound but it was not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantitation limit, but above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods (e.g. pesticides, triazines, PCBs, etc)

Q - This flag identifies the average of multiple results from multiple analyses, or the average of the averages of dual column analysis methods.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Ms. Bonnie McClennen
Environmental Cleanup and Brownfields
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401-4915

Date: January 30, 2018

Subject: Long-Term O&M at Wade (ABM) Superfund Site

Dear Ms. McClennen,

EPA Region 3 has received and reviewed your letter dated November 11, 2017 regarding the proposed cessation of groundwater monitoring at the Wade (ABM) Superfund Site. That letter presents several points in support of the proposal as briefly discussed below.

- EPA's current policy on determining completion of a groundwater response requires that a declining trend is demonstrated and target cleanup goals are achieved. However, the 1984 ROD specifically excluded a groundwater response because the downgradient receptor is the Delaware river which showed negligible impact from site discharge. Therefore, there are no specific clean-up targets for groundwater at this Site; MCL levels are only a general guideline.
- Groundwater sampling has demonstrated significant and steady declines in contaminant concentrations at the Site over the years of monitoring. The most recent sampling, in May 2017, showed only two of the site wells with above MCL-levels of contamination. These two wells each had only a slight exceedance for a single compound.
- Plots of recent results for the individual compounds that remain at above-MCL levels (benzene in MW-2 and 1, 2-dichloroethane in MW7-D) show clear declining trends, and are currently only minimally above their respective MCLs.
- DEP expects contaminant levels to continue to decrease by natural attenuation.
- Additionally, a majority of the wells are in disrepair due to vehicle traffic and harsh riverbank weather conditions. Well covers are no longer secure, providing potential points of contamination.

EPA has discussed these points in conference with the Department, and internally. Additionally, as a supplement to the plots of benzene and 1, 2-dichloroethane presented in your letter, we have plotted the recent levels of these contaminants using EPA's Groundwater Statistics Tool which also shows declining trends and predicts that MCLs will be attained in the near future.

EPA agrees with your arguments and approves the cessation of groundwater monitoring and subsequent decommissioning of the wells at the Wade Site. Operation of the Site as a parking facility and maintenance of the physical features of the property will continue to be conducted by the City of Chester as the current owner under the terms of the 2003 Prospective Purchaser Agreement. Property restrictions to prevent new wells or other activities that could disturb the cap were also incorporated into the Prospective Purchaser Agreement. Future Five-Year Reviews of the Site will be conducted by EPA with physical site inspections to evaluate existing conditions and ensure that institutional controls remain in place and effective.

To avoid any potential conflict with the terms of the 1984 ROD, EPA has issued a memo to the Wade Site File to memorialize the early cessation of the groundwater monitoring component of the O&M Program. A copy of that memo is attached.

The Department has been the primary agency for the remedy at this Site, from construction through three decades of operation and maintenance, and we would like to commend all of your work as we pass this new milestone.

Sincerely,



James J. Feeney
Remedial Project Manager

Cc: Joshua Crooks, DEP
Ragesh Patel, DEP
Sarah Pantelidou, DEP
Susan Kennedy, DEP

Enc: Memo to Wade Site File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Documentation of Minor Change to Wade
(ABM) Superfund Site Record of Decision

FROM: James Feeney, Remedial Project Manager *JF 01/30/2018*

TO: Wade (ABM) File

THRU: Kristine Matzko, Chief *K Matzko 11/30/2018*
Western PA and MD Branch (3HS22)

I. Introduction

Site Name: Wade (ABM) Superfund Site
Site Location: Chester, Pennsylvania
Lead Agency: U.S. Environmental Protection Agency, Region III (EPA or the Agency)
Support Agency: Pennsylvania Department of Environmental Protection

Statement of Purpose:

This memo documents the minor change to the Wade (ABM) Superfund Site Record of Decision. The change described in this memo is considered a "minor or nonsignificant change" as defined by OSWER Directive 9200.1-23P entitled "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and other Remedy Selection Documents" issued in July 1999 and commonly referred to as the ROD Guidance.

II. Summary of the Site History, Contamination Problems and Selected Remedy

The Wade (ABM) Superfund Site (Site) was an illegal waste disposal operation that was discovered by local officials in 1977. An estimated 20,000 drums and 20 tank trucks full of chemical waste were disposed of or left at the Site. The Site is a roughly three-acre property located on the western bank of the Delaware River in Chester, Pennsylvania immediately north of the Commodore Barry Bridge.

In February, 1978, the Site caught fire. The intense chemical-fueled fire was quenched after about twenty hours, but rekindled twice in ensuing days. After the fire was finally extinguished, the property was still covered with oozing chemicals, fire-damaged drums and tank trucks.

Later investigations revealed that, along with waste drum and tank truck storage, on-site operations included dumping of chemical wastes either directly on the ground or into trenches dug into the sandy soil. These actions severely contaminated on-site soil at several locations, as



well as the underlying groundwater. The fire added to the hazard with the deposition of mixed and partially burned chemical wastes on the already compromised soils. This Site was finalized on the list of Superfund Sites (National Priorities List, or NPL) in September 1983.

On August 30, 1984, EPA issued the Record of Decision (ROD) describing the Remedy for the Site. The ROD describes the remedial actions required for the Site, which included removal and off-site disposal of wastes, including tires, drums, tankers, on-site waste piles and contaminated soil; demolition of buildings and closure of two underground storage tanks; levelling, backfilling and grading the property and covering the Site with topsoil and seed.

Additionally, the ROD specified thirty years of operation and maintenance (O&M) for the Site. O&M activities were envisioned to include, among other requirements, periodic sampling of the groundwater to “determine ground water quality before ground water enters the site and groundwater quality as it leaves the site” as stated in the ROD. The Pennsylvania Department of Environmental Resources (now the Pennsylvania Department of Environmental Protection or “PADEP”) accepted responsibility to conduct the O&M requirements as described in an O&M Plan developed by PADEP in 1988. The Plan was approved by EPA and O&M activities commenced in 1989.

III. Description of the Minor Change and the Basis for that Change

EPA has determined that certain changes to the remedy set forth in the ROD are warranted. These changes are not on the level of significant changes as defined in Section 300.435 (c) (2) (i) of the NCP, 40 C.F.R. §300.435 (c) (2) (i); therefore, preparation of an Explanation of Significant Differences or ROD Amendment is not required. The following are discussions of the changes and the rationale for the changes

A. Description of the Changes

The ROD for the Wade Site specifies that O&M activities be conducted for thirty years. O&M activities include sampling of the monitoring wells to determine water quality. O&M activities officially started May 15, 1989, and accordingly should be continued until at least May 15, 2019. However, in a July 2015 letter (attached) PADEP requested that the monitoring wells at the Site be shut down and decommissioned prior to that time. PADEP presented further rationale for their request in a follow-up letter dated November 2017 (attached). Upon review of the information, EPA has agreed that it is reasonable to decommission the wells and end the groundwater monitoring component of the O&M at this Site prior to the end of the thirty-year time period.

B. Rationale for the Change

Components of the Remedy specified in the 1984 ROD included excavation and removal of contaminated materials including impacted buildings, wastes and contaminated soils, followed by capping of the Site. However, the Remedy specifically excluded a groundwater component



because contaminated groundwater was determined to discharge to the Delaware River and the continued discharge, as stated in the ROD, “would not have a measurable adverse impact on water quality or biota.” The groundwater wells were installed to monitor the quality of groundwater at the Site, but no groundwater cleanup goals were specified. As a default, throughout the O&M period groundwater sampling results have been compared to the Maximum Contaminant Levels (MCLs) specified by the Safe Drinking Water Act. MCLs are considered to be levels safe for drinking water.

Since 1989, groundwater results show significant and demonstrable declining trends in all wells, for all contaminants. Recent monitoring results, since 2012, have demonstrated predominantly non-detect levels for most contaminants, with some volatile organic compounds remaining at very low levels and continuing to decline. The monitoring results showing contaminant levels higher than their associated MCLs are presented in the attached table. Results of the most recent monitoring round, in May 2017 (attached, as part of PADEP’s November 2017 letter) showed that 9 out of the 13 wells were at non-detect levels for all compounds. Two of the 13 wells indicated a few remaining compounds below MCLs. And only 2 of the 13 wells indicated a single contaminant slightly exceeding its associated MCL: well MW-2 had a detection of benzene at 7.9 micrograms per liter, slightly above its MCL of 5, and well MW-7D had a detection of 1,2-dichloroethane at 6.3 micrograms per liter, slightly above its MCL of 5. Statistical evaluations showing the low levels and declining trends for the contaminants in these two wells are attached. When considered together and averaged over the Site, the recent monitoring well results indicate that the Site, as a whole, has reached MCL levels for all contaminants.

The monitoring wells at the Site are currently in a state of disrepair due to their age and exposure to vehicle traffic and the harsh weather conditions at the river bank. Well covers are no longer secure and could provide a conduit for surface contamination to enter the groundwater. Additionally, the unsecured covers pose a direct physical hazard as the Site is currently open to the public. Therefore, with the history of monitoring results demonstrating that the groundwater has reached drinking water quality, and the deteriorating state of the wells, it is reasonable to decommission the wells and end the groundwater monitoring component of the O&M at this Site prior to the end of the thirty-year time period.

IV. Support Agency Review

The Pennsylvania Department of Environmental Protection, as the agency with primary responsibility for O&M at this Site, proposed this action. PADEP’s correspondence on this topic is available in the Site files at EPA.



V. Affirmation of the Statutory Determinations

EPA has determined that the revised remedy complies with the statutory requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA) §121, 42 U.S.C. §9621. Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA believes that the remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action in accordance with Section 121 (d) of CERCLA, 42 U.S.C. §9621(d), and is cost-effective. In addition, as described in the original ROD, the revised remedy also utilizes permanent solutions and alternative treatment to the maximum extent practicable for this Site.

VI. Public Notification

Public notification of a minor or nonsignificant post-ROD change to a remedy is not required pursuant to Section 113(k)(2)(B) of CERCLA, however a summary of this change and supporting information will be included in the next Five-Year Review of the Remedy for this Site which is due in September 2019. The Five-Year Review process includes a public notice announcing the review and an opportunity to comment.



EPA REVIEWS CLEANUP WADE SUPERFUND SITE

The U.S. Environmental Agency is reviewing the cleanup that was conducted at the Wade (ABM) Superfund Site located in Chester, Delaware County. EPA inspects sites regularly to ensure that cleanups conducted remain protective of public health and the environment. EPA's previous review of the site in 2014 determined that the remedy was working as designed and continued to be protective. Findings from the current review that is being conducted will be available November 2018.

For questions or to provide site-related information for the review:

Contact: Amie Howell, *EPA Community Involvement*
Phone: 215-814-5722
Email: howell.amie@epa.gov

To access detailed site information including the Review

Report once finalized: <https://www.epa.gov/superfund/wade>

Protecting human health and the environment

Groundwater Statistics Tool

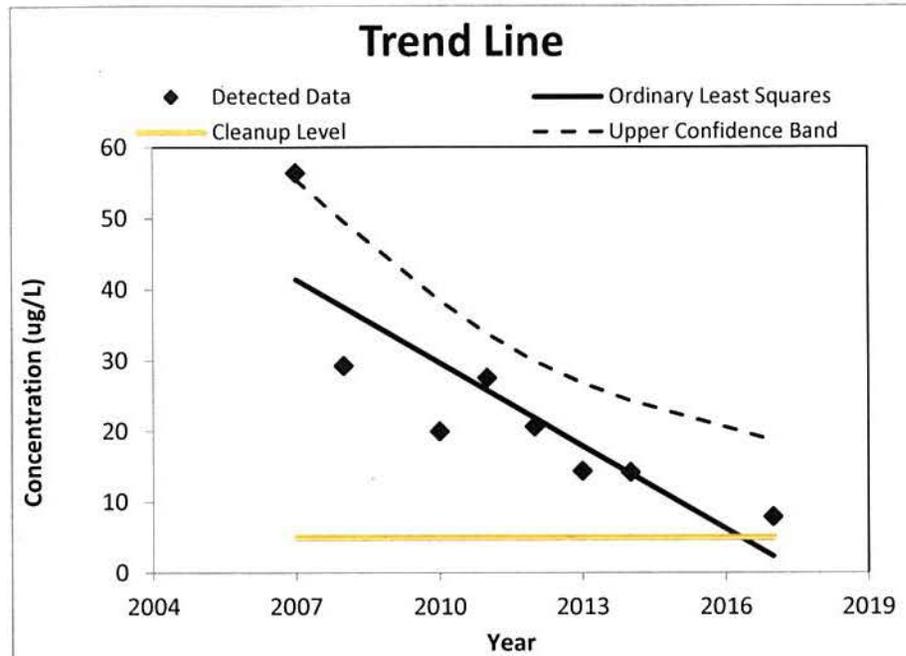
UCL calculations and summary statistics for nonparametric data sets

Site Name	Wade
Operating Unit (OU)	0
Type of Evaluation	Attainment
Date of Evaluation	12/25/2017
Person performing analysis	0

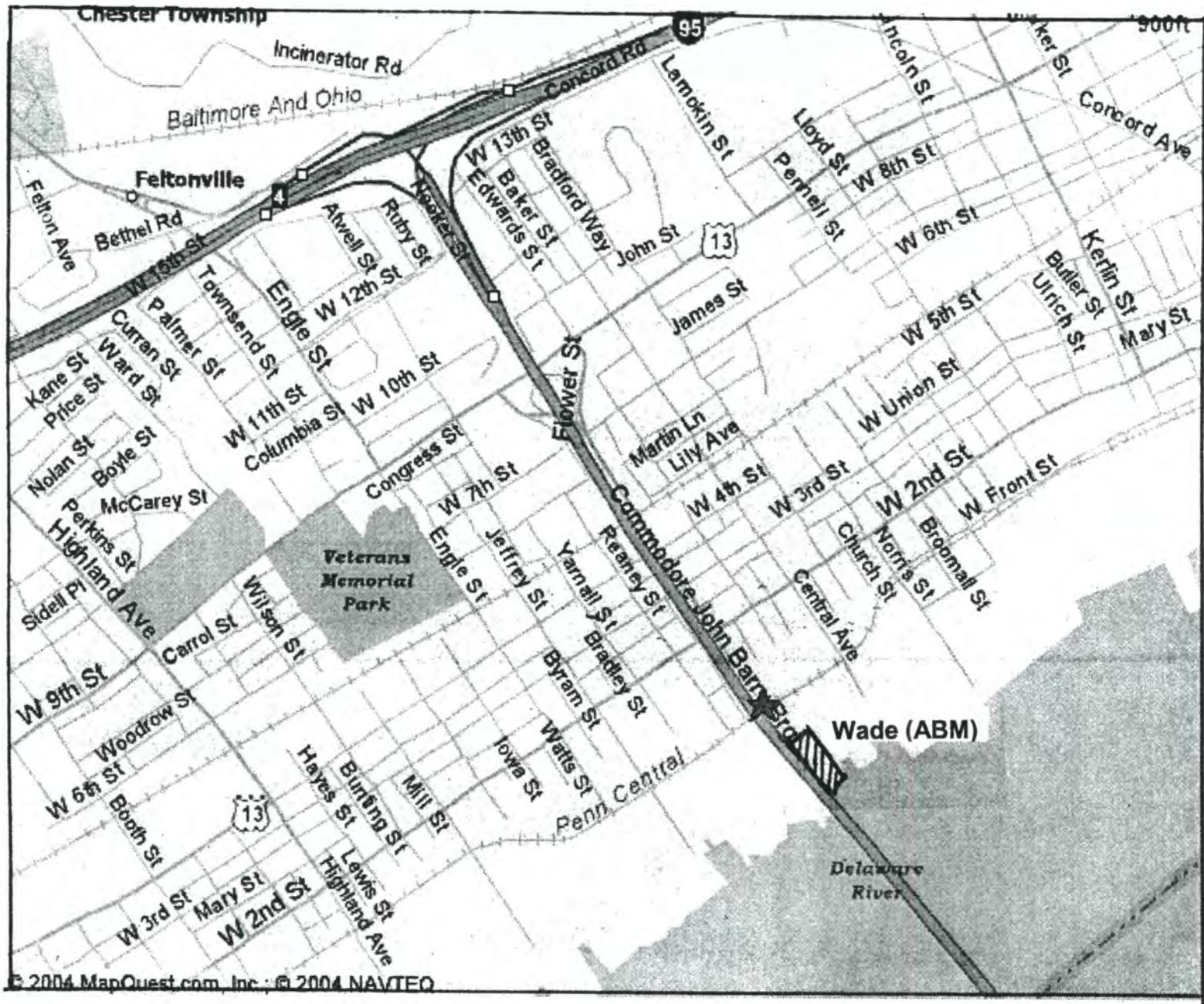
Chemical of Concern	Benzene
Well Name/Number	MW-2
Date Units	Year
Concentration Units	ug/L

Confidence Level	95%
Number of results	8
Number < cleanup level	0
Are any potential outliers present?	No
Mean of concentration	23.8
Standard deviation of concentration	15

95% Upper Confidence Limit (UCL)	46.9
Method for calculating UCL	Chebyshev UCL
Value of 95% Upper Confidence Band value at final sampling event	18.7
Trend calculation method	Ordinary Least Squares
Cleanup level	5
Source of cleanup level	0
Is the trend decreasing or statistically insignificant?	Yes

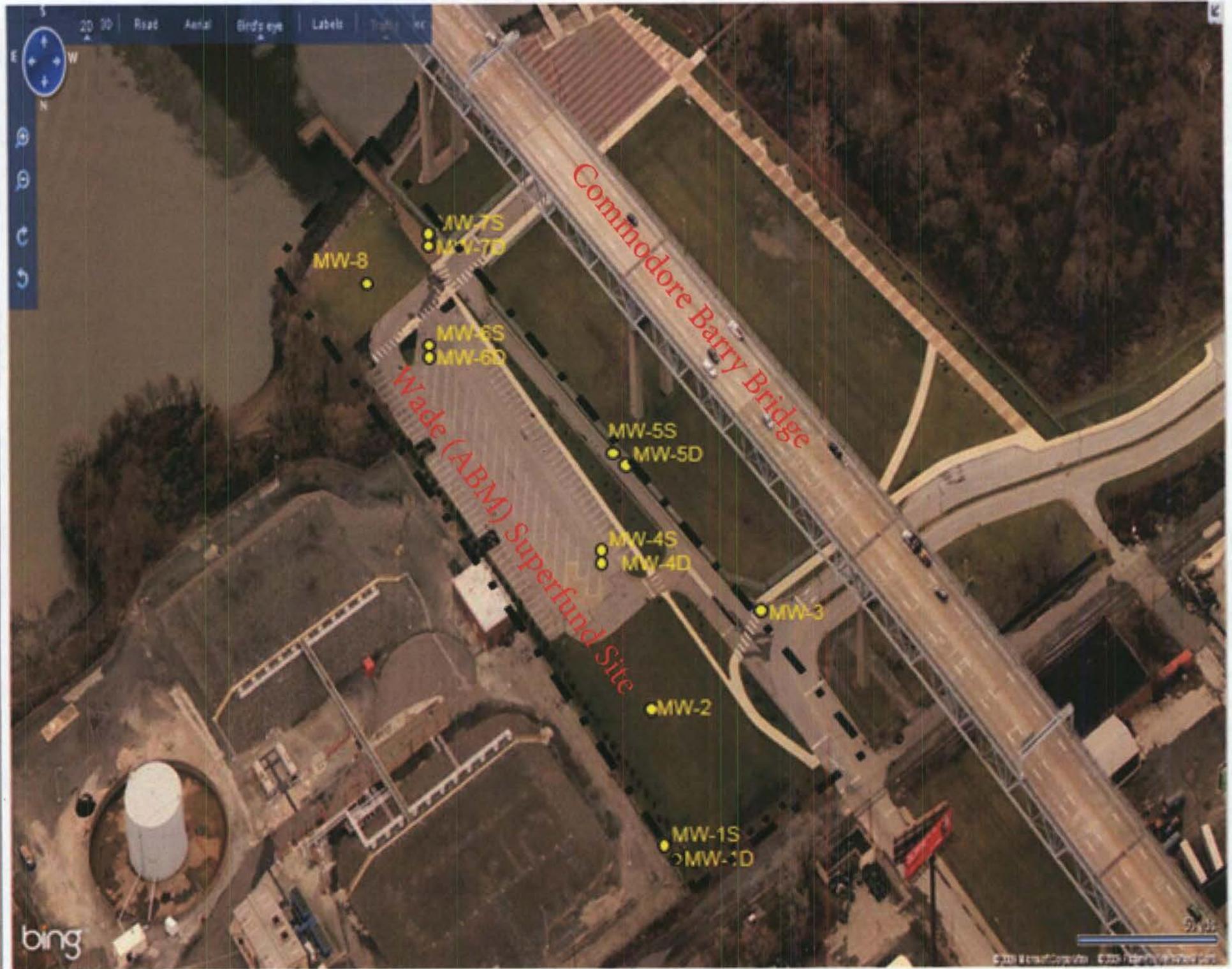


When is the concentration predicted to exceed the MCL?	Not applicable - slope is not statistically increasing
Random Seed Used	0
Message: None.	



Wade (ABM) Superfund Site

Figure 1. Location Map



Commodore Barry Bridge

Wade (ABM) Superfund Site

- MW-8
- MW-7S
- MW-7D
- MW-6S
- MW-6D
- MW-5S
- MW-5D
- MW-4S
- MW-4D
- MW-3
- MW-2
- MW-1S
- MW-1D